

**Science and Technology for America's Progress:
Ensuring the Best Presidential Appointments in the
New Administration**

Committee on Science and Technology in the National Interest: Ensuring the Best Presidential Appointments; National Academy of Sciences, National Academy of Engineering, and Institute of Medicine

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SCIENCE AND TECHNOLOGY FOR AMERICA'S PROGRESS

ENSURING THE **BEST** PRESIDENTIAL APPOINTMENTS
IN THE **NEW** ADMINISTRATION

Committee on Science and Technology in the National Interest:
Ensuring the Best Presidential Appointments

Committee on Science, Engineering, and Public Policy

NATIONAL ACADEMY OF SCIENCES,
NATIONAL ACADEMY OF ENGINEERING, *AND*
INSTITUTE OF MEDICINE
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PREFACE

The United States increasingly relies on the strength and vitality of the national science and technology (S&T) enterprise to solve some of today's most intractable problems. As we become more dependent on advances in science and engineering to meet challenges in national defense, climate change, jobs, disease, energy, economic growth, creating a healthy and affordable food supply, and protecting the environment, few aspects of modern public policy are untouched by S&T. Perhaps at no other time in our history has it been so essential to attract scientists, engineers, and health professionals into the highest levels of public service and to serve as members of the more than 1,000 advisory committees convened to provide independent sources of guidance to inform our public policies. As voting citizens, we need to ensure that our elected officials receive sound and objective scientific advice.

Along with the tremendous opportunities provided by public service, there are administrative and procedural obstacles to recruiting the best and brightest into top S&T posts. With regard to appointing scientists, engineers, and health professionals to federal advisory committees, it is essential that the best experts be able to serve to meet national needs for independent advice. The government's capacity to consider and incorporate S&T information as part of the basis for public policy decisions should not be compromised.

This is the fourth in a series of reports issued by the National Academies on the presidential appointment process, each delivered during a presidential election year with the goal

of providing recommendations to the successful candidate about appointing his senior S&T leadership and pursuing sustained improvements in the appointments process. The first report was issued in 1992.¹ In the 2000 and 2004 updates, the Academies made recommendations for making the process more efficient and increasing the breadth and depth of the pool of candidates willing to accept such appointments,² including those to federal advisory committees concerned with science and technology.³

An ad hoc committee of the National Academies Committee on Science, Engineering, and Public Policy (COSEPUP) was charged with preparing this fourth report examining the most senior S&T appointments to federal government positions and updating the accompanying list of the 50-60 most urgent S&T presidential appointments.

The charge to the ad hoc committee was:

An ad hoc committee will prepare a white paper with guidance to prospective new Administrations and potential nominees for filling senior S&T appointments. It will explain the importance of knowledge of science, technology, and health for meeting the challenges faced by the nation, and how knowledgeable leadership is essential for a President to carry out the mandate from the next election.

The issues to be covered include, in addition to those in prior transition reports, identification of successful approaches to incorporating knowledgeable experts in science, engineering, and medicine into the appointment process of the White House and the cabinet, as well as ensuring evidence-based advice on issues that need their expertise. The report will also identify and explain the issues—

¹Panel on Presidentially Appointed Scientists and Engineers, Committee on Science, Engineering, and Public Policy. 1992. *Science and Technology Leadership in American Government*. Washington, DC: National Academy Press.

²Committee on Science, Engineering, and Public Policy. 2000. *Science and Technology in the National Interest: The Presidential Appointment Process*. Washington, DC: National Academy Press.

³Committee on Science, Engineering, and Public Policy. 2005. *Science and Technology in the National Interest: Ensuring the Best Presidential and Federal Advisory Committee Science and Technology Appointments*. Washington, DC: The National Academies Press.

opportunities and problems—that potential candidates need to consider in thinking about taking up a presidential appointment.

In responding to its charge, the committee undertook several activities. First, it updated a literature review on the topic of presidential and federal advisory committee appointments (see Appendix B). It analyzed the effects of the prior National Academies reports, including its list of top S&T appointments, in light of the nation's current needs. The committee then gathered information via research and testimony.

This report presents the committee's recommendations. It is important to recognize that our mandate, and thus the focus of our work, was S&T appointments. We are not suggesting that these presidential appointments, nonpresidential S&T appointments, and appointments to federal advisory committees in S&T are more important than those to other areas of federal responsibility.

The need to ensure that sound science and technology form the basis of many of the nation's critical decisions now and in the future has never been greater. The committee believes that the recommendations made in this report will help any administration to meet that need.

John Edward Porter, *Chair*
Committee on Science and Technology
in the National Interest: Ensuring the
Best Presidential Appointments

ACKNOWLEDGMENTS

This report has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process.

We wish to thank the following individuals for their review of this report: Frederick Bernthal, Universities Research Association; Delores Etter, Southern Methodist University; Randolph Hall, University of Southern California; Elvin Heiberg, Heiberg Associates, Inc.; Paul Light, New York University; Ernest Moniz, Massachusetts Institute of Technology; Alan Morrison, Fair Elections Legal Network; Gerald Nadler, University of Southern California; Frank Press, The Washington Group; Mark Schaefer, NatureServe; Lydia Thomas, Mitretek (retired); Alvin Trivelpiece, Oak Ridge National Lab (retired); Harold Varmus, Memorial Sloan-Kettering Cancer Center; and Christine Todd Whitman, Independent Consultant.

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations, nor did they see the final draft of the report before its release. The review of this

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report was overseen by Gilbert Omenn, University of Michigan. Appointed by the National Academies, he was responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.

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EXECUTIVE SUMMARY

The new presidential administration and Congress elected in November 2008 will face immediate challenges. Events will not permit a leisurely leadership transition. The prompt appointment of senior advisers and the nomination of top officials in the new administration with the knowledge and experience to address complex problems will be essential. The concerns of the nation regarding jobs and economic growth, health care, national security, energy, and the environment demand informed action. Each of these concerns—from national security, economic development, health care, and the environment, to education, energy, and natural resources—is touched in essential ways by the nation's science and technology enterprise.

The nation requires exceptionally able scientists and engineers in top executive positions and on federal advisory committees to weigh available data, to consider the advice of scientists and technical specialists, and in the case of presidential appointees, to make key management, programmatic, and policy decisions.

The opportunities to serve are global as well as national. The U.S. research enterprise is the largest in the world and leads in innovation in many fields. The rapid globalization of the economy and of science and technology is a fact of life, fostering a healthy competition that is driven by technology-enabled gains in productivity. These advances are creating better lives for many in diverse nations around the world.

1. **White House leadership in science and technology requires three steps. Immediately after the election, the President-elect should identify his candidate for the position of Assistant to the President for Science and Technology (APST). This individual will provide advice, identify, and recruit other science and technology presidential appointees. After inauguration, the President should promptly both appoint this person as APST and nominate him or her as the director of the White House Office of Science and Technology Policy (OSTP). The director of OSTP should be a cabinet-level position, with an office in the Old Executive Office Building.**

Selection of a confidential adviser on S&T immediately after the election is essential to ensure that assistance is available to the incoming President in identifying the best candidates for key S&T appointments and to provide advice in the event of a crisis or for early implementation of the President's agenda. As a second step, that person should be named APST immediately after the inauguration so that he or she will have the stature that the S&T portfolio warrants.

The APST should have credibility and the respect of the S&T community; an understanding of large research and educational enterprises; background as a practicing researcher (academic or nonacademic); awareness of a wide variety of public policy issues; familiarity with issues in technology and national security, economic development, health and the environment, and international affairs; and the ability to work and communicate with others, including policy makers.

Because the position, by itself, does not require Senate confirmation, the APST should be formally appointed immediately after the presidential inauguration. However, because the APST cannot undertake the duties of OSTP director without Senate con-

firmation, the President should send forward the nomination and then seek rapid confirmation to integrate the two roles.

2. The President and the Senate should streamline and accelerate the appointment process for S&T personnel—indeed, all key personnel—to reduce the personal and financial burdens on nominees and to allow important positions to be filled promptly.

Because of the critical need for input by high-level S&T leadership in program implementation and current policy debates, key positions should not sit vacant for long periods. In addition to identifying candidates early in a new administration, efforts must be made to streamline and accelerate the appointment process. Candidates often have to put their careers on hold during the lengthy confirmation process.

Streamlining proposals include such mechanisms as relying on one system of background checks rather than separate systems for the White House and the Senate, clarifying the criteria for the position in question and the principles for questioning nominees, requesting only relevant and important background information, and keeping the process timely and on track with the goal of completing the appointment process within 4 months from first White House contact to Senate confirmation.

3. Congress and the Office of Government Ethics should consolidate and simplify appointment policies and procedures to reduce the financial and vocational obstacles to government service.

Mechanisms for consolidating and simplifying the process include standardizing and clarifying pre-employment requirements and postemployment restrictions, reducing unreasonable financial and professional losses for those who serve by simplifying

financial disclosure reporting requirements (for example, evaluating a de minimis rule), eliminating many of the restrictions associated with the use of blind trusts, and ensuring continuing health insurance and pension plan coverage.

4. Scientific and professional societies should more actively reach out to the APST and other senior administration leadership to provide input that broadens the pool of potential candidates for S&T appointments.

As a means of seeking this input and building a strong pool of candidates with policy experience now and in the future, accomplished and recognized S&T leaders and professional science, engineering, and health societies should propose emerging leaders in their fields to serve in government positions and should expand junior and senior internship and fellowship programs that provide their members with government and policy experience. Continuing efforts should be made to identify women and members of under-represented groups for such positions. Criteria for candidates should include not only specialized expertise, but also management skills to be effective in government.

5. The President should ensure that his administration makes the process for nominating and appointing people to advisory committees explicit and transparent. The administration should examine current federal advisory committee appointment categories to see that they are appropriate to meet the nation's needs. When a federal advisory committee requires members with scientific or technical proficiency, persons nominated to provide that expertise should be selected solely on the basis of their scientific and technical knowledge and credentials and their professional and personal integrity.

S&T issues frequently pose ethical and societal questions that may require regulation or policy solutions, and many critical policy choices in national security, the environment, the economy, agriculture, energy, and health depend on a deep understanding of S&T. Many factors—including societal values, economic costs, and political judgments—come together with technical judgments in the process of reaching advisory committee recommendations. Essential viewpoints needed for appropriate committee balance and scope should be represented by accomplished people in that policy arena, but scientists, engineers, and health professionals nominated primarily to provide S&T input should be selected for their scientific and technological knowledge and credentials, for their professional and personal integrity, and for their ability to articulate the issues.

Achieving a balance of policy perspectives may be appropriate for those placed on committees for their policy insights, but it is not a relevant criterion for selecting members whose purpose is to provide scientific and technical expertise. Most people are likely to have opinions on S&T issues with which they are experienced and familiar. For this reason, excluding S&T experts from serving on advisory committees solely on the grounds that their opinions are known is inappropriate and could leave the federal advisory committee system devoid of qualified candidates.

Administration officials should broadly announce the intent to create an advisory committee or appoint new members to an existing committee and should provide an opportunity for relevant and interested parties to suggest nominees they believe would be good committee members.

Efforts are also needed to clarify and identify the conflict-of-interest principles that will be applied to committee membership and the categories of individual members. As a first step toward public disclosure, the General Services Administration should post on its Web site and elsewhere the appointment status of appointees—that is, whether a committee member is to be classi-

fied as a “special government employee,” a “regular government employee,” a “consultant,” or a “representative” since there can be great variance in conflict-of-interest procedures.

Staff who process advisory committee membership nominations and who manage advisory committee operations should be properly trained senior employees familiar with the importance and nuances of the advisory committee process, including a clear understanding of the appropriateness of the questions that candidates should and should not be asked.

The nation needs exceptionally able scientists, engineers, and health professionals to serve in executive positions in the federal government and on federal advisory committees. Such persons, when serving as presidential appointees, make key programmatic and policy decisions that will affect our lives and those of our children. Similarly, skilled scientists and engineers are needed for advisory committees to provide advice on the myriad issues with complex technological dimensions that confront government decision makers. Our nation has been well served by its ability to draw qualified S&T candidates to government service because of the opportunities for intellectually challenging work that affects the world in which we live and that encourages and protects the scientific process. We must continue to enlist the best candidates for these important positions and ensure that unreasonable obstacles to their service are minimized.

INTRODUCTION

The needs of the nation are at the forefront of public discussions in 2008—a time of leadership transition in the United States. Almost every aspect of modern public policy is touched by science and technology, including those involving national security, economic development, health care, the environment, education, energy, and agriculture. Rarely has there been such an opportunity for the nation's S&T enterprise to contribute to the nation. The nation needs exceptionally able scientists and engineers in top executive positions and on federal advisory committees to weigh available data; to consider the advice of scientists and technical specialists; and in the case of presidential appointees, to make key management, programmatic, and policy decisions.

The opportunities to serve are not only national, but also poised to meet global, state, and local challenges. The United States research enterprise is the largest in the world and leads in innovation in many fields. The rapid globalization of the economy and of S&T cannot obscure the fact that competition is fostering a positive response from all levels of American society. Science and technology are creating better lives for all as many nations seek to improve opportunities for themselves and for people around the world.

As a result, the S&T community ought to be fully engaged in discussions and decisions in S&T policies and S&T-dependent

policies. Scientists and engineers¹ are important to meeting the nation's needs, as was emphasized in the landmark 2007 report from the National Academy of Sciences, National Academy of Engineering, and the Institute of Medicine, *Rising above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*.

Since the Industrial Revolution, the growth of economies throughout the world has been driven largely by the pursuit of scientific understanding, the application of engineering solutions, and continual technological innovation. Today, much of everyday life in the United States and other industrialized nations, as evidenced in transportation, communication, agriculture, education, health, defense, and jobs, is the product of investments in research and in the education of scientists and engineers.²

The relationship between science and technology, on the one hand, and the ability of the nation to meet economic and social goals on the other hand, is now clear from the American experience and that of other high-achievement countries. This is reinforced not only by reports of the National Academies, but also through the valuable work of other organizations such as the Council on Competitiveness.³

For example, a central theme in all of these analyses is the key role of strengthening education in science, technology, engineering, and mathematics (STEM). Upgrading the STEM skills of our young people at all levels (K-12, undergraduate, and graduate)

¹When this report refers to scientists and engineers or to the S&T community, the entire range of fields that bring evidence-based knowledge and decision making to public debate and decision making is included: from astronomy to zoology, from mathematics to medicine, from industry and to academia, and irrespective of the terminal degree obtained.

²National Academy of Sciences/National Academy of Engineering/Institute of Medicine. *Rising above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future*, 2007, p. 41.

³See, for instance, the Council on Competitiveness report in 2005: "Innovate America," available at <http://www.compete.org/publications/detail/202/innovate-america/>.

is now recognized as the sine qua non for sustaining U.S. competitiveness in a globalizing world. Meeting the educational challenge will not be achieved by more of the same. Only national leadership on the issue combined with action at the state, local, and family levels will bring about the necessary change.

Amidst this powerful force for change, the challenge for government is to recognize when S&T expertise is needed and to find the best means of managing S&T and incorporating it into government programs and policies.⁴ Our most critical asset in meeting this goal is our intellectual capital—the hundreds of thousands of highly trained and expert scientists, engineers, and health professionals who work with what is known in the world of S&T and recognize what is not known. At no other time in the past 50 years has it been so vital to attract people who understand science and engineering into the highest levels of public service, as presidential appointees in top leadership positions or as members of the many advisory committees that provide scientific and technical advice to executive branch agencies.

Presidentially appointed executives in fewer than 100 positions form the core leadership of the government's role in S&T. Those positions reside in the Executive Office of the President and in the agencies and departments that support scientific, engineering, and industrial research and development; manage large-scale defense, space, energy, health research, and environmental programs; and regulate activities that have large technology components.

Most of the top S&T positions would ideally be filled by scientists, engineers, or health professionals with the specific expertise necessary for fulfillment of their responsibilities. They are often recruited into public service from academic or industrial research

⁴See David Z. Beckler. 1991. "A Decision Maker's Guide to Science Advising." In William T. Golden, ed., *Worldwide Science and Technology Advice to the Highest Levels of Government*. pp. 28-41. NY: Pergamon.

organizations. These high-level officials make critical decisions at the point where government policies intersect with S&T and need the management skills to ensure they will be effective in government. They need the ability to place their particular S&T expertise within a systems perspective (e.g., interfaces; immediate and long-view impacts; cost-benefits).

It is essential that the pool of potential appointees not be narrowed by avoidable obstacles, such as the appointment process itself, unreasonably burdensome restrictions on pre-government and postgovernment activities, and an unwillingness to cast the net more widely to include more women and members of underrepresented groups.

In addition to presidential appointments, the government often calls on outside scientists and engineers to provide objective independent advice on matters ranging from research funding priorities and awards to strategic planning for entire segments of federal investment in research. Nongovernmental scientists and engineers are asked to serve in an advisory capacity on committees considering policy issues that have critical S&T components, for example, setting priorities for biodefense capabilities, establishing drinking water standards, and conducting drug approvals. The members of the committees may be appointed by the President, by an agency head, or by other senior executive staff.

Today, more than 1,000 federal advisory committees⁵ managed by federal agencies advise the federal government on a diverse array of issues, including the application of scientific and technical knowledge to policy. Through legislation enacted in 1972, Congress recognized the merits of seeking the advice and assistance of our

⁵As defined by the Federal Advisory Committee Act (FACA) of 1972, Public Law 92-463 and implemented by the General Services Administration (GSA) under Executive Order 12024 of 1976. There are other kinds of advice received by agencies that are not covered by the GSA definition.

nation's citizens. Congress also sought to ensure that advisory committees would provide advice that is relevant, objective, and open to the public. Transparency and accountability of those who provide advice are as essential as the quality of their work. The United States has sustained a long-standing commitment to this type of public input into critical policy decisions.

The database maintained by the General Services Administration for federal advisory committees includes more than 150 committees under the heading of "applied sciences" and 65 committees that include "mathematics" in their mandates. The government's capacity to perform these functions could be seriously impaired by increasing the difficulty of recruiting people to those positions or by fostering the perception that the composition of advisory committees is being intentionally skewed to achieve a predetermined outcome.

A failure to attract qualified people to top S&T posts or misuse of the federal advisory committee system would compromise the effectiveness of our government with respect to important S&T issues in general. To address the challenges of the twenty-first century, we need sound science, sound scientific and technical leadership, and sound scientific and technical advice. These are nonpartisan goals. This report, the fourth⁶ in a series issued by the Committee on Science, Engineering, and Public Policy (a joint committee of the National Academy of Sciences, the National

⁶There are several ways in which this report differs from earlier versions: (1) With regard to the treatment of advisory committees, that section is shorter than in the 2004 report, not because the problem is less important in ensuring the integrity of scientific advice for the federal government, but rather to delineate the issues applicable to any administration now or in the future. (2) For the list of key appointments, the committee decided to include presidential appointments in economics that had been excluded in prior versions, given the centrality of economic challenges in 2008 and beyond. (3) A lesson learned from the last two administrations is the central importance of the early appointment of the APST; thus that recommendation is given prominence in this report.

Academy of Engineering, and the Institute of Medicine), is being delivered in advance of the presidential election with the intention to make it possible to achieve those goals.⁷

⁷Panel on Presidentially Appointed Scientists and Engineers, Committee on Science, Engineering, and Public Policy. 1992. *Science and Technology Leadership in American Government*. Washington, DC: National Academy Press. Committee on Science, Engineering, and Public Policy. 2000. *Science and Technology in the National Interest: The Presidential Appointment Process*. Washington, DC: National Academy Press. Committee on Science, Engineering and Public Policy. 2005. *Science and Technology in the National Interest: Ensuring the Best Presidential and Federal Advisory Committee Science and Technology Appointments*. Washington, DC: The National Academies Press.

PRESIDENTIAL SCIENCE AND TECHNOLOGY APPOINTMENTS

One of the greatest challenges of modern society and its governing bodies is to manage S&T properly and to incorporate such information into daily decision making. Knowledge creation and diffusion are increasingly important drivers of innovation, sustainable economic growth, and social well-being. The security, prosperity, health, and environment of Americans depend on senior leadership to sustain our vibrant S&T and to nurture an environment that transforms new knowledge into opportunities for creating high-quality jobs and for reaching shared goals. The nation increasingly looks to the scientific and engineering communities for solutions to some of its most intractable problems—from chronic disease to missile defense; to transportation woes; to energy security; to ensuring clean air, clean water, and safe food. Expectations for S&T are perhaps higher than at any other time in our history and are placing unprecedented demands on leadership.

Box 1 lists the top federal S&T leadership appointments important for the development of S&T-based policy. The list includes the key positions for which an S&T background is essential. The list could be much longer if it included all S&T-relevant presidential appointments, but the committee chose to emphasize, on this list, the priority key appointments that a new administration should address in the first months after the inauguration. These positions will be not only essential in providing daily leadership, but also key to setting longer term priorities in the budget and policy-making process.

BOX 1

Key Science and Technology Positions

The following are lists of what the committee considers to be the most critical federal science and technology (S&T) appointments. The positions listed below include both presidential and nonpresidential appointments (but not career appointments) that the committee believes are important for the development of S&T-based policy. The secretaries of various mission agencies are not included in the list even though they have major responsibilities for the health of the scientific enterprise.

In general, those listed are presidential appointees (PA) or presidential appointees with Senate confirmation (PAS). The goals of the list are to provide guidance to those involved in the appointment process about the most critical positions from the perspective of the S&T community, to encourage timely appointment to the positions, and to suggest policy positions beyond those traditionally filled with scientists and engineers for which such appointments may be considered.

In each table, the following appointment categories are used:

PAS = presidential appointment with Senate confirmation

PA = presidential appointment (without Senate confirmation)

NA = noncareer appointment

Defined by the Office of Personnel Management as "appointment authority allocated on individual case basis by OPM; authority reverts to OPM when the noncareer appointee leaves the position. Appointments may be made only to General positions and cannot exceed 25 percent of the agency's Senior Executive Service (SES) position allocation." (Source: Office of Personnel Management Web site: <http://www.opm.gov/ses/glossary.asp>).

FT = fixed term appointment, with length of appointment indicated.

Key Science and Technology Positions

EXECUTIVE OFFICE OF THE PRESIDENT

Assistant to the President for Science and Technology (APST) ^a	(PA)
Director, Office of Science and Technology Policy (OSTP) ^a	(PAS)
Associate Directors, Office of Science and Technology Policy (4)	(PAS)
President's Council of Advisors on Science and Technology ^b	(PA)
Chairman, Council of Economic Advisers	(PAS)
Chairman, Council on Environmental Quality	(PAS)
Director and Deputy Director, National Economic Council	(PA)
Deputy National Security Advisor for International Economic Affairs	(PA)
Associate Directors, Office of Management and Budget (OMB) (3)	(NA)
Administrator, OMB Office of Information and Regulatory Affairs	(PAS)

DEPARTMENT OF AGRICULTURE

Under Secretary for Research, Education, and Economics	(PAS)
Under Secretary for Food Safety	(PAS)
Under Secretary for Food, Nutrition, and Consumer Services	(PAS)

DEPARTMENT OF COMMERCE

Under Secretary for Oceans and Atmosphere/Administrator, National Oceanic and Atmospheric Administration (NOAA)	(PAS)
Director, National Institute of Standards and Technology (NIST)	(PAS)
Director, Bureau of the Census	(PAS)

DEPARTMENT OF DEFENSE

Director, Defense Research and Engineering	(PAS)
Under Secretary for Acquisition, Technology and Logistics	(PAS)
Director, Defense Advanced Research Projects Agency (DARPA)	(NA)
Director, Operational Test and Evaluation, Office of the Secretary of Defense	(PAS)
Assistant Secretary for Health Affairs	(PAS)
Assistant Secretary for Networks and Information Integration/Chief Information Officer	(PAS)
Assistant to the Secretary for Nuclear and Chemical and Biological Defense Programs	(PAS)

DEPARTMENT OF EDUCATION

Director, Institute of Education Sciences	(PAS)
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DEPARTMENT OF ENERGY

Under Secretary of Science	(PAS)
Under Secretary for Energy and Environment	(PAS)
Assistant Secretary for Energy Efficiency and Renewable Energy	(PAS)
Assistant Secretary for Environmental Management	(PAS)
Assistant Secretary for Fossil Energy	(PAS)
Assistant Secretary of Nuclear Energy	(PAS)
Under Secretary for Nuclear Security and Administrator of the National Nuclear Security Administration (NNSA)	(PAS)
Principal Deputy Administrator of NNSA	(PAS)

^a In many administrations, the same person has held the posts of APST and director of OSTP. There have been instances in which presidential administrations have not named an assistant to the President for science and technology.

^b These positions are part-time.

SCIENCE AND TECHNOLOGY FOR AMERICA'S PROGRESS

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Assistant Secretary for Health, Office of Public Health and Science^c (PAS)
Director, National Institutes of Health (PAS)
Director, National Cancer Institute^d (PA)
Assistant Secretary for Planning and Evaluation (PAS)
Commissioner, Food and Drug Administration (PAS)

DEPARTMENT OF HOMELAND SECURITY

Under Secretary for Science and Technology (PAS)

DEPARTMENT OF THE INTERIOR

Assistant Secretary for Water and Science (PAS)
Assistant Secretary, Fish and Wildlife and Parks (PAS)
Director, U.S. Fish and Wildlife Service (PAS)
Director, U.S. Geological Survey (PAS)

DEPARTMENT OF LABOR

Commissioner, Bureau of Labor Statistics (PAS)

DEPARTMENT OF STATE

Assistant Secretary for Oceans and International Environment and Scientific Affairs (PAS)
Advisor to the Secretary for Science and Technology (NA) [FT = 4 years]

DEPARTMENT OF TRANSPORTATION

Administrator, Research and Innovative Technology Administration (PAS)

DEPARTMENT OF VETERANS AFFAIRS

Under Secretary for Health (PAS) [FT = 4 years]

ENVIRONMENTAL PROTECTION AGENCY

Assistant Administrator for Research and Development (PAS)

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Administrator (PAS)
Deputy Administrator (PAS)

NATIONAL SCIENCE FOUNDATION

Director (PAS) [FT = 6 years]
Deputy Director (PAS)
National Science Board (24)^b (PAS) [FT = 6 years]

NUCLEAR REGULATORY COMMISSION

Chair and Commissioners (4) (PAS) [FT = 5 years]

^cIn recent administrations, the same person has held the posts of assistant secretary for public health and science and surgeon general, but this has not always been the case.

^dThe director of NCI is listed, while the other NIH institute directors are not, because the position is the only one that is filled by presidential appointment. The others are career appointees. Likewise, the director of the Centers for Disease Control and Prevention is not a presidential appointee.

The committee found four aspects of the appointment process in which reforms are needed to enhance the nation's ability to recruit and attract the best S&T leadership to government positions: accelerating the speed with which appointments are made; enhancing the process by which candidates are nominated, cleared, and confirmed; reducing pre-government and postgovernment restrictions; and broadening the pool of potential candidates.

Accelerate the Appointment Process for Science and Technology Leadership

The growing importance of S&T in so many elements of policy making and the need for clear policies with regard to day-to-day management of the scientific and engineering enterprise make clear that there should be minimal gaps in senior S&T leadership. Top S&T appointments need to be made early in an administration. The nation learned from the work of the National Commission on Terrorist Attacks upon the United States (known as the 9/11 Commission) and that of the Commission on National Security/21st Century that lapses in appointments and long-standing vacancies can have deleterious—even dangerous—consequences.¹

S&T Leadership in the White House

White House leadership on science and technology can be strongly influenced by certain key decisions taken before, as well as in the first months after, the November election. The committee strongly supports the view that good science advisers should be active with all candidates during the election process to inform the public debate on a host of key issues in 2008. Secondly, selection

¹The United States Commission on National Security/21st Century, 2001. *Road Map for National Security: Imperative for Change: The Phase III Report of the U.S. Commission on National Security/21st Century*. Washington, DC, pp. 89-94; U.S. National Commission on Terrorist Attacks Upon the United States, 2004. *The 9/11 Commission Report* Washington, DC: Government Printing Office, pp. 422-423.

of an assistant to the President-elect on S&T immediately after the election is essential to ensure that assistance is available to the incoming President in identifying the best candidates for key S&T appointments, to provide advice in the event of a crisis, and to support early implementation of the President's agenda. In the critical early days of a new administration, that person should be named to the post of Assistant to the President for Science and Technology (APST) to serve as a respected personal and confidential adviser to the President on S&T-related policy issues, presumably honed over the course of the election campaign, rather than as a representative of the S&T community.

The APST can also play a crucial role in identifying candidates for key S&T appointments and in advising the President on S&T considerations with regard to priorities in the ongoing federal budget process, an activity that will immediately confront a new administration for both FY2009 and FY2010. The annual federal investment in research and development is approximately \$145 billion (about 1 percent of the U.S. gross domestic product), and about 40 percent of it is devoted to research. It is critical that the APST be in place as quickly as possible to advise the President and cabinet members on various aspects of that substantial investment. Having an advisor to the President in place is also important to have a voice in the deliberations of other key White House offices that intersect with S&T concerns. Examples include the National Security Council, National Economic Council, Domestic Policy Council, Council on Environmental Quality, and the Homeland Security Council. The mandates of the latter groups increasingly involve S&T, and working relationships at senior levels need to be established at the beginning of the administration, perhaps even through joint appointments between the Office of Science and Technology Policy staff and the councils listed.

The President is not required to name an assistant for S&T, and some have declined to do so. However, the "assistant to the President" normally has direct access and indicates the impor-

tance the president attaches to S&T. For this reason, the committee strongly recommends that the new President appoint his APST immediately after taking office.²

The director of the White House Office of Science and Technology Policy holds a statutory position with government-wide coordination obligations that do not, necessarily, encompass the important confidential advisory role that the APST should play. Because of the overlap in responsibilities of the APST and the Director of OSTP, we recommend that the new President select one individual to serve both roles and seek rapid Senate confirmation for the latter.

The committee considered the possibility that different persons could hold the positions of APST and director of OSTP. Nothing prevents that option legally, although no administration has ever taken that approach. Proponents of that approach argue that: (1) the APST, as an adviser to the President, cannot be forced to testify before Congress (as the OSTP director can) and can thus be closer to confidential decision making in the White House; and (2) having two voices in the White House on S&T matters rather than one would strengthen the position of science, engineering and medicine in administration decision making. The committee took these views into account, and came to the conclusion that there were greater advantages in having the two positions occupied by the same person: (1) the APST would have virtually no staff support; (2) a rise of competition between the APST and the OSTP director could easily occur; (3) with the presence of the APST in “insider circles,” it would be less likely that the OSTP director would be given cabinet-level status; and (4) linkages of agencies with the

²Other groups analyzing this issue in 2008 also consider this a priority proposal. See, for instance, Jennifer Sue Bond, Mark Schaefer, David Rejeski, and Rodney W Nichols. 2008. *OSTP 2.0 Critical Upgrade: Enhanced Capacity for White House Science and Technology Policymaking: Recommendations for the Next President*. Washington, DC: Woodrow Wilson International Center for Scholars, p. 4.

White House would become more complicated with multiple channels. For these reasons, the committee has opted for the following recommendation.

- 1. Shortly after the election, the President-elect should identify a candidate for the position of assistant to the President for Science and Technology (APST) to provide advice, including suggesting and recruiting other science and technology presidential appointees. After inauguration, the President should promptly both appoint this person as APST and nominate him or her as the director of the White House Office of Science and Technology Policy. The director should be a cabinet-level position,³ and the office needs to be represented physically in the Old Executive Office Building.**

The APST should have credibility and the respect of the S&T community; an understanding of large research or educational enterprises; background as a practicing researcher (academic or nonacademic); awareness of a wide variety of public policy issues; familiarity with issues in technology and national security, economic development and energy, health and the environment, and international affairs; and the ability to work and communicate with others, including policy makers.

Because the APST does not require Senate confirmation, the person can be appointed immediately after the presidential inauguration without delay. However, because the APST cannot become OSTP director without Senate confirmation, the President

³The committee refers to a "cabinet-level position," in the sense of having rights and responsibilities that can vary from administration to administration to mean anything from simple participation in cabinet-level committees to an actual seat at the table as a member of the cabinet.

should seek her or his rapid confirmation to facilitate a continuous connection between the two roles.

The new administration should make the director of OSTP a cabinet-level position. It is essential that the OSTP director be included in cabinet consultations that include discussion of the science and technology components of broader policy decisions and to invest commensurate authority in the senior leadership of OSTP.

S&T Presidential Appointments

The opportunity to serve in high-level S&T positions is widely considered by former occupants to have enabled them to make valuable contributions to meeting the nation's long-term challenges. Such service brings together a life of advancing knowledge with the chance to bring that knowledge to bear on major societal issues. Those who have served in S&T leadership positions report that they highly value their experience and feel that their appointments gave them an opportunity to make a substantive impact in achieving important public objectives. In a 2002 survey of several hundred principal appointees by the Council for Excellence in Government, for example, 74 percent of these former presidential appointees said that they were very satisfied with their work in government, and an equal percentage said that they would willingly return to government service. They cited numerous reasons to work in federal leadership positions, including patriotism, the chance to be a part of history, and the opportunity to help a President in whom one believes.⁴

The same survey, however, also highlighted some of the personal and financial challenges that may emerge through a com-

⁴Brookings Presidential Appointee Initiative. 2002. *Attracting and Keeping the Best and Brightest*. Washington, DC: Brookings Institution.

mitment to high-level public service as a presidential appointee.⁵ The issues often cited include an unfamiliar appointment process, an appointment without tenure, the organization of personal finances to meet government conflict-of-interest requirements, and the need to pay close attention to postemployment restrictions. Various reports have identified solutions to these issues, and multiple sources of guidance are available to potential appointees to steer their way through the procedural requirements for serving in a presidential appointment.

The appointment process should be improved. Figure 1 provides an overview of this cumbersome process. The process can stretch for long periods and involve considerable requests for information from nominees for background checks. Financial disclosures regarding ranges of assets (including their families) ultimately become public knowledge. On average, it now takes more than 8 months to fill key S&T positions that require Senate confirmation—an extended period of uncertainty for nominees (see Figure 2). As a result, some believe that a new administration should consider whether some senior positions could be filled as effectively with presidential appointments that do not require Senate confirmation.

In preparing for the nomination and clearance process, a candidate typically faces unfamiliar regulations, reporting requirements, and administrative procedures set by the Office of Government Ethics (OGE), the General Services Administration, and the Office of Personnel Management (OPM). The process includes background investigations conducted by the Federal Bureau of Investigation (FBI) and an ethics official for the agency to which the President wishes to appoint the candidate. As part of the process, the candidate usually prepares and submits several forms, including the Public Financial Disclosure Report (Standard Form [SF] 278), the Questionnaire for National Security Positions

⁵Brookings, 2000; 2002.

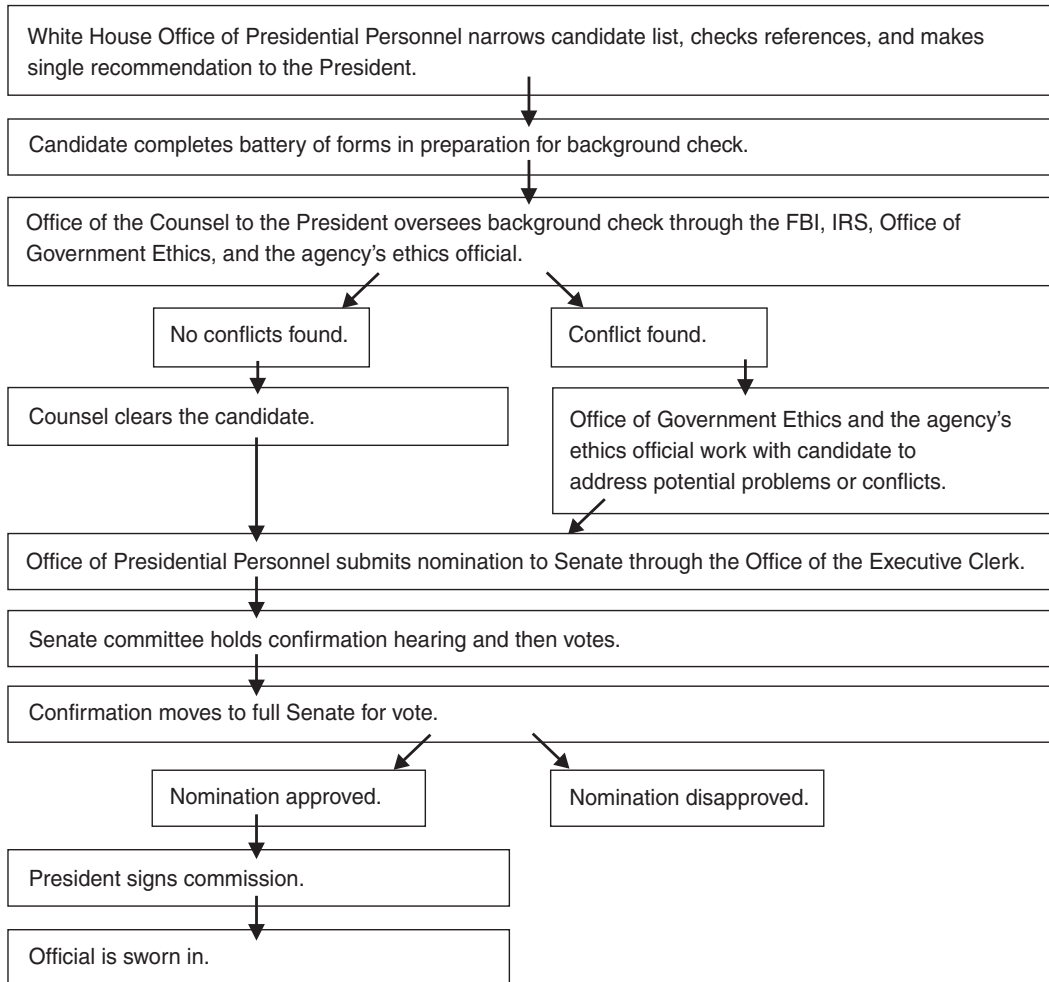


FIGURE 1 Overview of the presidential appointments process.

SOURCE: The Nonpartisan Presidential Appointee Initiative. 2000. *Staffing a New Administration: A Guide to Personnel Appointments in a Presidential Transition*.

A project of the Brookings Institution funded by the Pew Charitable Trust. Washington, DC.

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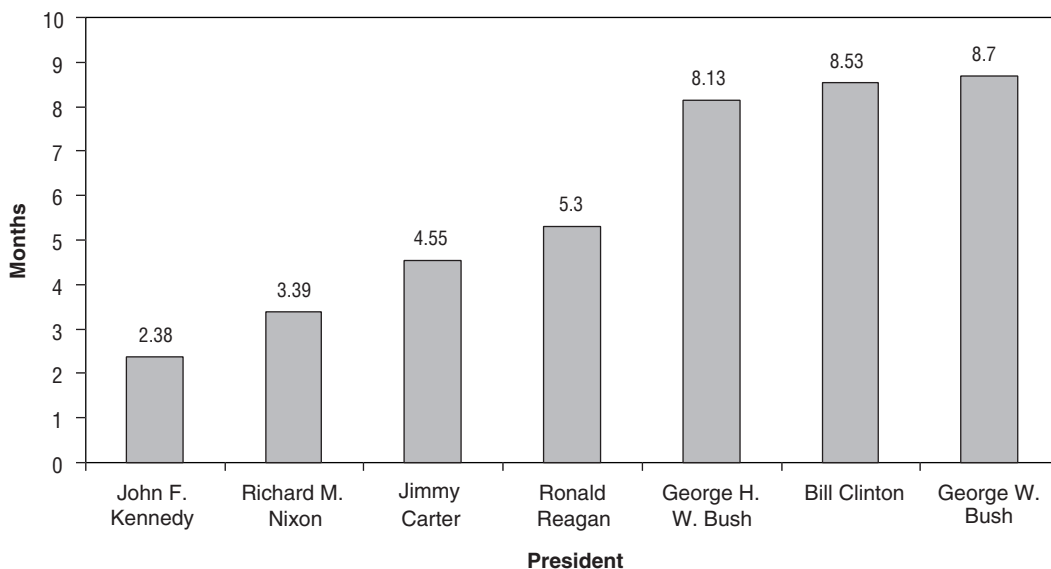


FIGURE 2 The average number of months it takes to fill the top 500 jobs in the administration.

SOURCE: The Nonpartisan Presidential Appointee Initiative. 2000. *Staffing a New Administration: A Guide to Personnel Appointments in a Presidential Transition*.

A project of the Brookings Institution funded by the Pew Charitable Trust. Washington, DC.

NOTE: This analysis, originally conducted by Calvin McKenzie, has been updated with estimated data for the George W. Bush administration from Paul Light, former Director of the Presidential Appointee Initiative.

The averages presented here are estimates for initial appointments during the presidencies' first years based on information available at the time they were calculated. Averages for some administrations may be different when data for candidates during the entire term are included. The committee authoring the 2004 edition of this report analyzed the data on the pool of key S&T candidates listed as "key S&T appointments," and there is no substantial difference in time needed for confirmation of these candidates between the first Clinton term and the first George W. Bush term. Note also that the time from inauguration to confirmation is actually a conservative estimate inasmuch as several positions are still vacant after the President's first year in office.

(SF 86), and the White House Personal Data Statement Questionnaire. OGE and the agency ethics officer may work with a candidate to resolve conflicts that surface during this stage. Once cleared, the nomination is ready to be submitted to the Senate. Separate forms exist for the particular Senate committee if the position requires Senate confirmation.

2. The President and the Senate should streamline and accelerate the appointment process for all S&T appointees—indeed, all key appointees—to simplify the financial procedures for nominees and to allow important positions to be filled promptly.

Streamlining proposals include such mechanisms as relying on one system of background checks rather than separate systems for the White House and the Senate, clarifying the criteria for the position in question and the principles for questioning nominees, requesting only relevant and important background information, and keeping the process timely and on track with the goal of completing the appointment process in a target period (e.g., within 4 months) from first White House contact to Senate confirmation. The president can enhance and accelerate this process by

- Reducing the time between first White House contact and the intent to nominate announcement,
- Providing feedback to candidates on their status at all approval steps; and,
- Advising candidates on issues of conflict-of-interest, reporting, and divestiture requirements and ensuring that they understand the personal financial implications before accepting the nomination and notifying their current employers.

The committee also endorses the recommendations of the Brookings Institution Presidential Appointee Initiative Advisory

Board (see Box 2) as to how the presidential appointment process can be streamlined and accelerated. The recommendations of its nonpartisan commission are similar to those of this committee, suggesting that the challenges for S&T appointees are not unlike those for other appointees.

In sum, the Brookings Institution recommends that:

- The President should maintain a professionalized Office of Presidential Personnel with knowledge of executive recruitment in the Executive Office of the President.
- The President and Congress should simplify and standardize the information-gathering forms used in the presidential appointments process and develop and maintain on-line interactive access to all such forms and questionnaires for persons going through the appointment process.
- Congress should undertake a comprehensive review of the ethics requirements imposed on political appointees with the goal of striking a balance between concerns about the integrity of those who serve and the need to eliminate intrusive or complex disclosure requirements.

The Senate should consider approaches that

- Limit the imposition of “holds” by all senators to a total of no more than 14 days.
- Require Senate confirmation votes within 45 days after receipt of a nomination.
- Allow nominations to be reported out of the relevant Senate committees (without a hearing) when a majority of committee members of each party concur⁶; and

⁶The Presidential Appointee Initiative Advisory Board. 2001. *To Form A Government: A Bipartisan Plan to Improve the Presidential Appointments Process*. Washington, DC: Brookings Institution.

BOX 2

Recommendations of the Brookings Institution Presidential Appointee Initiative Advisory Board

In April 2001, the Brookings Institution Presidential Appointee Initiative, a nonpartisan project funded by the Pew Charitable Trusts, and whose advisory board was co-chaired by Nancy Kassebaum Baker, former Republican Senator from Kansas, and Franklin D. Raines, former director of the Office of Management and Budget, provided a set of recommendations as to how the presidential appointment process could be improved.

The following are some of the recommendations as to how they believe the nomination and confirmation process for presidential appointees can be streamlined.

1. The Congress should enact legislation to establish a permanent Office of Presidential Personnel in the Executive Office of the President and to authorize staff levels sufficient to recruit the president's appointees efficiently and to provide them with transition assistance and orientation. This should include some career employees who retain appropriate records from one administration to the next and who are experts in the operations of all aspects of the appointment process.
2. The President should order all departments and agencies to simplify and standardize the information-gathering forms used in the presidential appointments process. The Senate should require its committees to do so as well. The president should then order the General Services Administration to develop and maintain on-line, interactive access to all such forms and questionnaires for persons who are going through the presidential appointment process.
3. Congress should undertake a comprehensive review of the ethics requirements currently imposed on political appointees. Its goal should be to strike an appropriate balance between legitimate concerns for the integrity of those who hold these important positions and the need to eliminate unnecessarily intrusive or complex requirements that deter talented Americans from entering public service.
4. The Senate should adopt a rule that limits the imposition of "holds" by all Senators to a total of no more than 14 days on any single nominee.
5. The Senate should adopt a rule that mandates a confirmation vote on every nominee no later than the 45th day after receipt of a nomination. The rule should permit any Senator, at the end of 45 days, to make a point of order calling for a vote on a nomination. A majority of the Senate may postpone the confirmation vote until a subsequent date.
6. The Senate should adopt a rule that permits nominations to be reported out of a committee without a hearing, upon the written concurrence of a majority of committee members of each part.

SOURCE: Excerpts from The Presidential Appointee Initiative Advisory Board. 2001. *To Form A Government: A Bipartisan Plan to Improve the Presidential Appointments Process*. Available at <http://www.appointee.brookings.edu/events/reformag.pdf>.

- Ensure collaboration with the President to develop common forms for presidential nominees, so Senate and White House forms can be identical.

The burden on nominees could be reduced if the Senate and the executive branch could agree on a common set of forms on which both would rely in the nomination and confirmation process. A reduction of the time burden could also be achieved by greater civility in the appointment process on the part of both the White House and the Senate. The introduction of extraneous issues into the confirmation process—which serves only to delay the ability of qualified nominees to take up their positions—has increased in recent years and needs to be reversed.

3. Congress and the Office of Government Ethics should consolidate and simplify appointment policies and procedures to reduce the financial and vocational obstacles to government service.

Congress and OGE should increase the attractiveness of government service to scientists and engineers by simplifying the requirements and restrictions aimed at avoiding conflicts of interest by appointees. These policies and procedures have built up over the years for good reason, but in time have also become unduly complex. Each administration also needs to review the postemployment restrictions in place to ensure they have the right balance between maintaining the integrity of government decision making and encouraging our most experienced and expert citizens to fill policy-making positions.

Previous Committee on Science, Engineering, and Public Policy (COSEPUP) reports, the Brookings Institution Presidential Appointee Initiative, and other analyses have recommended that the appointment process be streamlined by simplifying financial disclosure reporting requirements, requiring OGE to review

conflict-of-interest laws, and allowing OPM to provide a full list of appointed positions to each presidential candidate after each political party's convention.⁷ The intended goal of the recommendations is to accelerate the appointment process.

The committee favors greater transparency for nominees from all fields. Some concerns may be better addressed by openness in potential conflicts of interest than establishing uniform rules for people whose situations can vary widely. A tailored approach to meet the situations in different agencies, and reflecting the realities of different incumbents, could be handled if transparency created trust in the process. Some efforts have been made to streamline and harmonize the administrative requirements since 2001,⁸ following on the Presidential Transition Act of 2000.⁹ There was also an attempt to pass a Presidential Appointments Improvement Act in 2001¹⁰ and 2003.¹¹

The White House could play a key role in bringing together the executive and legislative branches to consider these broadly accepted reforms on an urgent basis. Some mechanisms for consolidating and simplifying the process are: (1) standardizing and clarifying pre-employment requirements and postemployment restrictions, (2) simplifying financial disclosure reporting requirements (for example, evaluating a *de minimis* rule), and (3) eliminating many of the restrictions associated with the use of blind trusts.

⁷Presidential Appointee Initiative, 2003.

⁸U.S. Office of Government Ethics. 2001. *Report on Improvements to the Financial Disclosure Process for Presidential Nominees*. Washington: DC.

⁹P.L. 106-293, Sec. 3(b)(1).

¹⁰See also U.S. Congress, Senate Committee on Governmental Affairs. 2002. *Presidential Appointments Act of 2002*, report to accompany S. 1811, 107th Cong., 2nd sess., S.Rept. 107-152. Washington, DC: Government Printing Office.

¹¹S. 765, introduced by Senator Voinovich on April 2, 2003, and H.R. 1603, introduced by Representative Davis, introduced on April 3, 2003, were both titled the Presidential Appointments Improvement Act of 2003.

Broaden the Pool of Potential Candidates

Creating a larger pool of potential candidates for key S&T positions is likely to improve the choices made. Thus, presidential administrations should ensure that they have mechanisms in place to expand the search to include input from the scientific and engineering communities on potential nominees and to continue an active campaign to increase the numbers of women and minority group members appointed to top-level posts.

Representation of women and underrepresented minorities is improving in many professions, but progress has been slower in the scientific and engineering workforce. For example, in 2005, women made up 38 percent and underrepresented groups 5 percent of science and engineering doctoral recipients.¹² The pool of qualified candidates for S&T appointments is insufficiently broad and diverse, and women and some minorities are often underrepresented in the highest ranks of S&T leadership. This is due in part to less-than-optimal representation in the S&T community in general and the fact that many women and members of underrepresented groups are early in their careers.

4. Scientific and professional societies should more actively reach out to the APST and other senior administration leadership to provide input that broadens the pool of potential candidates for S&T appointments.

To improve the search for qualified S&T appointees and to build a strong pool of candidates with policy experience now and in the future, professional science, engineering, and health societies should suggest emerging leaders in their fields to serve in government positions, including federal advisory committees, and should

¹²National Science Foundation. 2006. *Survey of Doctorate Recipients*. Washington, DC.

expand junior and senior internship and fellowship programs that provide their members with government and policy experience. Leaders in the community with knowledge of management skills of nominees should be consulted in order to ensure that appointees will be effective in government. Greater attention should be paid to the pool of highly qualified individuals from industry, with the emergence of chief technology officers in recent years as an identifiable professional leadership level.

SCIENCE AND TECHNOLOGY APPOINTMENTS TO FEDERAL ADVISORY COMMITTEES

For much of our nation's history, our leaders have recognized the importance of basing decisions on the best scientific and technical advice available. Today, the government continues to turn to the S&T community for guidance on issues in which such expertise can improve decision making. Care and understanding are needed in requesting such advice and accommodating its limitations.

According to the GSA Committee Management Secretariat, in 2008 there were more than 1,000 federal advisory committees. Half of them have a major S&T component as measured by their charters or the numbers of scientists, engineers, and health professionals who are members.

These committees come into existence for many reasons (e.g., congressional, presidential, and agency decisions), exist at many levels of government (such as presidential and low or high levels in an agency), have a wide variety of missions (e.g., review of research proposals, policy for the S&T enterprise, and use of S&T advice to inform policy decisions), vary in the classification of their membership (e.g., representative, regular or special government employee, and consultant, whose status varies by agency), and vary in their time in existence (months, years, or decades). Their membership may be appointed by the President; by the agency head; or by other senior executive staff.

Federal advisory committees sometimes address a perennial issue facing an agency, such as review of grant proposals or new drug applications, or focus on a specific issue or particular scientific or technical problem facing the agency or the nation. In addition,

several policy-oriented issues have substantial S&T components that require input and advice from the S&T community. Table 1 provides examples of the many types of federal advisory committees, including the following:

- *Science for policy*— S&T advice helps to provide guidance on a policy issue.
- *Policy for science*— S&T advice provides guidance on the direction that the S&T community itself should take in establishing priorities and long-term goals.
- *Program evaluation or direction*— S&T advice is used to evaluate or determine the direction of a federal S&T program.
- *Proposal review*— S&T community provides advice on the quality of a research proposal.
- *Event driven*— S&T community provides advice on the effects or cause of a major event.

Even the few examples provided in Table 1 illustrate that many issues in S&T and public policy are unresolved or contentious. It is important that all legitimate views can be heard, either through committee composition or through the advisory committee deliberative process.

Scientists, engineers, and health professionals recognize the need to serve pro bono on federal advisory committees that help to shape S&T policy. Such service provides the best scientific and technical information to policy makers and serves the S&T enterprise itself. Also, for all of the challenges that this approach presents, this uniquely American emphasis on voluntary, public input has served our nation well. The use of advisory committees by the federal government is a critical aspect of participatory government. The depth and breadth of knowledge and expertise that these bodies provide to policy makers expand intellectual resources well beyond those that can reasonably be provided by federal employees, particularly in rapidly evolving S&T fields. Even though the

TABLE 1
 Examples of Scientific and Technical Federal Advisory Committees, by Origin and Purpose

PURPOSE	ORIGIN			
	President	Secretary/Independent Agency Administrator	Congress	Agency Executive
Science for policy	President's Council on Bioethics	EPA Science Advisory Board	EPA Clean Air Act Advisory Committee	CDC/HRSA Advisory Committee on HIV and STD Prevention and Treatment
Policy for science	National Science Board	DOD Defense Science Board	DHS Science and Technology Advisory Committee	NOAA Science Advisory Board
Program evaluation or direction	President's Council of Advisors on Science and Technology	DOE National Petroleum Council	NRC Advisory Committee on Reactor Safeguards	DOI Land Processes DAAC Science Advisory Panel
Proposal review	Architectural and Transportation Barriers Compliance Board's Negotiated Rulemaking Advisory Committee	NSF Advisory Panel for Integrative Activities	USDA Collaborative Forest Restoration Program Advisory Panel	NIH Genes, Genomes, and Genetic Sciences Integrated Review Group
Event driven	Presidential Commission on Space Shuttle Challenger Accident	Columbia Accident Investigation Board	National Commission on Terrorist Attacks Upon the United States	DOI Exxon Valdez Oil Spill Public Advisory Committee

Note:

CDC = Centers for Disease Control and Prevention
 DAAC = Distributed Active Archive Center
 DOD = U.S. Department of Defense
 DOE = U.S. Department of Energy
 DHHS = U.S. Department of Health and Human Services
 DHS = Department of Homeland Security
 DOI = U.S. Department of the Interior
 EPA = Environmental Protection Agency
 HRSA = Health Resources and Services Administration
 NIH = National Institutes of Health (NIH) which is within DHHS
 NOAA = National Oceanic and Atmospheric Administration
 NRC = U.S. Nuclear Regulatory Commission
 NSF = National Science Foundation
 OSTP = White House Office of Science and Technology Policy
 USDA = United States Department of Agriculture

work of such committees is advisory, federal agencies often adopt their recommendations. Thus, advisory committees have substantial influence on key elements of public policy. As Congress noted on enactment of the Federal Advisory Committee Act (FACA), the “invitation to advise can by subtle steps confer the power to regulate and legislate.”¹

The committee identified three mechanisms by which reform or transparency could improve the federal advisory committee appointment process: (1) adhering to an appropriate set of criteria in the selection process, (2) clarifying and making more public the appointment process itself, and (3) ensuring that the agency units responsible for committee appointments are sufficiently staffed, trained, and expert in the process.

FACA clearly requires that committees be “*fairly balanced* in terms of the *points of view represented and the functions* to be performed by the advisory committee”² (emphasis added) and that there be some assurance “that the advice and recommendations of the advisory committee will not be inappropriately influenced by the appointing authority or by any special interest, but will instead be the result of the advisory committee’s independent judgment.”³

S&T issues sometimes generate separate ethical and societal questions that may require regulation or policy solutions, and many critical policy choices in national security, the environment, the economy, agriculture, energy, and health depend on a deep understanding of S&T. Many factors—including societal values, economic costs, and political judgments—come together with technical judgments in the process of reaching advisory committee recommendations. Essential viewpoints needed for appropriate committee balance and scope should be represented by accomplished people in that policy arena, but scientists, engineers, and health professionals nominated primarily to provide S&T input

¹S. Rep. No. 1098, 92nd Cong., 2nd Sess. 13 (1972).

²U.S.C. Appendix §§ 5(b)(2).

³U.S.C. Appendix §§ 5(b)(3).

should be selected for their scientific and technical knowledge and credentials in their areas of focus and for their professional and personal integrity.

Achieving a balance of policy perspectives may be appropriate for those placed on committees for their policy insights, but it is not a relevant criterion for selecting members whose purpose is to provide scientific and technical expertise. Therefore, it is no more appropriate to ask S&T experts to provide information, such as voting record, political party affiliation, or position on a particular policy, than to ask them for other personal and immaterial information, such as religious preference.

A 2004 assessment published by the Government Accountability Office (GAO) concluded that a number of provisions in federal personnel law prohibit agencies from discriminating against employees or applicants for employment on the basis of political affiliation. GAO noted that these provisions can apply to advisory committee candidates appointed to particular categories of federal employment. In addition, regardless of a person's employment status, there are a number of statutory provisions that specifically prohibit the consideration of political affiliation when selecting members for certain designated federal advisory committees. For example, GAO noted that political affiliation may not be considered when appointing people to an advisory committee established under the Public Health Service Act (42 U.S.C. Section 217a-1).⁴

Finally, although most people are likely to form opinions on S&T issues with which they are experienced and familiar, excluding S&T experts from serving on advisory committees solely on the grounds that their opinions are known is inappropriate and could leave the federal advisory committee system devoid of qualified candidates. The government would be better served by a

⁴Government Accountability Office. 2004. Legal Principles Applicable to Selection of Federal Advisory Committee Members, B-303767. Accessed October 18. (Available at <http://www.gao.gov/decisions/other/303767.htm>); <http://www.gao.gov/decisions/other/303767.htm>).

policy in which the best scientists, engineers, and health professionals are selected *because of* their expertise with their opinions publicly disclosed than by a policy that excludes them because of their presumed opinions on S&T issues.

Given the importance of advisory committees to S&T policy and national policies in general, members of the scientific and technical communities need to be aware of the processes used to create such committees or to appoint or nominate people to serve on them. The pool of potential candidates needs to be as expansive as possible to encourage qualified experts to consider opportunities for service.

To draw from a wide and diverse base for committee appointments and to ensure balance in the resulting committee makeup, it is essential to make information about the committee creation and nomination processes public.

According to the GAO, access to information about specific committees in the GSA performance database is too limited across the board.⁵ Furthermore, GAO found that only 25 percent of committees had a Web site and only 60 percent of federal agencies had Web sites where information about their advisory committees is posted. The practice of open nominations varies across agencies and even within agencies. At the Department of Commerce, for example, there is no provision on the public web page of the Advisory Committee for Commercial Remote Sensing for nominations from the public, whereas the Census Advisory Committees in the same department are clearly open to public participation in the nomination process. The authors of this report believe that the Environmental Protection Agency (EPA) Science Advisory Board has a model Web site, with regard to the method and selection criteria of the board and related committees, *Federal Register* notices requesting nominations for a particular committee, and later descriptions of

⁵GAO, Testimony of Robin M. Nazzaro, House of Representatives, Committee on Oversight and Government Relations, GAO-08-611T, April 2008.

how a particular committee was formed. It also posts biographical and some general financial information (such as sources of research support) on a committee's membership before the committee's initial meeting, timely announcements of the committee's meeting agenda, and follow-up on a short-term basis with the minutes of open sessions of committee meetings. Procedural mechanisms of this type should be in place for all federal advisory committees.

The categories of appointments to advisory committees also require careful consideration. People are appointed under different authorities or mechanisms. For example, current Office of Government Ethics limitations require some agencies to appoint all members as "representatives," that is, as individuals who are expected to reflect the views of the group they represent. These individuals, who clearly have a vested interest in agency decisions, are not required to disclose financial information or potential conflicts of interest. In contrast, advisory committee members can also be appointed as "regular government employees" (RGEs) or "special government employees" (SGEs). SGEs must meet one or more of the following criteria: they are appointed by the government officials whom they advise rather than nominated by an outside association, they respond to an agenda set by the government, and some receive compensation for their services. They must disclose financial conflicts of interest and are subject to severe criminal penalties for advising the government on matters in which they, their family members, their companies, or their institutions are found to have a particular interest.

A fourth category of people serving on federal advisory committees is "consultant." Consultants serve for only one committee meeting under agency conflict-of-interest rules or possibly several committee meetings under OGE conflict-of-interest rules when designated as SGEs. A primary example of this category is people providing scientific and technical expertise to National Institutes of Health (NIH) special-emphasis panels, which conduct one-time reviews of research proposals. People serving on these panels do

not complete OGE conflict-of-interest forms, but they do disclose relevant information to NIH—a far lighter burden on the committee members than for SGEs. EPA and the Food and Drug Administration (FDA) also use consultants on an ad hoc basis to supplement the expertise on their standing committees, but they are appointed as SGEs and use OGE conflict-of-interest forms that can be used for one or more meetings.

The consequences of the manner in which an advisory committee is appointed are twofold: (1) it can influence a person's willingness to serve on the basis of the level of financial and other information that must be disclosed; and (2) it has implications for an agency's ability to appoint a less-than-balanced committee. Potential committee members should be made aware of the disclosure requirements tied to committee service, understand why disclosure of such information is important to public trust in the process, and expect consistent and less confusing procedural requirements than are currently prevalent.

Administration officials should broadly announce the intent to create an advisory committee or appoint new members to an existing committee and should provide an opportunity for relevant and interested parties to suggest nominees.

Efforts are needed to clarify and identify the conflict-of-interest principles that will apply to committee membership. As a first step toward public disclosure, the General Services Administration should post on its Web site and elsewhere the categorizations of appointments—that is, whether a committee member is to be classified as an SGE, an RGE, a consultant, or a representative—and information on the conflict-of-interest procedures for each, because there can be great variance among them.

As a second step, the appointment classification should be reexamined to see whether it meets the needs of federal agencies' activities. Of particular concern is the classification of committee members who review research proposals or provide direction on federal research programs. Care needs to be taken to ensure that

the best scientists, engineers, and health professionals are willing to serve on such committees and to ensure that conflict-of-interest requirements are neither too burdensome nor too lenient.

The Committee Management Secretariat (CMS) was created in 1972 under FACA to monitor and report on executive branch compliance with the Federal Advisory Committee Act. Besides providing annual reports on federal advisory committees, the secretariat operates a nonmandatory training program for staff members in all federal agencies in the nuances of FACA. Federal agency staff may consult with the secretariat before forming an advisory committee to ensure that they are following appropriate regulations and procedures or for legal consultation.

Informal discussions regarding GSA's Secretariat have indicated that GSA has done a good job over the years in providing information and guidance on federal advisory committees. In addition to the Secretariat, each agency that relies on a committee system maintains an office dedicated to the process. Because of the complex mandates assigned to many committees and the highly technical nature of their work, agency committee-management staff needs to understand the mission of the agency and the tasks assigned to the advisory committee, and to be able to recognize and identify people who meet the criteria described above.

- 5. The President should ensure that his administration makes the process for nominating and appointing people to advisory committees explicit and transparent. The administration should examine current federal advisory committee appointment categories to see that they are appropriate to meet the nation's needs. When a federal advisory committee requires members with scientific or technical proficiency, persons nominated to provide that expertise should be selected solely on the basis of their scientific and technical knowledge and credentials and their professional and personal integrity.**

CONCLUSION

The committee identifies the highest S&T priority for a President-elect: to appoint a senior confidential advisor for S&T who, following the inauguration, will be named Assistant to the President for Science and Technology and nominated to be Director of the White House Office of Science and Technology Policy. Secondly, the committee identifies five aspects of governance in which reforms are needed to enhance the nation's ability to recruit and attract the best S&T leadership to its highest level of public service: the speed with which appointments are made; continuity; the process by which candidates are nominated, cleared, and confirmed; pre-government and postgovernment restrictions; and broadening the pool of potential candidates.

A new administration and the nation are in need of exceptionally able scientists, engineers, and health professionals to serve in executive positions in the federal government and on federal advisory committees. Such persons, when serving as presidential appointees, make key programmatic and policy decisions that will affect our lives and those of our children. Similarly, skilled scientists and engineers are needed for advisory committees to provide advice on the myriad issues with complex technological dimensions that confront government decision makers. Our nation has long been served by its ability to draw qualified S&T candidates to government service because of the opportunities for intellectually challenging work that affects the world in which we live and that encourages and protects the scientific process. We must continue to

enlist the best candidates for these important positions and ensure that the obstacles to their service are minimized.

Serving this nation at a policy-making level is a privilege that is not open to everyone. While some observers comment on the “thousands” of positions open to a newly elected President to fill at the onset of a new administration, in fact it is a remarkably small number of people to bring fresh ideas, open eyes, and a sense of new energy to apply to the agenda of the nation. Change and renewal require more than the President and a handful of cabinet members. The knowledge and experience that can be tapped in the science and engineering communities are invaluable for solving the challenges facing our country.

Service at a high level in government is also a means to enhance the public welfare. The goals of this nation—expressed in our civic culture—involve more than making a living. The ambitions of the scientific community to discover, develop, and deploy new ideas and technologies bring significant inspiration to the government environment to embrace higher goals. In effect, the American belief in progress works hand-in-glove with the traditions of science and technology.

The nature of our current national challenges, whether at home or abroad, demands the best of science, engineering and technology. “More of the same” will not work in the 21st century. Innovative thinking will be needed to a degree unprecedented in American history. Fortunately, large numbers of scientists, engineers, and health professionals have experienced positive change throughout their careers and have been enormously successful as a result. They have much to give back. Government service is an excellent means by which to repay that debt.

This report is being issued on the advent of a new administration in Washington, in a bipartisan spirit to support the success of whichever candidate is elected President. Science endeavors to support the health of the nation, through service and advice to the administration, the Congress, and the nation.

APPENDIX A

COMMITTEE MEMBERS' BIOGRAPHICAL INFORMATION

JOHN EDWARD PORTER, *chair*, is a partner in the Washington law firm of Hogan and Hartson. He also chaired the 2004 edition of this report. He served 21 years as U.S. congressman from the 10th district in Illinois, where he served on the Appropriations Committee and as chair of the Subcommittee on Labor, Health and Human Services, and Education. He now chairs Research ! America and PBS and is vice-chair of the Foundation for the National Institutes of Health. Previously he served on the boards of The Brookings Institution, the RAND Corporation, the American Heart Association, and the John F. Kennedy Center for the Performing Arts. Porter is a member of the Institute of Medicine and of the Council on Foreign Relations. Among more than 275 awards for his service in Congress is the Mary Woodard Lasker Award for Public Service. He attended the Massachusetts Institute of Technology, and is a graduate of Northwestern University and, with distinction, of the University of Michigan Law School. Porter has nine honorary degrees.

RICHARD F. CELESTE is president of Colorado College. He attended Oxford University in England as a Rhodes Scholar after graduating from Yale University in 1959. After a short term as a Staff Liaison Officer in the Peace Corps, he worked for 4 years as special assistant to the American ambassador to India in New Delhi. Following this, Mr. Celeste returned to his native Ohio where he served as a State Representative and lieutenant governor. After an unsuccessful campaign for Governor, Celeste served as Director of

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the Peace Corps. He returned to Ohio to wage a successful quest for the Governor's Office, he was elected in 1982 and reelected in 1986. Barred by Ohio's Constitution from seeking a third term, Ambassador Celeste became a managing partner in the business consultancy, Celeste & Sabety Ltd., located in Columbus, Ohio. Ambassador Celeste served as a Director of Navistar International, Healthsouth Corporation, Republic Engineered Steels and the Carnegie Corporation of New York. He was formerly chairman of the Government-University-Industry Research Roundtable of the National Research Council, a member of the Secretary of Energy's Advisory Board, and a visiting fellow in Public Policy at Case Western Reserve University. In 1997-2001, Celeste served as the United States Ambassador to India. Ambassador Celeste serves as chairman of the Health Effects Institute in Boston. He is a director of Cibernet and a member of the Council on Foreign Relations.

MARY E. CLUTTER is a former assistant director of the National Science Foundation (NSF). In that position she was responsible for the Biological Sciences Directorate, which supports all major areas of fundamental research in biology. Dr. Clutter was the U.S. chair of the U.S.-European Commission Task Force on Biotechnology, a member of the Board of Trustees of the international Human Frontiers Science Program; a member of the Board of Regents of the National Library of Medicine; a member of the National Agricultural Research, Extension, Education and Economics Advisory Board; chair of the Biotechnology Subcommittee of the Committee on Science of the National Science and Technology Council (NSTC); cochair of the Subcommittee on Ecological Systems of the Committee on Environment and Natural Resources/NSTC and cochair of the NSTC Committee on Science's Interagency Working Group on Plant Genomes. She is also a member of numerous professional societies and has served on the Board of Directors of the American Association for the Advancement of Science (AAAS). She is a fellow of the AAAS and the

Association for Women in Science. Dr. Clutter received her B.S. in biology from Allegheny College and her master's and Ph.D. degrees from the University of Pittsburgh. She is a member of the Policy and Global Affairs committee of the National Research Council.

NEAL F. LANE is the Malcolm Gillis University Professor at Rice University. He also holds appointments as senior fellow of the James A. Baker III Institute for Public Policy, where he is engaged in matters of science and technology policy, and in the Department of Physics and Astronomy. Before assuming his current position, Dr. Lane served as Assistant to the President for Science and Technology and Director of the White House Office of Science and Technology Policy, from August 1998 to January 2001, and as director of the National Science Foundation (NSF) from October 1993 to August 1998. Dr. Lane's many writings and presentations include topics in theoretical atomic and molecular physics and science and technology policy. Early in his career he received the W. Alton Jones Graduate Fellowship and held an NSF Doctoral Fellowship (University of Oklahoma), an NSF Post-doctoral Fellowship (while in residence at Queen's University, Belfast, Northern Ireland) and an Alfred P. Sloan Foundation Fellowship (at Rice University and on research leave at Oxford University). He earned Phi Beta Kappa honors in 1960 and was inducted into Sigma Xi National Research Society in 1964, serving as its national president in 1993. Dr. Lane has received numerous prizes, and awards, including the AAAS Philip Hauge Abelson Award, the AAAS William D. Carey Award, the American Society of Mechanical Engineers President's Award, the American Chemical Society Public Service Award, the American Astronomical Society /American Mathematical Society/American Physical Society Public Service Award, and many honorary degrees. He is a fellow of the American Physical Society, the American Academy of Arts and Sciences, the American Association for Advancement of Science, and the Association for Women in Science.

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RICHARD A. MESERVE [NAE] has been president of the Carnegie Institution since 2003, after stepping down as chairman of the U.S. Nuclear Regulatory Commission (NRC). Meserve had been a member of Carnegie's board of trustees since 1992. As chairman of the NRC, Meserve served as the principal executive officer of the federal agency with responsibility for ensuring public health and safety in the operation of nuclear power plants and in the usage of nuclear materials. He served as chairman under both Presidents Clinton and Bush and led the NRC in responding to the terrorism threat that came to the fore after the 9/11 attacks. Before joining the NRC, Meserve was a partner in the Washington, D.C., law firm of Covington & Burling, and he now serves as senior of counsel to the firm. With his Harvard law degree, received in 1975, and his Ph.D. in applied physics from Stanford, awarded in 1976, he devoted his legal practice to technical issues arising at the intersection of science, law, and public policy. Early in his career, he served as legal counsel to the President's science advisor, and was a law clerk to Justice Harry A. Blackmun of the United States Supreme Court and to Judge Benjamin Kaplan of the Massachusetts Supreme Judicial Court. He received his undergraduate degree from Tufts University in 1966. Meserve has served on numerous legal and scientific committees over the years, including many established by the National Academy of Sciences and the National Academy of Engineering. He also currently serves as chairman of the International Nuclear Safety Group, which is chartered by the International Atomic Energy Agency. Among other affiliations, he is a member of the American Philosophical Society, the National Academy of Engineering, and Sigma Xi, and he is a fellow of the American Academy of Arts and Sciences, the American Association for the Advancement of Science, the American Physical Society, and Phi Beta Kappa Society.

ANNE C. PETERSEN [IOM] is deputy director for the Center for Advanced Study in the Behavioral Sciences, and Professor of Psychology, Stanford University. She is also President of the Global

Philanthropy Alliance. She serves on several boards and committees of the National Academies, foundations, community-based organizations, among others. Petersen completed nearly a decade at the W.K. Kellogg Foundation in 2005 as senior vice president for programs. In the mid-1990's Petersen served as deputy director/chief operations officer at the National Science Foundation. Petersen was the Vice President for Research at the University of Minnesota, as well as the Graduate Dean, in the early 1990's. She was also a professor in the Institute for Child Development, and Department of Pediatrics. At Penn State University (1982-1993), Petersen was a department head and founding dean of the College of Health and Human Development. Prior to Penn State, Petersen was a faculty member at the University of Chicago, with roles including laboratory director and training program director, and Associate Director of the Health Program at the MacArthur Foundation. Her honors include election to the Institute of Medicine of the National Academies and fellowship in a number of scientific societies. She is a member of the NAS/NAE/IOM Committee on Science, Engineering, and Public Policy. She is a founder of the Society of Research on Adolescence, has served as president of several scientific societies, and is president-elect of the International Society for the Study of Behavioral Development. Petersen earned all her degrees at the University of Chicago—B.A. in mathematics, M.A. in statistics, and a Ph.D. in measurement, evaluation, and statistical analysis.

MAXINE L. SAVITZ [NAE] advises on research and development management, energy and environmental policy, materials development, production and utilization, and technology transfer. Dr. Savitz is the former Deputy Assistant Secretary for Conservation, U.S. Department of Energy (DOE). She received the Outstanding Service Medal from the Department of Energy in 1981. Prior to her DOE service, she was program manager of the NSF Program for Research Applied to National Needs. Following her government service, Dr. Savitz served in executive positions in

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the private sector, including as president of the Lighting Research Institute, as assistant to the vice president for engineering at the Garrett Corporation, and general manager of Allied Signal Ceramics Components. She recently retired from the position of general manager for Technology Partnerships at Honeywell. Dr. Savitz is a member of the National Academy of Engineering and the American Association for the Advancement of Science. She served on the National Science Board from 1998 to 2004. She was a member of the Department of Energy's Laboratory Operations Board and the Board of Directors of the Electric Power Research Institute. She is currently a member of advisory bodies for Oak Ridge National Laboratory and Pacific Northwest National Laboratory and Board of Directors of the American Council for an Energy Efficient Economy. She received a B.A. in chemistry from Bryn Mawr College and a Ph.D. in organic chemistry from the Massachusetts Institute of Technology.

DEBORAH L. WINCE-SMITH is the president of the Council on Competitiveness. In 1989 she was appointed Assistant Secretary for Technology Policy in the Department of Commerce. She previously served as the assistant director for International Affairs and Global Competitiveness in the Reagan White House Office of Science and Technology Policy. Following her government tenure, she became active in the governance of various national laboratories, including serving on the Board of Governors for Argonne National Laboratory, and on the University of California President's Council for Los Alamos and Lawrence Livermore National Laboratories. Wince-Smith was appointed to the Board of Directors of NASDAQ in 2004. She was also appointed to the Oversight Board of the Internal Revenue Service in 2006, as well as to the Secretary of State's Advisory Committee on International Economic Policy. She is a graduate of Vassar College, and received a master's degree from King's College, Cambridge University. She received an honorary doctorate from Michigan State University in 2006.

APPENDIX B

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