

SUMMARY

SCIENCE
AND
TECHNOLOGY
FOR
AMERICA'S
PROGRESS

ENSURING THE BEST PRESIDENTIAL APPOINTMENTS
IN THE NEW ADMINISTRATION

NATIONAL ACADEMY OF SCIENCES,
NATIONAL ACADEMY OF ENGINEERING, AND
INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

COMMITTEE BIOGRAPHIC 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. Under his subcommittee's jurisdiction were all of the health programs and agencies (including NIH and CDC, but excepting FDA) and all of the education programs and agencies of the federal government. 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 over 275 awards for his service in Congress is the Mary Woodard Lasker Award for Public Service. He attended M.I.T., 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. Celeste served as a State Representative in Ohio for four years and Lt. Governor for a further four years. Celeste then served as director of the Peace Corps. He returned to Ohio to wage a successful quest for the Governor's Office, elected in 1982 and reelected in 1986. He was formerly chairman of the Government-University-Industry Research Roundtable of the National Research Council. In 1997-2001, Celeste served as the United States Ambassador to India.

MARY E. CLUTTER is a former assistant director of the National Science Foundation (NSF), for the Biological Sciences Directorate. 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, and a member of the National Agricultural Research, Extension, Education and Economics Advisory Board. 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.

NEAL F. LANE is the Edward A. and Hermena Hancock Kelly University Professor at Rice University. He also holds appointments as senior fellow of the James A. Baker III Institute for Public Policy, and in the Department of

Physics and Astronomy. Before assuming his current position, Lane served as Assistant to the President for Science and Technology and Director of the White House Office of Science and Technology Policy, from 1998 to 2001, and as Director of the National Science Foundation from 1993 to 1998. Lane has received numerous honors, prizes, and awards, including Phi Beta Kappa, Sigma Xi, AAAS Philip Hauge Abelson Award, AAAS William D. Carey Award, American Society of Mechanical Engineers President's Award, American Chemical 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.

RICHARD A. MESERVE [NAE] is president of the Carnegie Institution since 2003, after stepping down as chairman of the U.S. Nuclear Regulatory Commission (NRC). He served as chairman under both Presidents Clinton and Bush. Before joining the NRC, Meserve was a partner in the Washington, D.C., law firm of Covington & Burling, and he now serves as senior counsel to the firm. His degrees are from Tufts University, in law from Harvard, and a Ph.D. in applied physics from Stanford. 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. He 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, and the American Physical 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. Petersen completed nearly a decade at the WK Kellogg Foundation in 2005 as senior vice president for Programs, and Corporate Officer. In the mid-1990's Petersen served as Deputy Director/COO at the National Science Foundation. Petersen held teaching and senior administrative positions at the University of Minnesota, at Penn State University (1982-1993), at the University of Chicago, and at the MacArthur Foundation. Her honors include election to the Institute of Medicine of the National Academies of Science. 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] is the former deputy assistant secretary for Conservation, U.S. Department of Energy. She received the Outstanding Service Medal from the Department of Energy in 1981. Prior to her DoE service, she was a program manager at the National Science Foundation. Following her government service, Dr. Savitz served in executive positions in 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. She served on the National Science Board from 1998 to 2004. She is a member of the Department of Energy's Laboratory Operations Board and advisory bodies for Oak Ridge National Laboratory and Pacific Northwest National Laboratory. 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 served 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. She was 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. Her degrees are from Vassar College and King's College, Cambridge University.

FOR MORE INFORMATION

This report was developed under the aegis of the National Academies Committee on Science, Engineering, and Public Policy (COSEPUP)—the only joint committee of the three honorific academies—the National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. Its overall charge is to address cross-cutting issues in science and technology policy that affect the health of the national research enterprise. George M. Whitesides, Woodford L. and Ann A. Flowers University Professor of Chemistry, Harvard University, is the chair of COSEPUP.

More information, including the full body of the report, is available at the National Academies Press web site: www.nap.edu.

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. Few aspects of modern public policy are untouched by S&T, 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. 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 as members of the almost 1,000 advisory committees convened to provide independent sources of guidance to inform our public policies. As voting citizens, we need to ensure our elected officials solicit sound, 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 and 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—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. 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, non-Presidential S&T appointments, and appointments for 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 forms 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

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

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

³ 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, D.C.: National Academies Press.

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 advisors 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. And each of these concerns, from national security, economic development, health care, and the environment, to education, energy, and natural resources, are 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 US 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 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.

PRESIDENTIAL SCIENCE AND TECHNOLOGY APPOINTMENTS

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 position should be cabinet-level, 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 the Assistant to the President for Science and Technology (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 edu-

cational 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 confirmation, the president should send forward the nomination and then seek rapid confirmation to integrate 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.

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.

Congress and the Office of Government Ethics (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 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.

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. 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.

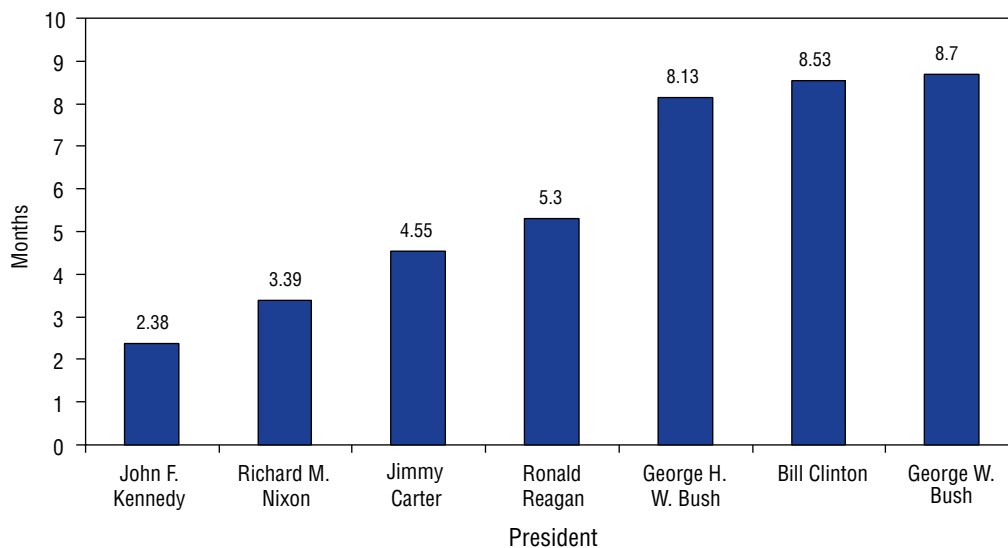
The committee favors greater transparency for nominees from all fields. Some concerns may be better addressed by openness in potential conflicts of interest than establishing uniform rules for people whose situations can vary widely. A tailored approach to meet the situations in different agencies,

and reflecting the realities of different incumbents, could be handled if transparency created trust in the process.

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 to build 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 underrepresented groups for such positions. Criteria for candidates should include not only specialized expertise, but also management skills to 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.

FIGURE 1: NUMBER OF MONTHS TO FILL THE TOP 500 JOBS IN THE ADMINISTRATION



SOURCE: The Brookings Institution. Presidential Appointee Initiative. 2000. *Staffing a New Administration: A Guide to Personnel Appointments in a Presidential Transition*. This analysis, originally conducted by Calvin McKenzie, has been updated with estimated data for the George W. Bush administration from Paul Light, the Director of the Presidential Appointee Initiative.

NOTE: 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.

KEY SCIENCE AND TECHNOLOGY POSITIONS

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 environment programs; and regulate activities that have large technology components.

The following are lists of what the committee considers to be the most critical federal science and technology (S&T) appointments. 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. The first part of the list includes 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 not only be essential in providing daily leadership, but also key to setting longer terms priorities in the budget and policymaking process.

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 organizations. Those 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, etc.). They should understand through hands-on experience the important role of human needs, behavior, and culture concerning the value of S&T in establishing policies, laws, regulations, and research outcomes. They need to incorporate societal needs to foster creativity and innovation and even entrepreneurship within policies, laws, regulations, and research outcomes.

In each position, the following appointment categories are used:

PAS = presidential appointment with Senate confirmation

PA = presidential appointment (without Senate confirmation)

NA = noncareer appointment—Defined by 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 Website: <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 ^a	(PA)
Director, Office of Science and Technology Policy ^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 (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)

KEY SCIENCE AND TECHNOLOGY POSITIONS

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)
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DEPARTMENT OF THE INTERIOR

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

DEPARTMENT OF LABOR

Commissioner, Bureau of Labor Statistics	(PAS)
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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)
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DEPARTMENT OF VETERANS AFFAIRS

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

Assistant Administrator for Research and Development	(PAS)
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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)
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^a In many administrations, the same person has held the posts of assistant to the president for science and technology and the director of the White House Office of Science and Technology Policy (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.

^c In 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.

^d The 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 CDC director is not a presidential appointee.

SCIENCE AND TECHNOLOGY APPOINTMENTS TO FEDERAL ADVISORY COMMITTEES

- 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.**

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. And, for all 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 which can reasonably be provided by federal employees, particularly in rapidly evolving S&T fields. Even though the work of such committees is advisory, federal agencies often adopt their recommendations. Thus, advisory committees have substantial influence in 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.”⁴

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 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 that 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 Service Administration should post on its Web site and elsewhere the appointment status of appointees—that is, whether a committee member is to be classified 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.

⁴ S. Rep. No. 1098, 92nd Cong., 2nd Sess. 13 (1972).

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 (APST) and nominated to be Director of the White House Office of Science and Technology Policy (OSTP). 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 post-government 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 technologic 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 policymaking 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 a president and a handful of cabinet members. The knowledge and experience that can be tapped in the science and engineering communities is 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—are 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 governmental 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 domestic or abroad, demands the best of science, engineering and technology to solve. “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 will be elected President. Science endeavors to support the health of the nation, through service and advice to the Administration, the Congress, and the nation.

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

The **National Academy of Sciences** is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Ralph J. Cicerone is president of the National Academy of Sciences.

The **National Academy of Engineering** was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. Charles M. Vest is president of the National Academy of Engineering.

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