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UNITED STATES DEPARTMENT OF
COMMERCE
NEWS
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OFFICE
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FOR IMMEDIATE RELEASE

MOSBACHER ANNOUNCES ELEVEN GRANTS TO ADVANCE KEY INDUSTRIAL TECHNOLOGIES

Commerce Secretary Robert A. Mosbacher today announced the granting of the first awards under the Commerce Department's new Advanced Technology Program (ATP), which he said could lead to the birth of revolutionary products and processes in key U.S. industries and help boost the country's trade and competitiveness.

Eleven new research and development programs have been selected for funding under the ATP in fundamental industrial technologies including improved manufacturing techniques for electronics (such as x-ray lithography); optical recording; a variety of hardware and software technology for computers; high-temperature superconductivity; machine tool control; and novel laser designs.

Mosbacher said, "Nearly half of these projects are proposed by industrial consortia--partnerships between large and small companies that were formed to work on solutions to key technological barriers in their industries. The remainder of the proposals are from individual corporations.

"This demonstrates the new spirit of cooperation that I see between industry and government, between industry and academia, and within industry itself--a spirit that the Advanced Technology Program was designed to foster."

The awards will provide approximately $9 million in first-year grants to initiate nearly $100 million in research and development programs over the next 5 years. More than half of the cost will be paid by sponsoring firms, Commerce Department officals said.

(more)

"The programs we have selected for this round of ATP grants have the potential to spawn revolutionary new products and processes in several key industries," Mosbacher said.

"Driven by industry's insight into the international marketplace, tools like the Advanced Technology Program offer an appropriate and powerful framework to achieve our common goal: developing the leading technologies that the world has come to expect from U.S. companies. We feel we've made a very good beginning on a program that promises to be an important tool for boosting U.S. competitiveness and trade," Mosbacher added.

Administered by the National Institute of Standards and Technology (NIST), an agency of Commerce's Technology Administration, ATP provides grants to private industry to support the development of precompetitive, generic technologies with significant commercial promise.

The program provides incentives for research and development on fundamental technologies that underlie a broad range of potentially important commercial products, but does not support the development of actual products. The program is open to both individual companies and joint ventures.

The next solicitation for ATP proposals is expected in the late spring, department officials said.

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EDITORS NOTE:

A complete list of proposals selected for funding is attached. Dollar amounts represent the first-year grant <u>requested</u> by the proposer and not necessarily the final value of the grant.

3/5/91

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE ADMINISTRATION'S HPCC PLAN

(1) General.

S. 272 (the Gore bill) has a number of general, yet severe flaws. These flaws are shared by its House counterpart, H.R. 656 (the Brown bill).

- o S. 272 consists of unwarranted intrusions into and micromanagement of Executive Branch policy-making, budgetary, and administrative functions.

- o S. 272, which is largely unchanged from a version introduced two years ago, fails to recognize any progress the Administration has made since 1989. By mandating development of a Plan that is inconsistent with the Administration's FY 1992 HPCC plan, S. 272 would force the Administration to rewrite its current plan to conform to the legislation. This would set back the HPCC initiative by at least 1-2 years.

- o By ignoring the '92 plan and imposing its own requirements on FCCSET and the agencies, S. 272 distorts the priorities and program components identified in the Administration's plan, limits future flexibility, and impedes implementation of the plan.

- o S. 272 mischaracterizes the role of the federal government in the HPCC initiative, creating the impression that the federal government will be constructing and operating its own network, rather than facilitating access to commercial networks. Furthermore, S. 272 assigns to federal agencies certain activities, such as "ensuring" access and providing information services, that may be best left to the private sector, regional networks, or other entities.

- o S. 272 frequently assigns responsibilities to FCCSET and the agencies that are (inappropriate) beyond their charters, and inconsistent with the Administration's FY 1992 plan. Furthermore, some of the legislative mandates lie outside the jurisdiction of the Senate Commerce Committee.

- o S. 272 authorizes funds to only three of the eight agencies currently involved in the Administration's initiative, thereby distorting the sense of collaboration and "fair play" that currently exists among the agencies. In addition, the designation of "lead agencies" for certain activities is wholly inappropriate. Furthermore, S. 272 imposes additional requirements on the agencies without providing sufficient authorizations to support even those activities already identified by the Administration in its '92 plan.

- o S. 272 imposes numerous, duplicative, and onerous reporting requirements on FCCSET and OSTP.

- o The cumulative effect of this legislation would be the diminishment of the Administration's progress, leadership, and management in the area of HPCC.

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE CURRENT HPCC PLAN (cont'd)

(2) Specific problems

Below are specific areas of concern regarding S. 272 (and often shared by H.R. 656):

Sec. 2. Findings and Purpose

- Sec. 2(a)(5) makes reference only to the 1989 OSTP HPCC report, but ignores development of the FY 1992 plan and other progress made to date.

- Sec. 2(a)(4) states that "improved interagency coordination, cooperation, and planning could enhance the effectiveness of (current agency HPCC) programs." Given the omission of any reference to the '90 and '92 plans, this statement offends the ongoing efforts to achieve such coordination and planning.

- Sec. 2(b) (like many others in the bill) implies that federal activities alone are necessary to help ensure continued U.S. leadership in HPCC, instead of recognizing that the federal role should be limited to that of a catalytic, collaborative research activity. This section should be rewritten to emphasize the importance of contributions by and collaboration with industry, academia, and other entities.

Sec. 4. National High-Performance Computing Program

- Sec. 4 adds a new, seventh title to the OSTP organic act to require development of an HPC Plan. This entire section legislatively micromanages the entire FCCSET process, imposes inappropriate responsibilities on FCCSET, and interferes with Executive Branch policy-making, budgetary, and administrative prerogatives.

- Sec. 701(a)(1) of the new title calls for development and implementation of an HPC Plan, with no mention of the '92 plan or any other Administration activity. Given the prescriptive requirements of the new Plan (described below), this language would require that the Administration's plan be rewritten to conform to the legislative mandate.

- Sec. 701(a)(1) mandates that the President, through FCCSET, submit the Plan to Congress. In effect, this makes FCCSET responsible to Congress and infringes on the President's authority to manage FCCSET activities.

- Sec. 701(a)(2) mandates specific requirements in the Plan, including more detailed descriptions of the agency activities, such as "acquisition and operating expenses for computers and computer networks." When taken with other sections of the bill, these requirements distort the actual HPCC program and require that the '92 plan be rewritten to conform to these legislative mandates.

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE CURRENT HPCC PLAN (cont'd)

- Sec. 701(a)(3) requires additional reports from FCCSET, including a summary of federal HPC efforts for the preceding year, analysis of progress made toward these objectives, and recommendations for additional legislation. This section imposes a policy function on FCCSET that is beyond its charter and makes FCCSET directly answerable to Congress. This section also adds yet another reporting requirement on FCCSET.

- Sec. 701(a)(4) requires that the Plan include descriptions of relevant activities of various federal agencies, including some (DOC/NTIA, DOI/USGS, DOEd, and DOA/NAL) that are currently not listed in the '92 plan. This requirement torques the existing program and forces a rewriting of the Administration's '92 plan. Furthermore, the addition of certain agencies implies that the federal government will be operating its own network, rather than supporting a research activity. This list also makes certain assumptions about the interests of various agencies in HPCC that may or may not be valid.

- Sec. 701(a)(4) would also have the effect of giving the Senate Commerce Committee oversight over departments and agencies that are outside the Committee's jurisdiction. These agencies are DOD/DARPA, DOE, HHS/NIH, HHS/NLM, DOI/USGS, DOEd, and DOA/NAL.

- Sec. 7(a)(5) requires that the Plan "take into consideration" activities of the Library of Congress. This raises a potential separation-of-powers conflict between the President and Congress, because the Library is not privy nor subject to Executive Branch planning. Furthermore, this added requirement would again require rewriting the current plan. Finally, this language implies that the federal government will be operating its own network and will be responsible for ensuring the Library's access.

- Sec. 7(a)(6) imposes eleven further, detailed requirements on the Plan, which would again require rewriting the '92 plan. In addition, some of these reporting requirements -- such as improvement, documentation, evaluation, and distribution of federal and public-domain software, data bases, and information, as well as recommendations for improving specific agency rules, regulations, and policies affecting federal HPC activities -- are well beyond the scope of the FCCSET. This section, like others in the bill, misrepresents the role of FCCSET and the responsibilities of the agencies for policy and program implementation. Finally, the cumulative burden of these reporting requirements will only detract from the real work that needs to be done.

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE CURRENT HPCC PLAN (cont'd)

- Sec. 7(a)(6)(I) lists specific Grand Challenges that should be addressed in the Plan, including astrophysics, geophysics, engineering, materials, biochemistry,and others. While these may be important fields, specific Grand Challenge activities should not be legislatively mandated. This action would impede flexibility, impose an improper role on FCCSET, and invite future legislative mandates.

- Sec. 7(a)(7) requires that the Plan address security requirements and policies to protect federal networks. Again, this mandate requires rewriting the '92 plan and may be outside the scope of the FCCSET.

- Sec. 7(b)(3) requires that FCCSET review agency budget submissions and then make the results of such reviews available to OMB. These requirements are an unacceptable and unwarranted intrusions into Presidential prerogatives.

- Sec. 7(b)(4) directs FCCSET to coordinate with not only federal agencies but with state agencies, and research, educational, and industry groups. This requirement exceeds FCCSET's scope and fails to recognize the responsibilities of the agencies for such activities.

- Sec. 7(c) requires that OSTP establish an outside advisory committee for FCCSET and specifies responsibilities of this advisory committee. This section invites congressional oversight of the pending PCAST advisory panel, which infringes on Presidential prerogatives.

- Sec. 7(d) requires that agencies include HPCC components in their budget submissions to OMB and that OMB review such submission in light of the FCCSET Plan. These requirements is an unwarranted micromanagement of the budgetary process between federal agencies and OMB and are largely duplicative of current Executive Branch procedures.

Sec. 5. National Research and Education Network

- Sec. 5 imposes separate reporting requirements and responsibilities on FCCSET and certain agencies in connection to the NREN, one of four components of the Administration's plan. By singling out one component for special consideration, this section distorts the current program balance. Furthermore, this section merely duplicates this section duplicates the planning requirements in Section 4 and imposes additional burdens on FCCSET and the agencies.

- Sec. 5(a) requires that various agencies (including NSF, NASA, DOC, DOE, and DOD) provide for "establishment" of the NREN by 1996. Again, this language implies that the federal government will be constructing and operating its own network. Furthermore, given the high-risk nature of this initiative, 1996 is a target only and should not be mandated by law.

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE CURRENT HPCC PLAN (cont'd)

- Sec. 5(a) states that the NREN shall link academic, governmental, and industrial institutions in every state. While this is a laudable goal, the language implies that the federal government will be responsible for providing for such access.

- Sec. 5(a) states that NSF "shall act as lead agency in coordinating the collaboration among Federal agencies contributing to deployment of the Network." This mandate exceeds the bounds of the '92 plan, which does not use the phrase "lead agency" anywhere in connection with the NREN or NSF activities. This phrase also causes consternation among the agencies, which would be seen as subject to control by NSF. Finally, this requirement is inconsistent with the bill's previous requirement that FCCSET coordinate agency HPCC activities. (See proposed amendment to OSTP organic act, Sec. 701(b)(1) above.)

- By using the phrase "deployment," Sec. 5(a) implies that the federal government will be constructing and operating its own network. Again, this mischaracterizes the federal role, which is limited primarily to research and education.

- Sec. 5(a) directs the federal agencies "to work with state and local agencies, libraries, educational institutions and organizations, and private network services in order to ensure that researchers, educators, and students have access to the Network." Again, this language implies that the federal government will be responsible for an activity that is best served by the private sector and academia.

- Sec. 5(a) states that NSF "shall have primary responsibility for connecting colleges, universities, and libraries to the Network." Again, this language implies that NSF assume a role as "lead agency" for this activity, which is inconsistent with the '92 plan. Furthermore, this languages implies that NSF would be responsible for ensuring that all such connections take place, regardless of the costs and roles of the mid-level networks and private communications companies. Finally, this language ignores the interests of other agencies, such as DOE and NASA, in ensuring that their academic users have access to the NREN.

- Sec. 5(b) states that the NREN shall provides users with "appropriate access" to supercomputers and other resources. This language is more suitable for a statement of purpose or findings, rather than a legislative mandate. The phrase "appropriate access" can lead to any manner of legal mischief, especially if language described above is interpreted as requiring NSF and other agencies to ensure connections to the NREN.

- Sec. 5(d) requires that establishment of the NREN stimulate private sector competition, in accordance with certain specific requirements. Again, the word "establishment" mischaracterizes the federal role. Furthermore, the list of requirements may limit the flexibility of FCCSET and the agencies.

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE CURRENT HPCC PLAN (cont'd)

- Sec. 5(e) requires that the NREN, to the extent practicable, provides access to "libraries, research facilities, publishers, and affiliated organizations." Again, this language could be taken to mean that the federal government will be responsible for ensuring such that such connections are made. Furthermore, this continued emphasis on access over the research and educational activities outlined in the '92 plan distorts the priorities outlined by the Administration.

- Sec. 5(f) designates DOD, through DARPA, to be the "lead agency" for R&D in fiber optics, switches, and protocols for the NREN. Again, this language distorts the agency roles and requires that the '92 plan. Furthermore, the designation of agency roles limits the flexibility of FCCSET and the agencies. Finally, the designation of a "lead agency" tends to lead to consternation among other agencies, which would be seen as subject to DOD's control.

- Sec. 5(g) requires that FCCSET develop goals, strategies, priorities for the NREN, consistent with Plan. Again, this would impose an improper policy-making role on FCCSET and interfere with Presidential prerogatives. Furthermore, the language fails to recognize the responsibilities of the agencies for these activities. Finally, this requirement needlessly duplicates the Plan in Sec. 4.

- Sec. 5(g)(1)(C) specifically requires that FCCSET "provide a mechanism to coordinate Federal agencies and departments, States, and public and private network service provides in deploying the Network." This language improperly expands FCCSET's responsibilities beyond that of coordinating federal research activities. Furthermore, this language conjures up images of federal control over private network providers, which is clearly not a part of the Administration's plan.

- In the same vein, Secs. 5(g)(1)(D), (E), and (F) require that FCCSET assume an active role in oversight and management of the NREN, including developing conditions for access. Again, these functions may exceed FCCSET's charter and infringe on the responsibilities of the agencies and the private sector. Furthermore, the language misrepresents the federal role toward the NREN.

- Sec. 5(g)(2) requires that the President report to Congress on the NREN. This language would make FCCSET directly responsible to Congress and is duplicative of earlier reporting requirements.

- Sec. 5(h)(1) directs NIST, DARPA, and NSF to develop common standards to ensure interoperability and security for the NREN. This requirement may contradict the agency responsibilities defined in the "Computer Security Act of 1981 (P.L. 100-235). Furthermore, the Senate Commerce Committee has no jurisdiction over DARPA.

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE CURRENT HPCC PLAN (cont'd)

- Sec. 5(h)(2) authorizes certain agencies to allow recipients of federal research grants to use grant monies for networking expenses. This may be a major policy decision that deserves greater review by the Executive Branch. Furthermore, whatever the merits of the proposal, five of the agencies listed -- DOE, DOD, DOI, DOA, and HHS -- are not within the jurisdiction of Senate Commerce.

- Sec. 5(i) requires that the Director of OSTP, working through FCCSET, report to Congress on various activities. This language makes the Director, currently an Assistant to the President, directly answerable to Congress. In addition, some of the issues to be addressed -- commercialization of the NREN, user fees, copyright protection, security and privacy issues -- are beyond the scope of OSTP and FCCSET and may be unanswerable within the one-year time frame. Finally, the language again tends to mischaracterize the federal role in the NREN.

Sec. 6. Role of the National Science Foundation.

- Sec. 6, 7, and 8 focus on three of the eight agencies now participating in the Administration's HPCC program. By focusing on only a few agencies (and ignoring major players like DOE and DARPA), these sections distort the current plan and erode collaboration among the agencies.

- Sec. 6 establishes NSF's role in the HPCC initiative. The responsibilities described therein are not consistent either with the '92 plan or NSF's own programs and tend to limit the ability of FCCSET and NSF to adjust NSF's role in the future. (In fact, this entire section infringes on FCCSET's responsibility to identify and coordinate agency responsibilities, as mandated earlier in the bill.)

- Sec. 6(a) directs NSF to expand its "traditional role in supporting" research and educational activities, including "library and information sciences." This language may detract from NSF's current priorities.

- Sec. 6(a) directs NSF to "provide funding to enable researchers to access supercomputers." Although NSF currently operates a small program to help second-tier institutions connect to the Internet, this language, when taken with earlier mandates, implies that NSF would be responsible for funding all such connections. Clearly, this would be beyond NSF's role and budget. Furthermore, the language does not allow NSF to terminate any existing connections program, should they become unnecessary.

- Sec. 6(b)(1) directs NSF to promote development of certain information services, including directories of users, data bases of unclassified federal data, access to commercial information services, and others. These responsibilities may be inappropriate for the federal government and certainly distort the priorities and plans within the Administration's HPCC plan and NSF itself.

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE CURRENT HPCC PLAN (cont'd)

- Sec. 6(b)(2) directs the federal information services by provided in accordance with "applicable law." The language is wholly unnecessary.

- Sec. 6(b)(2) also directs that adequate protection and, where appropriate, remuneration be provided to holders of intellectual property. Since this language is found in the NSF section of the bill, the language implies that NSF will be responsible for providing such assurances, which is an inappropriate role for NSF.

- Sec. 6(c) provides a five-year authorization for NSF's HPCC activities, including a separate line-item for the NREN. The Committee must have intended these figures to be increments above existing activities, since the figures are well below those specified in the '92 plan. Nevertheless, this ambiguity should be resolved. Also, Congress is now reviewing the authorizations for NSF, NASA, and NIST. These would be more appropriate vehicles for authorizing any HPCC activity.

Sec. 7. The Role of the National Aeronautics and Space Administration.

- In contrast to Sec. 6, Sec. 7 provides a very broad and brief description of NASA's role in HPCC. Again, by focusing on one agency, the bill degrades contributions made by other agencies. This language should also be amended to include support for human resources.

- Sec. 7 provides a five-year authorization for NASA's HPCC activities, which, again, are well below those provided in the '92 plan.

Sec. 8. The Role of the National Institute of Standards and Technology.

- Sec. 8 states that NIST shall be responsible primarily for standards, guidelines, measurement techniques, and test methods to ensure interoperability of networks and to ensure security and privacy on the NREN. In addition, NIST shall be responsible for benchmark tests and standards for HPC computers and software. Again, this language implies a "lead agency" for NIST, which is inappropriate and inconsistent with the current plan. This language also limits NIST's future flexibility.

- Sec. 8 provides a five-year authorization for NIST, which exceed the Administration's current projections for NIST.

Sec. 9. Study on Impact of Federal Procurement Regulations

- Sec. 9 requires that DOC report to Congress on impacts that federal regulations have on the development of software development tools and techniques. No serious problem here, except that it is yet another reporting requirement.

ANALYSIS OF S. 272, the "HIGH-PERFORMANCE COMPUTING ACT" AND ITS IMPACTS ON THE CURRENT HPCC PLAN (cont'd)

Sec. 10. Miscellaneous Provisions.

- o Sec. 10(a) specifies that the bill would not apply to classified computer systems or activities. This language was added at the insistence of the NSA.

- o Sec. 10(b) directs federal agencies, where appropriate, to procure prototype supercomputers and subsystems to stimulate hardware and software development. This appears to be consistent with the '92 plan.

development of such critical technology for the fiscal year preceding the first fiscal year covered by the plan.".

10 USC 2508 note.

(b) APPLICABILITY.—The amendments made by subsection (a) shall apply to annual defense critical technologies plans submitted after March 1, 1991.

42 USC 6686.

SEC. 822. CRITICAL TECHNOLOGIES INSTITUTE

(a) ESTABLISHMENT.—There shall be established a federally funded research and development center to be known as the "Critical Technologies Institute" (hereinafter referred to in this section as the "Institute").

(b) INCORPORATION.—The Institute shall be incorporated as a nonprofit membership corporation.

(c) BOARD OF TRUSTEES.—(1) The Institute shall have a Board of Trustees (hereafter referred to in this section as the "Board") composed of 21 members as follows:

(A) The Director of the Office of Science and Technology Policy, who shall be Chairman of the Board.

(B) The Secretary of Defense, or the Secretary's designee.

(C) The Secretary of Energy, or the Secretary's designee.

(D) The Secretary of Health and Human Services, or the Secretary's designee.

(E) The Secretary of Commerce, or the Secretary's designee.

(F) The Administrator of the National Aeronautics and Space Administration, or the Administrator's designee.

(G) The Director of the National Science Foundation, or the Director's designee.

(H) Four members appointed by the Director of the Office of Science and Technology Policy from among the members of the Federal Coordinating Council on Science, Engineering, and Technology (other than members of such council named in subparagraphs (B) through (G)).

(I) Ten members appointed by the members of the Board referred to in subparagraphs (A) through (H) from among representatives of industry and colleges and universities in the United States.

(2)(A) The term of service of members of the Board appointed under paragraph (1)(H) shall be four years, except that of the four members first appointed, one shall be appointed for a term of one year, one shall be appointed for a term of two years, one shall be appointed for a term of three years, and one shall be appointed for a term of four years, as specified by the Director of the Office of Science and Technology Policy at the time of the appointments.

(B) The term of office for each of the members of the Board appointed under paragraph (1)(I) shall be specified by the appointing members of the Board at the time of appointment.

(C) Members of the Board may be reappointed.

(D) A vacancy in a membership of the Board appointed pursuant to subparagraph (H) or (I) of paragraph (1) shall be filled in the same manner as the original appointment. A member appointed under this subparagraph shall serve for the remainder of the unexpired term of his predecessor.

(3) The Board shall meet at least twice each year.

(4)(A) The Board shall have an executive committee composed of the members referred to in subparagraphs (A) through (G) of paragraph (1) and six of the members appointed pursuant to subparagraph (I) of such paragraph.

(B) The executive committee shall meet at least six times each year.

(5) A member of the Board who is an officer or employee of the United States may not receive pay for service as a member, other than the pay provided for the member's position as an officer or employee of the United States.

(d) DUTIES OF THE INSTITUTE.—The Institute shall—

(1) survey the views of United States industry, colleges, and universities, and Federal and State agencies, involved in research, development, or utilization of critical technologies on—

(A) each critical technology identified in the most recent biennial report of the National Critical Technologies Panel established pursuant to section 601 of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6681); and

(B) each technology that the Institute considers critical on the basis of its analysis of national and worldwide trends in basic and applied research and development;

(2) on the basis of such views and analysis by Institute personnel—

(A) identify suitable near-term, mid-term, and long-term national objectives for the research, development, and production capability of the United States with respect to such technologies; and

(B) prepare possible strategies for achieving the identified objectives, including a discussion of the appropriate roles of industry, colleges and universities, and Federal and State agencies;

(3) publish reports, as appropriate, discussing— Reports.

(A) such national objectives and strategies; and

(B) progress in implementing such strategies and achieving such objectives; and

(4) at the direction of the Director of the Office of Science and Technology Policy, provide technical support and assistance regarding policy formulation to the committees and panels of the Federal Coordinating Council for Science, Engineering, and Technology that are responsible for planning and coordinating Federal Government activities that advance the development of critical technologies and sustain and strengthen the science and technology base of the United States.

(e) SPONSORSHIP.—(1) The Director of the Office of Science and Technology shall be the sponsor of the Institute.

(2) The Director and the Board shall enter into a sponsor agreement consistent with the requirements prescribed by the Administrator for Federal Procurement Policy that are generally applicable to sponsor agreements. Government contracts.

(3) The sponsor agreement shall—

(A) require the Institute to perform such functions for the Office of Science and Technology Policy as the Director of that office may specify consistent with the requirements of subsection (d); and

(B) permit the Institute, subject to the concurrence of the Director, to perform functions for the member agencies of the Federal Coordinating Council on Science, Engineering, and Technology Policy.

(f) DEADLINE FOR CERTAIN ACTIONS.—The Director of the Office of Science and Technology Policy shall take such actions as may be

necessary to ensure that, not later than 90 days after the date of the enactment of this Act—

(1) the articles of incorporation for the Institute have been appropriately filed;

(2) the corporate bylaws have been adopted;

(3) the Board members have been identified or appointed, as appropriate;

(4) the initial officers of the Institute have been elected;

(5) the first regular business meeting of the Board has been conducted; and

(6) the sponsor agreement referred to in subsection (e) has been entered into.

(g) FUNDING.—(1) Subject to such limitations as may be provided in appropriation Acts, the Secretary of Defense shall make available to the Director of the Office of Science and Technology Policy, out of funds available for the Department of Defense, $5,000,000 for funding the activities of the Institute in the first fiscal year in which the Institute begins operations.

(2) There is authorized to be appropriated for the Institute for each fiscal year after the fiscal year referred to in paragraph (1) such sums as may be necessary for operation of the Institute.

SEC. 823. MANUFACTURING TECHNOLOGY

(a) IN GENERAL.—Title 10, United States Code, is amended—

(1) by redesignating chapter 149 as chapter 150;

(2) by redesignating section 2511 as section 2521; and

(3) by inserting after chapter 148 the following new chapter:

"CHAPTER 149—MANUFACTURING TECHNOLOGY

"Sec.
"2511. Definitions.
"2512. Management and planning.
"2513. National Defense Manufacturing Technology Plan.
"2514. Research and implementation.
"2515. Computer-integrated manufacturing technology.
"2516. Concurrent engineering.
"2517. Manufacturing extension programs.

"§ 2511. Definitions

"In this chapter:

"(1) The term 'manufacturing technology' means development of techniques and processes designed to improve manufacturing quality, productivity, and practices, including quality control, shop floor management, inventory management and worker training, as well as manufacturing equipment and software.

"(2) The term 'manufacturing extension programs' means publicly-chartered organizations and services to transfer technology and help modernize small manufacturers through research, education and training, and outreach activities.

"§ 2512. Management and planning

"The Secretary of Defense, acting through the Under Secretary of Defense for Acquisition, shall—

"(1) provide centralized Department of Defense policy guidance and direction to the military departments and the Defense Agencies on all matters relating to manufacturing technology; and

"(2) direct the development and implementation of Department of Defense plans, programs, projects, and policies that promote the development and application of advanced technologies to manufacturing processes, tools, and equipment.

"§ 2513. National Defense Manufacturing Technology Plan

"(a) The Secretary of Defense, in coordination with the Secretary of Commerce and the Secretary of Energy, shall develop and implement a National Defense Manufacturing Technology Plan (hereafter in this section referred to as the 'Plan'). Subject to the authority, direction, and control of the Secretary of Defense, the Under Secretary of Defense for Acquisition shall perform the duty of the Secretary under this subsection.

"(b) The Plan shall—

"(1) provide guidance (formulated in coordination with the Department of Commerce and other relevant public and private organizations) to the military departments and Defense Agencies and to the Department of Energy on the goals, priorities, and approaches to be taken in the defense manufacturing technology program;

"(2) provide a link between the manufacturing technology program and the industrial preparedness programs conducted by the Department of Defense and similar and related activities undertaken by government or the private sector, including programs, projects and activities carried out by the Secretary of Commerce pursuant to section 25 of the Act of March 3, 1901 (15 U.S.C. 278k) and section 5121(b) of the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. 2781 note);

"(3) contain an analysis of the role of manufacturing extension services in—

"(A) improving the manufacturing quality, productivity, technology, and practices of defense industry subtier suppliers; and

"(B) disseminating to such suppliers such Department of Defense manufacturing concepts as best manufacturing practices, product data exchange specifications, computer-aided acquisition and logistics support, and rapid acquisition of manufactured parts; and

"(4) contain a description of how the Secretary of Defense will coordinate with each Federal agency and department in implementing the Plan.

"(c) In developing the Plan, the Secretaries referred to in subsection (a) shall consider and use, as appropriate, reports and studies conducted by Federal agencies and departments, the Office of Technology Assessment, the National Research Council, the Defense Science Board, industrial associations and organizations, and other entities.

"(d) The manufacturing technology program conducted by the Department of Defense may include only the projects and activities that are covered by the Plan and any projects or activities that, as determined by the Secretary of Defense, have a higher priority than the projects and activities covered by the Plan.

"§ 2514. Research and implementation

"The Secretary of Defense, acting through the Under Secretary of Defense for Acquisition, and in coordination with the Secretary of Commerce, the Secretary of Energy, and other relevant Federal

FCCSET COMMITTEES*

*** The Committee Chairman's Point of Contact is the Committee Executive Secretary unless specified otherwise.**

May 14, 1990

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RESEARCH AND DEVELOPMENT

IN THE PRESIDENT'S FY 1992 BUDGET

STATEMENT

OF

D. ALLAN BROMLEY

ASSISTANT TO THE PRESIDENT FOR SCIENCE AND TECHNOLOGY

AND DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY POLICY

FEBRUARY 4, 1991

Throughout his first two years in office, President Bush has emphasized the importance of research and development as a long-term investment in the future of this nation. The Fiscal Year 1992 budget again translates the President's commitment into action. It proposes to allocate $75.6 billion for research and development, an increase of $8.4 billion, or 13 percent, over the amount appropriated for fiscal year 1991.

In the first year under the Omnibus Budget Reconciliation Act -- at a time when proposed expenditures above the level of inflation essentially have to be offset against other spending -- this increase for research and development is a strong statement of the Administration's priorities. It testifies to the President's belief that we must continue to make the investments needed to ensure this country's leadership, economic strength, and security into the 21st century.

Increases for major categories of R&D support are equally substantial. Basic research would rise to $13.3 billion, an increase of $1 billion, or 8 percent, over 1991 levels. Applied research and development would go up 13 percent, to almost $60 billion. Funding for R&D facilities would rise 15 percent, to $3.54 billion.

I have often said during this past year that the United States, as a nation, is underinvesting in research and development. This belief is widely shared in the

Administration and on Capital Hill. The increases proposed in this budget take steps to address that underinvestment. The Administration will be working closely with Congress, and with the scientific community and the public, to see that these proposals are translated into appropriations.

The science advisor is the one who traditionally presents the R&D numbers to you, but much of the credit for implementing the President's commitment to research and development as an investment in the future must, of course, rest with the agencies and with the Office of Management and Budget. In particular, OMB's Director, Richard Darman, and OMB's four associate directors -- Robert Grady, Thomas Scully, Robert Howard, and Janet Hale -- are stalwart supporters of R&D as a source of economic growth and an improved quality of life for all Americans.

There are several new influences on this year's budget that bear emphasis. Following its reorganization and revitalization a little over a year ago, the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) -- the interagency forum of Cabinet secretaries, deputy secretaries, and the heads of independent agencies that reviews, coordinates, and helps implement federal science and technology policy -- organized special interagency programs in three high-priority, cross-cutting areas of R&D. Those programs formed the bases for three extremely important budget initiatives in the areas of high performance computing and communications, global change, and mathematics and science education. I shall briefly describe these three Presidential initiatives in a moment. Detailed reports from these three FCCSET committees will be released at press conferences tomorrow.

In addition, the President's Council of Advisors on Science and Technology (PCAST) has been meeting monthly with the President and with senior members of the White House staff for much of the last year. PCAST has helped to bring the private sector's perspective to the federal science and technology policy process, and the deliberations of this high-level group have had an important influence.

MAJOR INITIATIVES IN RESEARCH AND DEVELOPMENT

The President's Fiscal Year 1992 budget provides continued support for a broad range of federal R&D activities in areas such as basic research, energy, agriculture, defense, industrial technology, biotechnology, space, and health. I want to begin by emphasizing this ongoing and long-term investment. This support has given the United States the strongest science and technology enterprise that has ever existed. It is a testament to the public policy process in the United States -- and ultimately to the American taxpayer and voters -- that this country has been willing to make investments whose dividends we continue to reap. I trust that we will continue to make these investments.

In addition, this year's budget contains a number of new initiatives and areas of emphasis in science and technology. I shall discuss them in six broad categories: **basic research, technology development, defense research and development, space, global change, and education and human resources.**

Basic Research

Basic research accounts for less than 10 percent of all the research and development done in the United States. But basic research -- and particularly the large fraction of basic research done in universities and colleges -- is an indispensable part of the nation's R&D enterprise. It provides the important fundamental discoveries and concepts that lead to new products and processes. It also results in the production of many of the highly trained scientists and engineers who will carry today's science and technology into the future. And it has a very high social rate of return through its effect on a wide variety of private sector activities. For example, Professor Edwin Mansfield of the University of Pennsylvania, a distinguished economist, has recently completed a detailed study that finds an average 28 percent social rate of return on past federal investments in academic research.

The federal government now supports more principal investigators at universities than ever before, reflecting real increases in the level of federal support for academic research. However, the number of such researchers competing for funds has increased even faster, which is largely a result of the emergence of exciting new scientific opportunities and past successes in training high-quality doctoral-level scientists and engineers. There has also been pressure to increase the size of such individual investigator grants -- reflecting the increased complexity of science (sophistication inflation) -- and to extend the duration of grants -- to promote stability of support and to reduce the fraction of researchers' time and effort devoted to paperwork rather than research. Both of these changes create inevitable out-year mortgages. Such factors have caused the competition for available research funds at agencies such as the National Science Foundation and the National Institutes of Health to become so great that the situation has become a matter of serious concern to the research community in general.

Recognizing the many essential contributions of basic research, especially at universities, to our national future, the Fiscal Year 1992 budget proposes actions in several federal agencies designed to strengthen the individual and small group investigator component of the scientific enterprise.

National Science Foundation The President has reiterated his commitment to double the National Science Foundation's budget between 1988 and 1994. The budget proposes an 18 percent increase -- over $400 million -- for NSF, bringing it to a total of $2.72 billion. Support for the conduct of research, almost all of which is basic research in NSF, will increase by $284 million, or 16 percent, to a total of $2.1 billion. In addition, the budget proposes a crucial $50 million initiative to improve the research infrastructure by providing state-of-the-art instrumentation to university researchers. As with research funding, support for this instrumentation will be distributed on the basis of a competitive, merit-reviewed process, and it will be matched at least 50:50 by nonfederal funds.

Part of the effort at NSF to strengthen the general science and technology base involves specific programs. For example, interagency initiatives on global change and high performance computing and communications will be funded within NSF at a combined level of $333 million as part of the integrated national programs developed

by the relevant FCCSET committees. In addition, $456 million of NSF's budget, 23 percent more than in FY 1991, will be directed to mathematics and science education as part of yet another new FCCSET coordinated interagency initiative, as discussed separately below.

National Institutes of Health The National Institutes of Health are the premier biomedical research establishment in the world. To further strengthen this vital national asset, the President has proposed an increase of $334 million for basic research, or 7 percent, to a total of about $5 billion. Total funding for R&D within the Department of Health and Human Services is slated to rise $564 million, or 6 percent, to a total of about $10 billion. These totals allow for an increase of 9 percent in NIH's funding for research project grants awarded to individual investigators, providing for a broad base of fundamental advances.

Within the NIH total, $110 million is allocated to the Human Genome Program, with an additional $59 million in funding from the Department of Energy, resulting in an overall increase for the program of 26 percent. This program represents a coalescence and strengthening of the activity for many individual investigators who have been working on a wide variety of different genes. By focusing on the overall structure of human DNA and on determining the location and sequence of the estimated 100,000 human genes, the program will allow researchers to develop new diagnostic tests, new therapies, and new cures for a wide variety of human disease. Knowledge of the human genome and those of model systems will also be an invaluable resource throughout biomedical research and biotechnology.

Together, NSF and NIH support over half of the federally funded basic research done in the United States, and over 75 percent of the federally funded basic research done in universities. By focusing special attention on these agencies, the Administration plans to strengthen the individual investigator and small group research that remains the heart and backbone of American science and technology.

Other Agencies The budget calls for the **Department of Energy** to fund $1.76 billion of basic research into biological, environmental, and basic energy science and into nuclear and high energy physics. Funding for the Superconducting Super Collider, which is included in the category of R&D facilities rather than basic research, is set at $534 million for FY 1992. This total is $291 million above the amount appropriated in fiscal year 1991 and will allow the SSC to proceed on schedule.

Another important initiative involves the **Department of Agriculture.** The National Research Initiative, which is a merit-based competitive research grants program open to investigators across the nation, is proposed to increase by 71 percent, to $125 million. This program will broaden the nation's science and technology base through research in such areas as food safety, water quality, global change, pest management, and farm income. The overall goals of the initiative are improvements in the quality and nutrition of food, a safer environment, more rational use of natural resources, and economically stabilized production systems.

Finally, basic research in the **National Aeronautics and Space Administration** is slated to rise by $262 million -- to a total of $1.96 billion -- largely reflecting

increases in space and environmental science. I shall come back to this area and to research in the Department of Defense in a later section.

Technology Development for Economic Growth and an Improved Quality of Life

Applied research and development activities funded by the federal government fall into several broad categories. One is applied R&D that supports agency missions in such areas as defense, health, energy, and space. Another is applied R&D aimed at generic or enabling technologies that have many applications in the public and private sectors. Because of the many benefits to be gained by supporting this work, the budget provides increased funding for major areas of applied research and development.

High Performance Computing and Communications One area of technology with important applications throughout the public and private sectors is high performance computing and communications. High performance computing represents the leading edge for the entire computer industry, plays a growing role in fundamental scientific research, and exerts significant leverage on other industries and government programs by enabling design and production processes that require large amounts of computing power.

The budget requests $638 million -- an increase of $149 million or 30 percent -- for an interagency effort designed to extend U.S. leadership in all advanced areas of computing and networking. The planning and integration have been done by the R&D agencies under FCCSET's Committee on Physical, Mathematical, and Engineering Sciences. A report entitled "The Grand Challenges" and program plan will be released at a press conference scheduled by this FCCSET committee tomorrow.

The program is organized around four elements: the hardware needed for future generations of computers and for broader, more convenient use of today's technology; the user-friendly software that in many cases has become the determining factor for fully exploiting high performance computers; a National Research and Education Network that will not only link government, universities, industries, and schools but also give access to the power of computer systems now on-line to small businesses and other organizations that cannot economically justify their own stand-alone systems; and the trained personnel who will be needed to make this vision a reality. The overall goal of this coordinated interagency effort is to increase performance of the most advanced computers and digital communications by at least three orders of magnitude, creating a national system of high performance computing and communications that, I believe, will change society as dramatically as did the widespread application of the telephone.

Energy Technologies Another important area of technology development, particularly given the events of the past few weeks and months, centers on targeted high-payoff energy technologies. The budget proposes to spend about $900 million -- an increase

of 34 percent -- in R&D initiatives related to the National Energy Strategy being developed by the Department of Energy. Areas of emphasis include displacing oil in the transportation sector, improving energy efficiency in buildings and industry, and advanced electricity regeneration and end-use technology.

These initiatives will be pursued, whenever possible, through collaborative, cost-shared efforts among government, industry, and universities. In many cases, R&D will be industry-led with cost sharing and a division of research activities among industry, universities, and government labs. The formation of industry R&D consortia will be encouraged wherever feasible. Together, these organizational arrangements are designed to foster a new, more results-oriented approach to energy technologies.

Advanced Manufacturing and Materials The budget proposes to invest about $1.3 billion on advanced manufacturing and materials R&D, including over $1 billion for research and development on advanced manufacturing technologies. About half of this manufacturing R&D supports the procurement needs of government programs, but the other half is focused specifically on generic manufacturing technologies. An increase of 15 percent is proposed for civilian manufacturing R&D.

In the area of materials research and development, the budget proposes $84 million for a new initiative in the National Science Foundation intended to strengthen the position of the United States in next-generation materials synthesis and processing. Initially, two high-payoff areas will be emphasized: electronic and photonic materials, and biomaterials.

Industrial Technology Within the Department of Commerce, and specifically within the National Institute of Standards and Technology, the Administration proposes a 15 percent increase, to a total of $248 million, to expand NIST's ability to perform generic applied research and technology development and to address a rapidly growing number of important standards and measurement issues. The increase will allow NIST to conduct research and provide laboratory support for manufacturing technologies, information technologies, and other emerging technologies that are extremely important to the U.S. economy. In addition, the budget includes $36 million for the Advanced Technology Program to help fund industry-led high-risk R&D on precompetitive technologies.

Aeronautics Previous federal support of aeronautics has contributed to the global leadership of the U.S. aerospace industry, which now has a higher trade surplus than any other sectors of U.S. industry. To extend this leadership, the budget proposes $543 million for aeronautics research and development in NASA, an increase of 13 percent. The program will address, among other items, high-temperature engines, issues associated with supersonic flight, and the aging of today's aircraft. In addition to this work, the budget proposes $305 million for the National Aerospace Plane (NASP), a joint NASA-DOD program, for technology development leading to a decision on an experimental flight research vehicle.

Biotechnology Biotechnology has become one of the most exciting frontiers in science, offering enormous potential in medicine, agriculture, and industry. In the budget, the President has allocated $4.1 billion to support biotechnology R&D. Over 80 percent of this amount is in the NIH budget, largely in the form of basic research, but 11 other agencies also support programs directly or indirectly related to biotechnology. The budget's emphasis in this area is designed to maintain America's lead in this rapidly growing field.

AIDS The total request for AIDS research within the federal government is $1.2 billion. Within NIH, research on HIV and AIDS is set at $851 million, an increase of 5.8 percent. A significant component of this budget supports the basic and applied research necessary for the development of vaccines and new therapeutic and diagnostic approaches. This continues to be a very high priority for the Administration.

Research and Experimentation Tax Credit Finally, let me mention a related item that does not directly involve federal outlays but has a key effect on our ability to secure R&D investments in the future. For the past several years, Congress has been renewing the research and experimentation tax credit on an annual basis, but it has never made the credit permanent, and this has greatly diminished the credit's effectiveness. The Administration is again calling on Congress to make the tax credit permanent this year to help reverse the recent leveling-off of corporate R&D investment and expand its scope.

National Security Research and Development

The superiority of the current generation of U.S. weapons, as demonstrated rather dramatically by the Desert Storm activities, is a direct result of decisions made in years past to harness American technical creativity in the development of military systems of unparalleled performance and quality. Costly though some were, these systems are currently saving the lives of many U.S. servicemen as well as countless civilians. As the United States enters the 1990s, the strength of our basic and applied research and development in the area of defense technologies must be sustained.

The budget proposes an increase of over $5 billion, or 14 percent, to a total of $43 billion for both the Departments of Defense and Energy to meet national security R&D requirements. Major R&D efforts will include the Strategic Defense Initiative, the B-2 bomber, the Advanced Cruise Missile, the SSN-21 attack submarine, and the Advanced Tactical Fighter.

The President is also requesting $5.2 billion for the Strategic Defense Initiative, including as a first priority the development of technologies associated with a defensive system capable of providing Global Protection Against Limited Strikes (GPALS). Such defenses will protect U.S. forces deployed overseas, U.S. friends and allies, and the United States itself against accidental, unauthorized, or limited

ballistic missile strikes.

By far the largest portion of defense R&D still goes for hardware development and the operation and support of development, test, and evaluation facilities. But defense R&D also includes funds to support the defense technology base through basic research (funded at $1 billion in 1992) and applied research (funded at $2.9 billion). While all defense R&D activities are directed toward current or future defense needs, these activities also have valuable long-term economic benefits in the civilian sector in such areas as supercomputers, advanced materials, and manufacturing technologies, where the Defense Advanced Research Projects Agency (DARPA) continues to play a very important role. National security-related technologies have an important synergism with those in the civilian sector except in certain highly specialized areas. Our goal is that of building on this relationship.

Space R&D

Over the past year the U.S. space program has been undergoing an intensive and very healthy review, and as a result the program is undergoing important changes. However, the benefits of exploring space remain unchanged -- the commercial benefits, the science benefits, and, as OMB Director Darman has put it, the spiritual benefits. Our standing as a world leader will continue to be measured, in part, through the commitment we make to our exploration of the space frontier

This year's budget makes a very strong commitment to the scientific components of the space program, in keeping with the report of the Advisory Committee on the Future of the U.S. Space Program (the Augustine report). It proposes $2.1 billion, an increase of 21 percent over FY 1991, for NASA's space science programs, including astronomy, life sciences, planetary exploration, Earth science, and materials research. This represents about 20 percent of NASA's total budget, which is also in keeping with the Augustine Report.

NASA's proposed $15.7 billion budget also includes support for a Mission To Planet Earth and a Mission From Planet Earth. The Mission to Planet Earth is a vital component of the nation's overall integrated global change program, as described below. It includes initial support for the Earth Observing System (EOS), which, for the first time, will make simultaneous observations of the earth's surface by a whole suite of complementary instruments. While the data stream from such an array will be daunting, these data will provide a wealth of new and unique capability in areas ranging over agriculture, coean productivity and pollution, climate change, forestry, and much more.

The Mission from Planet Earth -- which includes Space Station Freedom and the Space Exploration Initiative -- supports the goal of expanding the human presence away from Earth and into the solar system. Continued development work on Space Station Freedom is funded at about $2 billion. The Space Exploration Initiative is funded at about $250 million, including activities in the Departments of Energy and Defense, and as recommended in the Augustine Report is being planned on a "go-as-you-pay" basis.

The budget also recognizes the critical importance of space transportation as the foundation of all U.S. space activities. The budget proposes $350 million (split

evenly between DOD and NASA) to continue advanced rocket engine development and to initiate a program that will culminate in the development of a new space launch system. The program's goal is to provide new launch capability for a range of payloads, including heavy-lift, that is both more capable and more cost-effective than today's systems and that will benefit both unmanned and manned space activities.

The U.S. Global Change Research Program

For the past three years, FCCSET's Committee on Earth and Environmental Sciences has been organizing the U.S. Global Change Research Program -- a pioneering program designed to produce the scientific knowledge that world leaders will need to address such issues as global climate change and ozone depletion. The budget proposes a total of almost $1.2 billion -- an increase of 24 percent or $232 million -- for the program. This amount will virtually double the size of the program since it was started in fiscal year 1990. Of this amount, roughly two thirds is directed at space-based research, with the remainder focused on a wide range of ground-based national and international research efforts.

Over the last year the CEES has developed a set of four integrating themes -- climate modeling and prediction, global water and energy cycles, global carbon cycle, and ecological systems and population dynamics -- based on the scientific needs identified by the Intergovernmental Panel on Climate Change. A report on the FY 1992 program, entitled "Our Changing Planet," will be available at a press conference tomorrow morning scheduled by the CEES. We expect this report to be an important source of input to the international negotiations beginning today in Chantilly, Virginia, that initiate the negotiations that will lead to a Framework Convention on global change.

Science and Mathematics Education

Finally, let me mention one other FCCSET activity that has provided an important input to this year's budget discussions. Over the past year, FCCSET's Committee on Education and Human Resources, under the chairmanship of Secretary of Energy James Watkins, has been examining the federal government's support of science and mathematics education. Guided by the National Education Goals established by the President and the nation's governors, the committee has developed a strategy to maximize the effectiveness of the Federal contribution to American science and mathematics education.

A report to be released tomorrow, entitled "By the Year 2000: First in the World," lays out strategic priorities designed to meet the educational needs of the country in this area. At the precollege level, which the report identifies as the highest priority for action, the greatest need is to increase the supply of well-trained science and mathematics teachers. Other areas of emphasis include improving curricula, developing new educational technologies, and increasing student interest and performance in science and mathematics, particularly among women and minorities. Similar strategic priorities have been developed for undergraduate and graduate

education. It is important that in our efforts to correct a dismaying series of problems at the precollege level we not lose sight of the importance of maintaining our world leadership in graduate education.

The committee also presents, for the first time, a comprehensive interagency overview of federal funding and programs that affect science and mathematics education at all levels -- precollege, undergraduate, and graduate. The federal investments in science and mathematics education are larger than previously recognized: in fiscal year 1991, for example, the federal government spent $1.7 billion expressly for science, mathematics, engineering, and technology education at all levels.

The FY 1992 budget proposes that the federal government increase this amount by over 13 percent, to about $1.94 billion, as part of an integrated interagency effort in science and mathematics education. Precollege education would receive the largest increase -- $146 million, or 28 percent.

This report by Admiral Watkin's committee breaks new ground and will greatly influence our national strategy in science and mathematics education. I would encourage all of you to attend tomorrow's release of their report.

THE CONTRIBUTIONS OF OSTP, FCCSET, AND PCAST TO IMPLEMENTING THE ADMINISTRATION'S SCIENCE AGENDA

Interagency Coordination Through FCCSET

Thus far I have noted the activities of three specific FCCSET committees that were heavily involved in this year's budget process. But all seven of the committees under the reorganized and revitalized FCCSET have activities ongoing, some involving the budget, some on nonbudgetary issues. In the area of future budgets, FCCSET has plans to update and extend the work that its committees have done to date. During the coming year, we will consider adding other areas to the list of budgetary cross-cutting analyses.

In areas less directly related to the budget, FCCSET committees are examining a wide range of issues. Under the Committee on Life Sciences and Health, the Biotechnology Research Subcommittee (formerly the Biotechnology Science Coordinating Committee) is planning to review federal priorities in biotechnology and is continuing to examine the scientific issues in biotechnology that influence regulatory decision-making. Under the Committee on International Science, Engineering, and Technology, a Subcommittee on International Cooperation with the European Community has been developing principles to govern the new opportunties that will accompany the unification of European markets in 1992. And under the full FCCSET, an Ad Hoc Working Group on Risk Assessment has been established to seek agency consensus on common principles that these agencies can apply in their approaches to risk assessment.

These are only examples of the many areas in which FCCSET groups are bringing a greater degree of coordination and coherence to federal science and technology policy. But it bears emphasis that, by law, the members of FCCSET committees are all government employees.

Private Sector Input

The President has also recognized the crucial role of the academic and private sector in helping to assess R&D priorities through his creation of, and monthly meetings with, his President's Council of Advisors on Science and Technology (PCAST). During its first year, PCAST has focused on three major issues -- science and mathematics education, economic competitiveness, and global change and the environment -- and has touched on a great number of other issues in science and technology.

PCAST is now forming a panel on Technology and National Security. The panel will concentrate on defining the elements of a forward-looking national security science and technology strategy appropriate to a vastly changed world scene. Similar panels in a variety of areas of particular importance to the President will be established during the coming year.

Competitiveness

In addition to the activities of FCCSET and PCAST -- entities that I chair -- OSTP has a number of major projects under way. One deals predominantly with the "T" in OSTP. Last September our office released a report entitled U.S. Technology Policy, which laid out the goals and strategy of the Federal government's approach to technology development and showed how they fitted into a comprehensive background. In the near future, in response to a Senate request, we will release a document that will build on this foundation, the first report of the National Critical Technologies Panel. In addition, OSTP is working to establish the Critical Technologies Institute, as directed by the Congress in last year's appropriations process, to assist in the development of strategies that will follow up on the panel report in these critical areas.

I would also mention, in this context, the work of an organization closely related to OSTP, the National Critical Materials Council. The Council, of which I am also chairman, is currently working on the 1990 report on a superconductivity action plan, a critical materials report, and an advanced materials program plan as requested by the Congress. These reports will be released in the near future.

International Science

OSTP's efforts in the area of international science and technology are designed to help implement the Administration's domestic science and technology goals and make science and technology a more integral part of U.S. foreign policy. Over the next year I will be chairing three senior-level joint commission meetings -- with the European Community, with the Soviet Union, and with Japan -- to review our bilateral agreements in science and technology and to identify areas of mutual interest and new challenges to international cooperation. Also, OSTP will be heavily involved in a major international meeting for the science ministers of the OECD nations to be held in the spring of 1992, a significant portion of which will focus on improving

international cooperation on large projects in the basic sciences.

National Security

The conflict in the Gulf, the dramatic developments underway in Eastern Europe, and the continuing uncertainty in the Soviet Union presage far-reaching changes in the international environment and in the security needs of the West. Key OSTP concerns include the development and application of technology to support changing defense and foreign policy requirements in such areas as defensive technologies for chemical and biological weapons; intelligence collection, analysis, and protection; and command, control, and communications capabilities. Also of concern is the maintenance and effective application, throughout the civilian sector, of the enormous national resource represented by the personnel, technology, and know-how currently available in the nation's defense industries and laboratories -- capabilities that will be vulnerable in a future marked by decreasing defense expenditures.

Personnel Appointments

Finally, it is clear that the R&D program is implemented by people, which is why I am extremely enthusiastic about the President's nominations of Bernadine Healy to be the Director of the National Institutes of Health and Walter Massey to be Director of the National Science Foundation. I am also very pleased by the President's nomination of D. A. Henderson to be OSTP's Associate Director for Life Sciences. Dr. Henderson, who has most recently been the Dean and Professor of Epidemiology and International Health at the Johns Hopkins School of Hygiene and Public Health in Baltimore, will bring a broad range of experience in the biomedical and behavioral sciences to OSTP. I am looking forward to the confirmation hearings of all three of these individuals and trust that they will soon be helping to implement the nation's science and technology policy.

That concludes my comments on the FY 1992 budget and issues of science and technology in the Bush Administration. I would be happy to answer your questions.

OFFICE OF CABINET AFFAIRS STAFFING MEMORANDUM

Date: 2-12-91 **Due by:** 3:00 Friday, Feb 15

Subject: OMB Clearance: Technology Admin. Authorization Act

From: Holly Williamson

	ACTION	CONCUR	FYI		ACTION	CONCUR	FYI
HOLIDAY	☐	☐	☐	MCBEE	☐	☐	☐
DANZANSKY	☐	☐	☑	MCMUNN	☐	☐	☐
ADAIR	☐	☐	☐	PORTER	☐	☐	☐
BUCHHOLZ	☑	☐	☐	SCHALL	☐	☐	☐
CASSE	☐	☐	☐	SECHLER	☑	☐	☐
EVANS	☐	☐	☐	WETHINGTON	☑	☐	☐
FARRAR	☐	☐	☐	WILLIAMSON	☐	☐	☐
GUNN	☐	☐	☐	_____	☐	☐	☐
HEIMBACH	☐	☐	☐	_____	☐	☐	☐
JACKSON	☐	☐	☐	_____	☐	☐	☐

Comments:

Please review and provide comments to me by 3:00 on Friday, Feb. 15. Thanks.

15 pages total

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503

FEB 12 1991

LEGISLATIVE REFERRAL MEMORANDUM

LRM #D-120

TO: Legislative Liaison Officer:

DEFENSE - Samuel T. Brick, Jr. - 697-1305 - 325
EDUCATION - John Kristy - 401-2670 - 207
ENERGY - Bob Rabben - 586-6718 - 209
INTERIOR - Pam Somers - 208-6706 - 329
JUSTICE - Grace Mastalli - 514-4606 - 217
STATE - Will Davis - 647-4463 - 225
TREASURY - Richard S. Carro - 566-8523 - 228
CEA - Francine Obermiller - 395-5036 - 242
FEMA - George W. Watson - 646-4105 - 327
GSA - Lonnie P. Taylor - 501-0563 - 237
NSF - Charles H. Herz - 357-9435 - 248
OPM - James N. Woodruff - 606-1424 - 331
OSTP - Damar Hawkins/Ken Yale - 456-6272 - 288
SBA - Michael P. Forbes - 653-7581 - 315
USTR - David Weiss - 395-3475 - 223
OGE - Jane Ley - 523-5377 - 261

SUBJECT: COMMERCE Draft Bill "Technology Administration Authorization Act for Fiscal Year 1992"

NOTE: A hearing on this subject is scheduled for Tuesday, February 26th.

DEADLINE: FRIDAY FEB 15 1991

The Office of Management and Budget requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

Questions should be referred to **Constance BOWERS (395-3457)**, the legislative analyst for this bill.

James J. Jukes

JAMES J. JUKES (for)
Assistant Director for
Legislative Reference

CC:
David Gold
Cora Beebe
Ken Schwartz
Norine Noonan
Cyndi Vallina
Don Gessaman
Tom Dorsey
Barry White
Bob Damus
Boyden Gray
Wally Williamson

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DRAFT

Honorable Thomas S. Foley
Speaker of the House
of Representatives
Washington, D.C. 20515

Dear Mr. Speaker:

Enclosed are six copies of a draft bill --

To authorize appropriations for the Department of Commerce's Technology Administration for fiscal year 1992, and for other purposes.

together with a Statement of Purpose and Need, and a Section-by-Section Analysis.

We have been advised by the Office of Management and Budget that there is no objection to the submission of this legislative proposal to the Congress and that its enactment would be in accord with the program of the President.

Sincerely,

DRAFT

Robert A. Mosbacher

Enclosures

A BILL

To authorize appropriations for the Department of Commerce's Technology Administration for fiscal year 1992, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That this Act may be cited as the "Technology Administration Authorization Act for Fiscal Year 1992."

TECHNOLOGY ADMINISTRATION

Sec. 2. There are authorized to be appropriated to the Secretary of Commerce, hereafter referred to as the Secretary, to carry out executive and analytical activities performed by the Technology Administration, $4,936,000 for fiscal year 1992, which shall be available for the following line items:

(1) Executive Direction, $1,628,000.

(2) Technology Policy and Commercial Technology Application, $3,308,000.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

Sec. 3. There are authorized to be appropriated to the Secretary to carry out activities performed by the National Institute of Standards and Technology for fiscal year 1992, the sums set forth in the following line items:

(1) Electronics and Electrical Engineering, $33,595,000.

(2) Manufacturing Engineering, $12,617,000.

(3) Chemical Science and Technology, $20,822,000.

(4) Physics, $26,475,000.

(5) Materials Science and Engineering, $28,671,000.

(6) Building and Fire Research, $10,632,000.

(7) Computer Systems, $15,048,000.

(8) Applied Mathematics and Scientific Computing, $6,088,000.

(9) Technology Assistance, $10,094,000.

(10) Research Support Activities, $37,798,000.

(11) Technology Development and Transfer Mechanisms, $46,200,000.

TRANSFER OF FUNDS

Sec. 4. Funds may be transferred among the line items listed in Sections 2 and 3 above upon notification of the Committee on Commerce, Science and Transportation of the Senate and the Committee on Science, Space and Technology of the House of Representatives fifteen days in advance of any such transfer.

SALARY ADJUSTMENTS

Sec. 5. There are authorized to be appropriated to the Secretary for fiscal year 1992 such additional sums as may be necessary to make any adjustments in salary, pay, retirement, and other employee benefits which may be provided for by law.

AVAILABILITY OF APPROPRIATIONS

Sec. 6. Appropriations made under the authority provided in this Act shall remain available for obligation, for expenditure, or for obligation and expenditure for periods specified in the Acts making such appropriations.

QUALITY IMPROVEMENT

Sec. 7. Section 17(f) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. § 3711a(f)) is amended to read as follows:

"In order to carry out the program under this section, the Secretary is authorized to seek and accept gifts from public and private sources, to impose reasonable fees on applicants, and, to the extent that additional sums are needed to cover the full cost of the program, to use appropriated funds.".

CONSTRUCTION OF FACILITIES

Sec. 8. Section 14 of the Act of March 3, 1901 (15 U.S.C. § 278d), is amended by striking "herein:" and all that follows, and inserting in lieu thereof "herein.".

RECOUPMENT

Sec. 9. Section 28(d)(7) of the Act of March 3, 1901 (15 U.S.C. § 278n(d)(7)), is amended to read as follows:

"(7) Each agreement with any business or joint venture that receives contributions under this section shall specify a test, as mutually agreed to by the Department and the recipient, for determining whether the venture or project shall be deemed to have been a commercial success and providing that in such event there will be appropriate recoupment to the Federal Government. Such recoupment shall

not exceed the principal amount, with reasonable interest, of any monetary grants provided to such recipient under the Program. The Secretary shall issue regulations stating the circumstances under which 'commercial success' will be found and the general procedures and terms for recoupment in such cases.".

EDUCATIONAL PROGRAMS

Sec. 10. Section 18 of the Act of March 3, 1901 (15 U.S.C. § 278g-1) is amended by:

(1) deleting the period at the end of the first sentence, and adding ", and to U.S. citizens for research and technical activities on Institute programs." and

(2) adding at the end of that section the following: "The Institute is also authorized to conduct an Undergraduate Scholarship Program for the purpose of encouraging undergraduate students to pursue scientific and technical studies.".

Sec. 11. Section 17 of the Act of March 3, 1901 (15 U.S.C. § 278g) is amended by adding the following new subsection:

"(d) The Secretary is authorized to recruit and employ in scientific and engineering fields at the National Institute of Standards and Technology foreign nationals who have been lawfully admitted to the United States for permanent residence under the Immigration and Naturalization Act and who intend to become United States citizens.".

STATE TECHNOLOGY EXTENSION PROGRAM

Sec. 12. Section 5121(b)(5) of the Omnibus Trade and Competitiveness Act of 1988 (Public Law 100-418, Title V, 102 Stat. 1437) is amended by deleting "September 30, 1991." at the end of the sentence and inserting in lieu thereof "two years after award.".

NATIONAL TECHNICAL INFORMATION SERVICE

Sec. 13. Section 212(a)(1) of Public Law 100-519 (102 Stat. 2594) is amended by adding a new paragraph (E) as follows:

"(E) Retain and use all earned and unearned monies heretofore or hereafter received, including receipts, revenues, and advanced payments and deposits, to fund all obligations and expenses, including inventories and capital equipment.".

TECHNICAL ASSISTANCE TO SEMATECH

Sec. 14. Section 273(c)(4) of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (15 U.S.C. § 4603(c)(4)) and Section 5422(a) of the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. § 4603a(a)) are each amended by substituting "Technology" for "Economic Affairs".

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STATEMENT OF PURPOSE AND NEED

This legislation authorizes appropriations for fiscal year 1992 for the Department of Commerce's Technology Administration, which was established by Title II of Public Law 100-519.

The Technology Administration consists of (a) the Office of the Under Secretary for Technology, (b) the Office of the Assistant Secretary for Technology Policy, the successor to the Office of Productivity, Technology and Innovation, (c) the National Institute of Standards and Technology, formerly the National Bureau of Standards, and (d) the National Technical Information Service. Because the latter is self-supporting, this legislation authorizes appropriations only for the first three units.

The Technology Administration provides a central point within the Department for enhancing the role and contribution of technology to U.S. competitiveness and economic security. It works closely with business, federal agencies, state and local units and other organizations. It manages a variety of technology programs relating to technology policy; information dissemination; basic and applied research in the physical sciences and engineering; the development of measurement techniques, test methods, standards, and related services; the development and diffusion of manufacturing technology, and performs generic and precompetitive research and development work on new, advanced technologies.

Through these various activities, the Technology Administration is able to provide industry with a wide range of services aimed at enhancing its ability to commercialize new technologies and to increase the productivity and quality of U.S. products and services. Increasingly, it is directing its attention to improving manufacturing quality, achieving shorter production cycles, and reducing manufacturing costs.

The legislation, described more fully in the attached section-by-section analysis, will ensure that all of the Technology Administration's activities are adequately funded during the period beginning on October 1, 1991 and ending on September 30, 1992. In addition, it (1) expands NIST's educational programs, broadens its hiring authority, and makes a number of administrative improvements to certain programs, including the Malcolm Baldrige National Quality Award; (2) clarifies the availability of customer deposit accounts to fund operating expenses at NTIS; and (3) transfers responsibility for preparing certain reports relating to Sematech from the Under Secretary for Economic Affairs to the Under Secretary for Technology.

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SECTION-BY-SECTION ANALYSIS

Section 1. Title.

This section provides that this Act may be cited as the "Technology Administration Authorization Act for Fiscal Year 1992."

Section 2. Technology Administration.

This section authorizes funds for the activities of the Under Secretary of Commerce for Technology for fiscal year 1992. Pursuant to organization order issued by the Secretary of Commerce, the Under Secretary is the Department's principal technology adviser to the Secretary and spokesperson for science and technology matters and is also responsible for the overall management and direction of the Technology Administration and its three constituent components: the Office of the Assistant Secretary for Technology Policy, the National Institute of Standards and Technology and the National Technical Information Service.

This section also authorizes appropriations for the activities of the Assistant Secretary for Technology Policy. This officer is the Technology Administration's principal source of technology policy advice and analysis. As such, it provides the expertise necessary to support the Under Secretary, the Assistant Secretary and other senior officials in their capacity as members of major, policy-level fora, such as the Federal Coordinating Council for Science, Engineering, and Technology, the President's Council of Advisors on Science and Technology and the President's Council on Competitiveness and Technology and the Cabinet-level Economic Policy Council. It is also responsible for managing a number of important technology programs, including: the Japanese Technical Literature Program, the Clearinghouse on State and Local Initiatives in Productivity, Technology and Innovation, the Metric Conversion Program, the National Medal of Technology, and the Federal Technology Management Program. It is also responsible for coordinating international science and technology policy issues within the Department and for encouraging U.S. industry to learn about and take advantage of foreign research opportunities.

Section 3. National Institute of Standards and Technology.

This section authorizes funds for the activities of NIST for fiscal year 1992 for eleven specified line items. These funds will permit the Institute to meet its basic goals under its Organic Act, as modified in 1988: aiding U.S. industry through research and services, contributing to public health and safety, and supporting the U.S. scientific and engineering research communities.

Paragraph 1 authorizes $33,595,000 for Electronics and Electrical Engineering, which is conducted primarily by NIST's Electronics and Electrical Engineering Laboratory. Through this program NIST serves the U.S. electronics industry and its customers by providing the measurement support that U.S. industry needs to improve its competitive position. Measurement methods from this program support the fundamental electronic technologies of semiconductors, magnetics, and superconductors that underlie all modern electronic systems; communications technologies including optical fibers and microwaves; electrical power systems; and electronic measurement instrumentation broadly.

Paragraph 2 authorizes $12,617,000 for Manufacturing Engineering, which is conducted primarily by NIST's Manufacturing Engineering Laboratory. Through this program, NIST provides measurement methods, calibration standards and a technical research base for interface standards and on-line quality assurance. This enables U.S.-discrete parts industries to develop more rapidly and adopt automation and other advanced manufacturing technologies. NIST supplies U.S. industry with both the standards and measurement methods to support the current system of quality control and aids the automation of U.S. manufacturing by providing the information necessary to develop standard "interfaces" between manufacturing systems.

Paragraph 3 authorizes $20,822,000 for Chemical Science and Technology. NIST conducts fundamental investigations on measurement-based phenomena related to the composition and behavior of chemical and biochemical systems, while developing and improving measurement capability and quantitative understanding of the underlying physical principles of measurement science. NIST develops new and improved measurement methods and standards for high accuracy chemical analyses; serves as the National Reference Laboratory, providing the underlying scientific basis and engineering measurement techniques, standards, data on key properties (thermophysical, thermochemical, and kinetic), predictive methods, and calibration and measurement services; and performs research on the structure and behavior of atoms and molecules in isolation, in clusters, and on surfaces. The measurement methods and reference materials from this program provide the basis for uniform measurements in the chemical, biochemical processing, clinical services, instrument manufacturing, metals-producing, and emerging high technology materials industries, as well as many Federal programs related to environmental pollution, toxic substances, and health services.

Paragraph 4 authorizes $26,475,000 for Physics. NIST investigates the structure and dynamics of atoms and molecules, singly and in aggregate, and establishes measurement methods and standards for infra red, visible, ultra-violet, x-ray, gamma-ray, electron, and neutron radiation. NIST develops and disseminates

national standards for time and frequency to meet critical industrial needs in communications, (carrier frequency calibration, synchronization of data transmissions), for electrical power (power flow monitoring, fault analysis), for transportation (air traffic control, railroads, traffic lights), and for navigation and position location (celestial navigation, oil exploration), as well as for standards laboratories and many military applications. NIST generates, evaluates, compiles and disseminates atomic, molecular, optical, and ionizing-radiation data in response to major national demands in areas such as defense, energy, environment, space, health, lighting, microelectronics, radiation, and transportation.

Paragraph 5 authorizes $28,671,000 for Materials Science and Engineering, which is carried out primarily in the Materials Science and Engineering Laboratory. Technological progress in such diverse fields as electronics, construction, energy, and transportation hinge on the development of advanced materials with property and performance characteristics far superior to materials used today. International competition related to advances in materials will intensify. Annual U.S. shipments of advanced materials and products made from them already exceed $70 billion. The NIST materials program emphasizes methods, reference data and materials, and the scientific understanding of the underlying chemical and physical basis of materials properties.

Paragraph 6 authorizes $10,632,000 for Building and Fire Research, programs conducted by the Building and Fire Research Laboratory.

The Center for Building Technology is the national construction research laboratory. It works cooperatively with other public and private organizations to improve the usefulness, safety and economy of constructed facilities and to increase the productivity and international competitiveness of the construction industry. It develops technologies to predict, measure and test the performance of construction materials, components, systems and practices. Its programs include structural engineering, materials, mechanical and environmental systems and computer integrated construction. Under the National Earthquake Hazards Reduction Program, NIST is the principal agency for research and support for the development of seismic design and construction standards.

The Center for Fire Research is the foremost fire research laboratory in the United States. It was established by the Federal Fire Prevention and Control Act of 1974 to reduce the human and economic costs of unwanted fires by providing scientific and technical knowledge on all aspects of fire for the fire protection community. It investigates the scientific principles that govern the phenomenon of fire, provides the

knowledge base for fire safety, develops the underlying technical support for new safety standards, and generates the engineering methodology to support the practice of fire protection engineering.

Paragraph 7 authorizes $15,048,000 for Computer Systems. Through these activities, NIST (a) provides leadership and research in the development of voluntary national and international standards and conformance tests for computers and telecommunication systems by assisting in the writing of specifications and leading standards development activities; (b) promotes "open" computer system architectures that accelerate the use of new information technologies; and (c) provides technical guidance to private industry and the Federal government, participating in standards development, fostering implementation agreements among vendors, and developing conformance tests.

Paragraph 8 authorizes $6,088,000 for Applied Mathematics and Scientific Computing, which program is administered through the Computing and Applied Mathematics Laboratory. These activities ensure that the best and most appropriate techniques in mathematical modeling, statistics, numerical analysis, and scientific computing are made available to and used by staff in the NIST laboratory-based programs and their collaborators in industry. The program helps certify the accuracy and integrity of NIST technical data and helps validate NIST scientific experiments and measurement services.

Paragraph 9 authorizes $10,094,000 for fiscal year 1992 for Technology Assistance. These activities include NIST's national and international standards activities. National and international standards activities provide a central source of information and leadership for U.S. industry regarding national and international standardization activities and issues concerned with attestation of conformity, including product testing and certification. Under these programs NIST provides critically evaluated data on physical and chemical properties of materials to scientists, engineers and the general public. NIST also assures accurate and compatible measurements through the development, certification, and distribution of standard reference materials (SRM's) and produces SRM's for use in industrial production and quality assurance; environmental analysis,; health measurements; and basic measurements in science and metrology. In addition, oversight and management of the ATP and MTC programs is provided through this activity.

Paragraph 10 authorizes $37,798,000 for Research Support Activities. These activities are NIST's centrally managed programs which provide support to all other NIST programs. The programs provide competence development in NIST mission-oriented areas of research; high caliber scientists and engineers for ongoing research programs through NIST's Postdoctoral Fellowship

Program; computing support for the research programs; a safe environment for conducting NIST technical programs; and NIST's Cold Neutron Research Facility, a special facility with critical measurement capabilities for properties, performance, and processing of materials and chemicals.

Paragraph 11 authorizes $46,200,000 for fiscal year 1992 for Technology Development and Transfer Mechanisms. These programs include the Regional Centers for the Transfer of Manufacturing Technology and the Advanced Technology Program.

The Regional Centers and the ATP provide shared-risk financial assistance combined with opportunities for cooperating with NIST to develop or transfer technologies that can improve U.S. manufacturing capabilities at all stages of technological sophistication.

Section 4. Transfer of Funds.

This section provides that funds may be transferred among the line items listed in Sections 2 and 3 upon notification of the Committee on Commerce, Science and Transportation of the Senate and the Committee on Science, Space and Technology of the House of Representatives fifteen days in advance of any such transfer.

Section 5. Salary Adjustments.

This section authorizes such sums as are necessary for fiscal year 1992 for adjustments in salaries, pay, retirement, and other employee benefits in connection with the programs and activities described in Sections 2 and 3.

Section 6. Availability of Appropriations.

This section permits the length of availability of funds appropriated under authorization provided by this Act to be determined in appropriations acts.

Section 7. Quality Improvement.

This section contains a technical amendment to the Stevenson-Wydler Technology Innovation Act of 1980 to permit the Director of the National Institute of Standards and Technology to use appropriated funds to carry out the Federal Government's responsibilities in connection with the Malcolm Baldrige National Quality Award.

Interest in the Award, and the demand for information about it and for related support services, has gone well beyond the private manufacturing sector of the U.S. economy, at which the Award was originally aimed, to State governments, other Federal agencies, and non-profit groups such as hospitals and health care

organizations. The criteria developed for the Award, and information on quality management from the Award recipients are used by all organizations, both private and public, profit and non-profit, to assess, and thus improve, their total quality management. The demands on NIST for support services, and information transfer activities have grown beyond anyone's expectations.

This technical amendment would allow the use of appropriated funds to provide for support services and information transfer activities of NIST directly related to the operation of the Malcolm Baldrige Quality Award program.

Section 8. Construction of Facilities.

This section amends NIST's organic legislation to delete a $250,000 limitation on the amount of funds that may be expended for construction or improvement of buildings at the NIST laboratories sites. This limit was last changed in 1980 from $75,000 to $250,000. This ceiling can be interpreted to require that the authority for any construction or improvement which exceeds the limit be included in the statute appropriating funds for NIST. This is inconsistent with current practice, under which allocations of funds for major construction or improvement projects are provided for in the reports accompanying legislation making appropriations for NIST, rather than in the legislation itself. This change will ensure that practice conforms with the statute, while maintaining the current level of control over construction projects.

Section 9. Recoupment.

This section clarifies the recoupment provisions of the Advanced Technology Program (ATP). The ATP is designed to provide funding for joint government, industry, academia, research and development projects on precompetitive, generic technologies. NIST has found that many potential ATP participants, especially software developers, have declined to participate in the ATP because of the current recoupment language in the NIST Organic Act, which entitles the Federal Government to a share of licensing fees and royalty payments in an amount proportional to the Federal share of the costs involved. The proposed clarifying language would retain a reasonable cap on total recoupment from a project and afford the parties sufficient flexibility to tailor the terms to their particular situation.

Sections 10 and 11. Educational Programs.

Section 10(1) authorizes the Director of NIST to grant fellowships directly to U.S. citizens for research and technical activities on NIST programs. Currently, the Director has authority to award fellowships to foreign nationals; to students

at U.S. institutions of higher learning; and to conduct, in conjunction with the National Academy of Sciences, a postdoctoral program for 20 to 40 new fellows per year. This amendment provides NIST with the authority to appoint U.S. citizens to fellowships with tenures at the NIST laboratories. This would provide NIST with full flexibility in managing its fellowships programs; and in responding to new directions in science and technology and to the needs of its ongoing programs.

Section 10(2) expands NIST's existing educational programs to authorize its Director to conduct an Undergraduate Scholarship Program, with emphasis on recruiting minorities and women. The Department recognizes the increasing need for trained scientists and engineers to meet the requirements of the U.S. work force in the coming decade. These work force demands can not be met unless more students, especially women and minorities, are encouraged to pursue careers in science and engineering. This new program will aim at encouraging undergraduate students to undertake science and engineering studies. In addition, it would, through contact with NIST scientists and facilities, introduce students to the attractive and varied science and engineering career opportunities available in Federal research laboratories.

Section 11 allows NIST to employ highly qualified foreign nationals who are holders of an Alien Registration Receipt Card (Form I-551), and who have filed a Declaration of Intent to Become a U.S. Citizen (Form N-300). The provision reflects a stark reality: the majority of students seeking advanced degrees in U.S. engineering schools are foreign nationals, and they are becoming a significant portion of the entry work force conducting research in areas of emerging technologies, areas of critical economic importance. Many U.S. employers are already adapting their recruitment strategy to take advantage of this pool of talent. This section would broaden the ability of NIST to recruit in the very tight and competitive scientific and engineering labor markets.

Section 12. State Technology Extension Program.

This section changes the termination date for contracts under the NIST State Technology Extension Service program from "September 30, 1991" to "two years after award." Because of delays in enacting the authorizing legislation, setting up the program, and awarding the contracts, the current legislative restriction will result in some of the contracts being in effect a year or less. We believe this technical change will allow the needed flexibility in administering the program while abiding by the original intent of the Congress.

Section 13. National Technical Information Service.

This section clarifies NTIS's authority to use unearned customer deposits to fund operations, a question raised in a recent internal audit. If NTIS does not have this authority, its ability to continue to operate is seriously impaired. This language confirms existing practice and permits NTIS to use customer deposits for operations where it is technically restricted from doing so today. It is the intent of this section that these deposit funds are the legal property of the customer, are to be refunded on demand, and are to be recorded as an obligation when used to finance NTIS' operations or at the time the refund is requested.

The language also confirms the current practice of purchasing inventories and capital equipment through the NTIS fund. This authority would supplement existing authority provided in 15 U.S.C. § 3704b(a)(1)(B) to purchase capital equipment with net revenues. The Department plans to report to Congress on the adequacy of NTIS funding mechanisms and related operational issues prior to submitting its budget to Congress for fiscal year 1993.

Section 14. Technical Assistance to Sematech.

This section makes the Under Secretary of Commerce for Technology the Department of Commerce's representative on the Sematech Advisory Council and makes the Technology Administration responsible for preparing all required studies and reports relating to its activities. The statutes being amended make these the functions of the Under Secretary of Commerce for Economic Affairs. Shortly after these statutes were enacted, then-Secretary C. William Verity issued a Departmental order formally establishing the Technology Administration and transferred to it many duties relating to R&D and the commercialization of technology that previously had been handled by units reporting to the Under Secretary for Economic Affairs and that are among the principal issues to be analyzed by the Council in its periodic reports. The section will eliminate an unnecessary bifurcation of responsibilities and properly reflect the role of the Technology Administration. It is the Department's intention that reports will be prepared by the Office of the Assistant Secretary for Technology Policy and NIST will provide technical assistance.

OFFICE OF CABINET AFFAIRS STAFFING MEMORANDUM

Date: 3-20-91 **Due by:** 11:00 Friday, March 22

Subject: OMB Clearance: OSTP Progress Report

From: Holly Williamson

	ACTION	CONCUR	FYI
HOLIDAY	☐	☐	☐
DANZANSKY	☐	☐	☑
ADAIR	☐	☐	☐
BUCHHOLZ	☐	☐	☑
CASSE	☐	☐	☑
EVANS	☐	☐	☐
FARRAR	☐	☐	☐
GUNN	☐	☐	☑
HEIMBACH	☐	☐	☐
JACKSON	☐	☐	☑

	ACTION	CONCUR	FYI
FITZHENRY	☐	☐	☑
MCMUNN	☐	☐	☐
PORTER	☑	☐	☐
SCHALL	☐	☐	☐
SECHLER	☐	☐	☑
WETHINGTON	☑	☐	☐
WILLIAMSON	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐

Comments:

I will submit no comment unless I hear otherwise from you by 11:00 on Friday, March 22. Thanks.

6 pgs

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

SPECIAL

March 19, 1991

LEGISLATIVE REFERRAL MEMORANDUM

TO: Legislative Liaison Officer

Department of Agriculture-Marvin Shapiro-382-1516
Department of Commerce-Michael Levitt-377-3151
Department of Defense-Sam Brick-697-1305
Department of Education-John Kristy-401-2670
Department of Energy-Bob Rabben-586-6718
Department of Health and Human Services-Frances White-245-7760
Department of Housing and Urban Development-Edward Murphy-755-7093
Department of Interior-Pam Somers-343-6706
Department of Justice-Paul McNulty-514-4606
Department of Labor-Bob Shapiro-523-8201
Department of Transportation-Tom Herlihy-366-4687
Department of Veterans Affairs-Raoul Carroll-233-3832
National Science Foundation-Charles Herz-357-9435
Environmental Protection Agency-Christopher Hoff-382-5414
National Aeronautics and Space Administration-Lynn Heninger-453-1948
Smithsonian Institution-Margaret Gaynor-357-2962

SUBJECT: Draft Office of Science and Technology Policy progress report. A list of members of the FCCSET Committee on Education and Human Resources is also attached for your information.

The Office of Management and Budget requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19. **A response to this request for your views is needed no later than noon on Friday, March 22, 1991.** Questions should be referred to Jack Fellows (202-395-3935).

Janet L. Forsgren

Janet Rice Forsgren for
Assistant Director for
Legislative Reference

Enclosure

cc: Rae Nelson, OPD
Doreen Torgerson, OPD
Holly Williamson, OCA
Tom Scully
Barry White
Bob Grady
Norine Noonan
Joe Hezir
John Morrall
Dan Chenok
Kathy Burchard
Janet Forsgren

FCCSET COMMITTEE ON EDUCATION AND HUMAN RESOURCES

Name	Telephone	FAX
Admiral James Watkins, DOE, Chairman	202-586-6210	202-586-9988
Dr. Ted Sanders, Education, Vice-Chairman	202-401-1000	202-401-3093
Dr. Luther Williams, NSF, Vice-Chairman	202-357-7557	202-357-9813
Mr. John Schrote, Interior	202-208-6182	202-208-5048
Dr. Charles E. Hess, USDA	202-447-5923	202-755-7842
Mr. Roberts T. Jones, Labor	202-523-6050	202-523-6827
Mr. John C. Weicher, HUD	202-708-1600	202-619-8000
Ms. Kate Moore, Transportation	202-366-9191	202-366-6031
Ms. Nancy Mason, Commerce	202-377-1091	202-377-4498
Mr. Erich W. Bretthauer, EPA	202-382-7676	202-475-9761
Ms. Ann I. Bay, Smithsonian	202-357-2425	202-357-2116
Mr. William G. Myers, III, Justice	202-514-3116	202-514-4699
Dr. Frederick K. Goodwin, HHS/ADAMHA	301-443-4797	301-443-0284
Mrs. Margaret Finarelli, NASA	202-453-8310	202-755-3741
Dr. Ted G. Berlincourt, DOD	703-697-3228	703-697-3762
Mr. D'Wayne Gray, Veterans Affairs	202-233-2455	202-233-5584
Mr. Charles E. M. Kolb, OPD	6515	2878
Mr. Joseph Hezir, OMB	3404	4817
Mr. Barry White, OMB	4532	3910
Ms. Peggy Dufour, DOE, Executive Secretary	202-586-7970	202-586-9988

DRAFT

March 19, 1991

Dear Madam Chair:

I am pleased to send you this progress report describing efforts, developed under OSTP leadership, to accomplish the following: (A) The establishment and restructuring of offices of education in mission agencies to support science and mathematics education and to make the agencies fully responsive to the plan of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) Committee on Education and Human Resources (CEHR); and (B) OSTP activities, working with the National Science Foundation, the Department of Education, and Federal mission agencies, to coordinate agency efforts to improve mathematics, science, and engineering education, particularly in the area of developing laboratory-education partnerships. I am also pleased to report on progress of Federal agencies with research and development activities toward establishment of education offices at each Federal laboratory under its control.

FCCSET COMMITTEE ON EDUCATION AND HUMAN RESOURCES

The White House Office of Science and Technology Policy (OSTP), through the Federal Coordinating Council for Science, Engineering, and Technology, established the Committee on Education and Human Resources in the spring of 1990. The Committee played a central role in preparing the Presidential Initiative on mathematics and science education included in The President's FY 1992 Budget.

The CEHR is chaired by Secretary of Energy James Watkins, with the Deputy Secretary of Education, Ted Sanders, and the Assistant Director for Education and Human Resources of the National Science Foundation (NSF), Luther Williams, serving as vice chairmen. The Committee includes sixteen departments and independent agencies, each represented by a senior policy-level official, generally at the Assistant Secretary level. The CEHR has representation from all Federal agencies with significant responsibilities in the area of science, mathematics, engineering, and technological education, including those with jurisdiction over the education of scientists, mathematicians, and engineers, as well as those with responsibilities for technician training and science literacy for the general public. The Committee also includes those agencies that are major users of scientific and engineering personnel.

SENATE REQUEST (A): MISSION AGENCY EDUCATION OFFICES

This progress report is submitted in response to the Senate Appropriation Committee's request, as set forth in its Report No. 101-474 to accompany H.R. 5158. The request appears on page 114 of the Committee Report:

> The Committee directs the OSTP to guide the mission agencies in establishing and restructuring their offices of education to support science and mathematics education and to make the agencies fully responsive to the FCCSET Education Committee's plan. Also, OSTP shall ensure that each agency's office of education has programs directed at student and teacher segments from K through graduate school.

Summary of Departmental and Agency Actions

Each of these departments and agencies has programs related to mathematics and science education. Descriptions of these programs are provided in the enclosed report, By the Year 2000, First in the World, which was prepared by the Committee on Education and Human Resources. The report includes a separate chapter for each of these departments and independent agency, beginning on page 67 and continuing through page 301. (Although it is not a member of the CEHR, the report includes information about programs of the Barry M. Goldwater Scholarship and Excellence in Education Foundation, which awards undergraduate scholarships for study in the fields of mathematics and the natural sciences.)

The names of the departmental and agency officials who are contacts for mathematics and science education programs are included with the descriptive materials for each agency. In a number of the departments and agencies, there are several offices that share in these responsibilities, and more than one contact is provided where appropriate to facilitate inquiries from educators and the public. Most agencies have programs that span the educational spectrum from kindergarten through graduate school.

SENATE REQUEST (B): LABORATORY-EDUCATION PARTNERSHIPS

This progress report is submitted in response to the Senate Appropriation Committee's request, as set forth in its Report No. 101-474 to accompany H.R. 5158. The request appears on page 115 of the Committee Report:

> The Committee strongly encourages efforts within the Federal Government to strengthen the educational activities of Federal research laboratories. Further, the Committee believes that the OSTP should require all Federal agencies with research and

development activities to establish education offices at each particular Federal laboratory under its control. The goal of such an effort is to improve internal Federal agency science, mathematics and engineering education programs, as well as foster education partnerships between various Federal labs and schools and academic institutions which are located near them. The Committee notes there is a need to coordinate and disseminate information on these programs among the various Federal mission agencies, as well as between the National Science Foundation [NSF] and the Department of Education. Therefore, the Committee directs OSTP to work with the NSF, the Department of Education, and Federal mission agencies to coordinate agency efforts to improve math, science, and engineering education, particularly in the area of developing laboratory education partnerships. The OSTP shall report the status of this effort and the agencies' funding needs for this activity to the Committee by March 15, 1991.

Summary of Departmental and Agency Actions

A number of these departments and agencies have research and development activities that are conducted through in-house and/or sponsored Federal laboratories. Many of the laboratories, particularly the larger ones, have established education offices or have designed certain staff to carry out this function. Furthermore, a number of partnerships between the departments and agencies and their laboratories have been established to bring their resources, especially the expertise of their scientists and engineers, to bear on efforts to improve mathematics, science, and engineering education. Funds to initiate or continue partnership activities are included in each department's and agency's FY 1992 budget request under the President's Initiative.

The CEHR report, By the Year 2000, First in the World, provides descriptions of a number of these partnerships. Mathematics and science education activities conducted by Federal laboratories, including examples of specific partnership agreements for some departments and agencies, are described in the respective chapters for the following departments and agencies:

Department of Agriculture (pages 75-79);

Department of Commerce/National Institute of Standards and Technology (pages 84-85) and National Oceanic and Atmospheric Administration (pages 88-92);

Department of Defense (pages 95-109);

Department of Energy (pages 132-146);

Department of Health and Human Services (pages 153-161);

Department of Housing and Urban Development (pages 161-169);

Department of the Interior (pages 175-181);

Department of Transportation (pages 222-230);

Environmental Protection Agency (pages 255-259);

National Aeronautics and Space Administration (pages 266-271); and

Smithsonian Institution (pages 292-297).

OSTP has worked with the Department of Education, the National Science Foundation, and the mission departments and agencies to further interagency cooperation with the goal of improving mathematics and science education. These activities are summarized in the chapters on the Department of Education (page 118) and the National Science Foundation (page 280).

Under the leadership of OSTP, and with the assistance of the FCCSET Committee on Education and Human Resources, departments and agencies will continue to strengthen their activities related to mathematics and science education. OSTP intends to continue to foster the advances being made in terms of partnerships and in tapping the resources of the Federal laboratories to help improve mathematics and science education. We much appreciate the support for these efforts provided by you and your colleagues and look forward to working with you as we work on this vitally important topic.

Sincerely,

D. Allan Bromley
Director

Enclosure

The Honorable Barbara A. Mikulski
Chair, Subcommittee on Veterans Affairs,
Housing and Urban Development, and
Independent Agencies
Committee on Appropriations
U.S. Senate
Washington, DC 20510

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

Federal Funds

General and special funds:

SALARIES AND EXPENSES

OFFICE OF SCIENCE AND TECHNOLOGY POLICY

For necessary expenses of the Office of Science and Technology Policy, in carrying out the purposes of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6601 and 6671), hire of passenger motor vehicles, services as authorized by 5 U.S.C. 3109, not to exceed [$1,500] *$2,500* for official reception and representation expenses, and rental of conference rooms in the District of Columbia [$3,560,000:] *$3,880,000: Provided,* That the Office of Science and Technology Policy shall reimburse other agencies for not less than one-half of the personnel compensation costs of individuals detailed to it. *(Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 1991.)*

Program and Financing (in thousands of dollars)

Identification code 11–2600–0–1–802	1990 actual	1991 est.	1992 est.
Program by activities:			
10.00 Total obligations	2,759	3,608	3,880
Financing:			
25.00 Unobligated balance lapsing	72	.....	.....
39.00 Budget authority (gross)	**2,831**	**3,608**	**3,880**
Budget authority:			
Current:			
40.00 **Appropriation**	**2,829**	**3,560**	**3,880**
Permanent:			
68.00 **Spending authority from offsetting collections**	**2**	**48**	.....
Relation of obligations to outlays:			
71.00 Total obligations	2,759	3,608	3,880
72.40 Obligated balance, start of year	1,045	1,498	1,761
74.40 Obligated balance, end of year	−1,498	−1,761	−1,889
87.00 Outlays (gross)	2,308	3,345	3,752
Adjustments to budget authority and outlays:			
Deductions for offsetting collections:			
88.00 Federal funds	−2	−48	.....
88.90 Total, offsetting collections	−2	−48	.....
89.00 Budget authority (net)	2,829	3,560	.....
90.00 Outlays (net)	2,306	3,297	3,752

The Office of Science and Technology Policy (OSTP) provides advice to the President concerning policies in science and technology and on the utilization of science and technology in addressing important national problems. The OSTP operations include support to other Executive Office of the President organizations on issues with science and technology considerations; review and analysis, with the Office of Management and Budget, of research and development budgets for all Federal agencies; coordination of research and development programs of the Federal Government; coordination of the implementation of a number of important international science and technology agreements; and other activities necessary to carry out the duties, functions, and activities described in Public Law 94–282, the National Science and Technology Policy, Organization, and Priorities Act of 1976.

Object Classification (in thousands of dollars)

Identification code 11–2600–0–1–802	1990 actual	1991 est.	1992 est.
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	941	1,500	1,661
11.3 Other than full-time permanent	227	87	50
11.5 Other personnel compensation	153	55	55
11.8 Special personal services payments	352	444	549
11.9 Total personnel compensation	1,673	2,086	2,315
12.1 Civilian personnel benefits	200	311	343
21.0 Travel and transportation of persons	94	336	314
22.0 Transportation of things	4	4	5
23.1 Rental payments to GSA	385	380	436
23.3 Communications, utilities, and miscellaneous charges	137	156	172
24.0 Printing and reproduction	7	60	57
25.0 Other services	107	78	115
26.0 Supplies and materials	47	53	58
31.0 Equipment	101	96	65
99.0 Subtotal, direct obligations	2,757	3,560	3,880
99.0 Reimbursable obligations	2	48	.....
99.9 Total obligations	2,759	3,608	3,880

Personnel Summary

Total compensable workyears:			
Full-time equivalent employment	12	43	43
Full-time equivalent of overtime and holiday hours	1	1	1

OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE

Federal Funds

General and special funds:

SALARIES AND EXPENSES

For necessary expenses of the Office of the United States Trade Representative, including the hire of passenger motor vehicles and the employment of experts and consultants as authorized by 5 U.S.C. 3109, [$20,000,000] *$20,400,000* of which $2,500,000 shall remain available until expended: *Provided,* That not to exceed [$89,000] *$98,000* shall be available for official reception and representation expenses. *(Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 1991.)*

Program and Financing (in thousands of dollars)

Identification code 11–0400–0–1–802	1990 actual	1991 est.	1992 est.
Program by activities:			
Direct program:			
00.01 Trade coordination and negotiation	12,939	16,192	15,607
00.02 Geneva trade negotiations	2,451	2,523	2,632
00.03 FTA panelist expenses	285	297	309
00.04 Computer operations	1,639	1,469	1,911
00.91 Total direct program	17,314	20,481	20,459
01.01 Reimbursable program	1,088	886	886
10.00 Total obligations	18,402	21,367	21,345
Financing:			
21.40 Unobligated balance available, start of year	−76	−540	−59
24.40 Unobligated balance available, end of year	540	59	.....
39.00 **Budget authority (gross)**	**18,866**	**20,886**	**21,286**
Budget authority:			
Current:			
40.00 **Appropriation**	**17,778**	**20,000**	**20,400**
Permanent:			
68.00 **Spending authority from offsetting collections**	**1,088**	**886**	**886**
Relation of obligations to outlays:			
71.00 Total obligations	18,402	21,367	21,345
72.40 Obligated balance, start of year	1,947	1,617	1,843
74.40 Obligated balance, end of year	−1,617	−1,843	−1,841
77.00 Adjustments in expired accounts	−55	.....	.....
87.00 Outlays (gross)	18,677	21,141	21,347
Adjustments to budget authority and outlays:			
Deductions for offsetting collections:			
88.00 Federal funds	−1,088	−886	−886
88.90 Total, offsetting collections	−1,088	−886	−886

OFFICE OF CABINET AFFAIRS STAFFING MEMORANDUM

Date: 3-19-91 **Due by:** 1:00 Thursday, March 21

Subject: OMB Clearance: OSTP Q&As on Science & Tech. Issues

From: Holly Williamson

	ACTION	CONCUR	FYI
HOLIDAY	☐	☐	☐
DANZANSKY	☐	☐	☑
ADAIR	☐	☐	☐
BUCHHOLZ	☑	☐	☐
CASSE	☑	☐	☐
EVANS	☐	☐	☐
FARRAR	☐	☐	☐
GUNN	☑	☐	☐
HEIMBACH	☐	☐	☐
JACKSON	☐	☐	☐

	ACTION	CONCUR	FYI
FITZHENRY	☐	☐	☑
MCMUNN	☐	☐	☐
PORTER	☑	☐	☐
SCHALL	☑	☐	☐
SECHLER	☐	☐	☑
WETHINGTON	☑	☐	☐
WILLIAMSON	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐

Comments:

Please review and provide comments to me by 1:00 on Thursday, March 21. Thanks.

22 pages total

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503

MAR 18 1991

LEGISLATIVE REFERRAL MEMORANDUM

LRM #M-122

TO: Legislative Liaison Officer:

COMMERCE - Michael A. Levitt - 377-3151 - 324
DEFENSE - Samuel T. Brick, Jr. - 697-1305 - 325
EDUCATION - John Kristy - 401-2670 - 207
ENERGY - Bob Rabben - 586-6718 - 209
HHS - Frances White - 245-7760 - 328
JUSTICE - Paul McNulty - 514-2061 - 217
STATE - Will Davis - 647-4463 - 225
TRANSPORTATION - Tom Herlihy - 366-4687 - 226
TREASURY - Richard S. Carro - 566-8523 - 228
CEA - Francine Obermiller - 395-5036 - 242
EPA - Thomas C. Roberts - 382-5414 - 326
NASA - Martin P. Kress - 453-1948 - 219
NSF - Charles H. Herz - 357-9435 - 248
SPACE COUNCIL - Liz Prestridge - 395-6175 - 309
USTR - David Weiss - 395-3475 - 223
AGRICULTURE - Marvin Shapiro - 382-1272 - 312

SUBJECT: OSTP Q&As on Science & Technology Issues -- from posture hearing

DEADLINE: 2:00 p.m., Thursday MAR 21 1991

The Office of Management and Budget requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

Questions should be referred to Constance BOWERS (395-3457), the legislative analyst for this item, or to Norine NOONAN (395-3534).

James J. Jukes

JAMES J. JUKES (for)
Assistant Director for
Legislative Reference

CC:
Greg Henry
Tom Dorsey
Nancy Milton
Susan Offut
Dan Corbett
Bob Fairweather
Holly Williamson
Barry White
Cora Beebe
Barry Clendenin
Janet Forsgren
Ron Peterson

DRAFT

Responses to Brown Committee Questions following 2/20/91 Posture Hearing

1. What has been OSTP's involvement in assessing the results of the Report on the Advisory Committee on the Future of the U.S. Space Program? Do you plan on making any recommendations of your own as a member of the National Space Council?

A. As you know, NASA has undertaken a conceptual redesign of the Space Station in response to a recommendation from the Augustine Committee and Congressional mandate. My staff and I have participated actively in the Space Council's consideration of the conceptual redesign with particular focus on the scientific and technological aspects of the planned utilization of the Space Station.

2. The Augustine Committee identified once again the need for a broad and stable consensus on what we should be doing in space and how much we should spend on these activities. Such a consensus must involve the Administration, Congress and, most importantly, a well-informed public. What role will you play in developing a durable consensus on a long-term budget for NASA?

A. I think that the Space Council should have the lead role in developing such a consensus, but I shall continue to play an active role within the Space Council

3. The Augustine Committee noted the value of international cooperation for space activities, but recommended being more careful about entering into cooperative ventures. The committee also recommended that such cooperative ventures not include "in-line critical program elements." What guidelines would you recommend for evaluating potential cooperative space activities?

A. I am in fundamental agreement with the Augustine Committee in this regard. There is indeed value in international cooperation on space activities, but the value is not primarily financial.

Response to Question 4 for the Record Submitted by Chairman George E. Brown, Jr.

4. One of President Bush's stated goals is to "make America number one in math and science." Please elaborate on how we can make that happen, and how that achievement can be measured.

Answer The goal cited in the Question is one of six developed as an outcome of the Education Summit held by the President and the Nation's Governors in September 1989 at Charlottesville, Virginia. One of the major Federal responses to the goals related to mathematics and science achievement is the President's FY 1992 Budget Initiative for mathematics and science education.

The Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) assisted the President in the development of this initiative. The FCCSET effort was conducted under my direction through the Committee on Education and Human Resources (CEHR). The Committee is chaired by Admiral James D. Watkins, Secretary of Energy, and has as co-Vice Chairman, Ted Sanders, the Acting Secretary of Education, and Luther Williams, the Assistant Director for Education and Human Resources of the National Science Foundation. Under their leadership, the CEHR assisted in the development of the President's FY 1992 Budget Initiative on Mathematics and Science Education. A copy of their report, By the Year 2000: First in the World, is attached. This report presents the first complete inventory of Federal programs for mathematics and science education and sets forth goals and priorities designed to ensure that every U.S. student will be competent in mathematics and science.

The CEHR program developed under FCCSET recognizes the need to involve parents and teachers, as well as the scientific and engineering community in activities to improve education. The National Science Foundation and the Department of Education have major programs that provide support for teacher preparation and continuing education, curriculum development and dissemination, school reform, and student incentives to pursue science and engineering majors. Many of the mission agencies, such as the Department of Energy, NASA, and the Department of Health and Human Services, sponsor informal mathematics and science education activities that help sustain student interest in these fields and that contribute to general science literacy for parents and other adult members of the community. OSTP's involvement is to guide the development of programs in the departments and agencies that will encourage a continuing interest on the part of parents. The central role that parents can play is the educational achievement of their children has been widely addressed by me in public addresses across the nation.

The measurement of achievement in mathematics and science is obviously integral to the National Education Goals. This endeavor calls for broad public involvement, and is not solely a Federal role. The National Governors Association, for example, has a panel on measurement. The Mathematical Sciences Education Board, a body sponsored by the National Academy of Sciences, is addressing these issues for mathematics. Another Academy group, the Board for International Comparative Studies in Education, is working on the challenging problems of comparisons of educational achievement between the United States and other countries. Both the National Science Foundation and the Department of Education are involved in sponsoring projects on international comparisons of educational achievement. A number of States are conducting studies on measurement of educational achievement. Out of all these activities should come the knowledge base, practices, tools, and agreed-on standards that will provide the ability to measure progress toward the goals.

These goals are very challenging. If we are to achieve them, we will need a concerted effort involving the Federal Government, the States, localities, teachers, parents, and the students. Americans are frequently stirred by challenges to make great exertions and achieve difficult goals. If there is that kind of response to the challenge to improve mathematics and science achievement, we should attain the National Education Goals.

5. We hear conflicting reports from the media as to the health of the scientific community; in your opinion, what criteria should be used to assess the health of science in the U.S.?

A: Numerous metrics are often used to describe the health of the U.S. science community including funding levels, number of grants, the social benefits or rate of return to investments in research, publications and citations, patents, and Nobel and other major research prizes. Each of these captures only one

small aspect of the functioning of the science enterprise. A more general measure is the extent to which our science enterprise contributes to advancing the frontiers of knowledge, meeting national needs in areas ranging from economic competitiveness to national security, educating our youth, and improving our quality of life. I remain convinced that overall we still have the strongest science and technology enterprise in history. It is, however, true that other nations, by focusing their efforts, have moved up to equal us - or in a few cases surpass us. This is neither surprising nor necessarily bad. But it is essential that in those areas, where we may not define the current frontiers, that we remain close enough to them so that we can exploit new discourses or developments, wherever they are made, rapidly and effectively.

6. Despite increasing budgets for federally-funded research, the demand for grants continues to increase. How do you think that the science community can more realistically prioritize its funding requests?

A: Peer review remains, far and away, the best method of evaluating priorities among projects in fundamental science research. Peer review is the traditional means of deciding whether or not to fund individual research grants as well as the large facility construction projects that are required for forefront research in many areas.

It more than anything else is responsible for the present strength of our enterprise; while there <u>are</u> problems with peer review they are relatively minor and can be fixed.

7. The High Performance Computing initiative includes creation of a National Research and Education Network (NREN). How will the views and concerns of the non-federal user community for the NREN be included in the planning process for the network, since FCCSET membership is limited to federal agencies?

A. Concerns of the non-federal users of NREN will be considered both formally and informally. In fact, a private sector advisory committee is being formed for this purpose by the Federal Networking Council, an inter-agency group concerned with management of NREN.

We also have a panel within PCAST that provides an overview of our HPCC programs.

8. Do you think that a full multi-year program funding approach adopted last year by the Congress for CRAF/Cassini and the House for Superconducting Super Collider can be available for other large projects such as the GEOS weather satellites, National Weather Service modernization, and Space Station Freedom?

A: Last year the Congress gave multi-year <u>authorization</u> for CRAF/Cassini and the House of Representatives for the SSC after rebuffing similar requests for the Space Station in the previous two years. Any attempts that Congress makes to promote longer term stability in funding for R&D are, of course, appreciated. The effectiveness of these efforts will be enhanced if multi-year authorizations can be translated into multi-year appropriations. The Administration is most interested in exploring how better to provide the stable funding required for long-term projects such as the ones mentioned above.

9. What is the status of United States participation in ITER, the international program to build a large-scale fusion reactor?

A: A team led by DOE currently is negotiating terms for U.S. participation with our prospective foreign partners in the Engineering Design Activities phase of the ITER project. It is hoped that the negotiations will be completed, and agreement reached, within the next few months.

We view ITER thus far as a very effective and successful international cooperation involving Japan, the USSR, the EC and the U.S.

Draft Answers
in response to
George Brown's Query

March 15, 1991

10. **While the intramural research programs of the National Institute of Standards and Technology have been given a long overdue increase, the extramural programs designed to help industry strengthen its technological base are either frozen or eliminated. What do you see the role of NIST in fostering industrial competitiveness?**

The Administration has proposed a 15 percent increase, to a total of $248 million, to expand the National Institute of Standards and Technology's (NIST's) ability to perform generic applied research and technology development to address a rapidly growing number of important standards and measurement issues. The increase will allow NIST to conduct research and provide laboratory support for manufacturing technologies, information technologies, and other emerging technologies that are extremely important to the U.S. economy. In addition, the budget includes $36 million for the Advanced Technology Program (ATP) to help fund industry-led high-risk R&D on precompetitive technologies. I have been very impressed by the first round of awards under the ATP program and believe this augurs well for its future.

11. **The Advanced Technology Program is due for an increase from $10 million to $37.9 [$35.9] million this year. What are the priorities for how that increase will be allocated?**

Approximately $11M of the FY91 funds will be used to fund the second year of projects initiated with FY90 funding. NIST will announce a second open competition and use the remainder of funds for new project starts resulting from the second competition. As was done in the first competition, the Request for Proposal (RFP) will cite the criteria below:

- Technical and scientific merit (20%);
- Broad-based commercial benefits (20%);
- Technology transfer benefits (20%);
- Experience and qualifications of the proposing organization(s) (20%); and
- Level of commitment and organization structure (20%).

The second RFP will not solicit specific technologies, but will refer to appropriate lists of technologies and may also give some examples; e.g., advanced materials.

12. **What is the relationship between the priorities in the Critical Technologies list which your office will submit to the Congress and the priorities in the Advanced Technology Program?**

We regard the Critical Technologies list as an excellent summary of the current opportunities for the U.S. and expect this list to be very helpful in implementing the Advanced Technology Program selection criteria. However,

distribution of funds for actual awards should be merit based and decisions

13. Would you recommend that the Advanced Technology Program money be earmarked by Congress for particular technologies?

No, we believe that industry should establish priorities through the types of proposals submitted.

14. Legislation passed last year authorized a Critical Technologies Institute organized as a federally-funded, contractor-operated organization attached to OSTP. What is the current status of this Institute? How do you see the Institute being used by OSTP? Will it help OSTP, which has been chronically understaffed in the past, more effectively carry out its many responsibilities?

The National Critical Technologies Institute was established by the 1991 Defense Authorization Act. The law requires the Institute to:

- Survey the views of industry; academia; and Federal, State, and local government on the critical technologies identified by the National Critical Technologies Panel and other technologies they consider critical.
- Identify near-, mid-, and long-term objectives for research, development, and production capability for each technology.
- Prepare possible strategies to achieve the objectives.
- Publish reports describing the national objectives and strategies and progress in meeting them.
- Perform additional duties as assigned by OSTP and the Federal Coordinating Council on Science, Engineering, and Technology Policy.

Other activities that might be assigned to the Institute could include:

- Issues in management of technology
- Issues in technology transfer
- Technology development case studies
- Comparative surveys of technology trends for the U.S. and its trading partners
- Promotion of private/public sector involvement in the selection, generation, and exploitation of critical (generic) technologies

It is our intent that the National Critical Technologies Institute will be operational by June 1991. Administrative support for the Institute is being sought through contractual arrangements with an existing not-for-profit organization that is capable, additionally, of providing technical support. Now that the report of the National Critical technologies Panel has been completed and submitted to the President, it is expected that the pace of implementation of the Institute will increase. The Institute will expand the capabilities of OSTP in carrying out its responsibilities.

We anticipate that the Institute Director, who will play a key roll in its establishment

15. What do you believe should be our priorities for funding research in the areas of energy alternatives to fossil fuels and more efficient energy technologies? Do you believe the President's budget request is adequate to meet our current energy R&D needs?

A: Nuclear fission merits vigorous research and development as the only currently available technology capable of producing large blocks of electrical energy without direct emissions of carbon dioxide, sulfur oxide, and nitrogen oxide. Battery development has the potential to enable competitive electric vehicles to displace imported oil. Solar, wind, and other renewable energy will serve important niches. The efficiency of energy technologies can be significantly increased through materials science research and development in areas such as superconductors, high temperature ceramics, improved insulating materials, CFC replacements, etc. The President's budget requests adequate funding to meet our needs and proposes to leverage that investment through cooperative, cost-shared efforts with industry.

In particular I believe that the new High Temperature Gas Cooled Reactors (HTGR's) hold high promise for the future.

16. This Committee expects to address the issue of uranium enrichment this year. What is the Administration's policy on the importation of Soviet SWUs? Will there be unlimited importation or will some type of restraint agreement be worked out using the Department of Energy as the broker?

A: There are no restrictions on the importation of SWUs from other countries. The Department of Energy is currently reviewing the impacts on domestic producers of this policy.

17. **Despite the EPA Science Advisory Boards 1988 recommendation that the EPA R&D budget be doubled over the next 5 years, the FY92 budget is the first request for a significant increase (14%) in funding. Is the Administration committed to requesting similar or greater increases over the next few years so that we might approach the SAB's recommended levels?**

A: **The budget places a major emphasis on efforts to protect and enhance America's natural resources and the environment within the context of policies to promote economic growth. Major increases are proposed in the FY 92 budget for a number of important areas, including R&D. Although it is difficult to predict future budget recommendations, if the past trend continues and Congressional action is not inconsistent with these recommendations, we may see future requests for increases.**

18.Q. In the Superfund Amendments and Reauthorization Act of 1986, the Congress established at the National Institute of Environmental Health Sciences (NIEHS) a university-based multidisciplinary research program to develop better methods for assessing the risks to human health and for reducing those risks. With an FY 1991 appropriation of $21.9 million, the NIEHS is funding 11 grants involving 99 separate projects at 21 institutions. Although the President's Request includes a substantial increase for the Superfund budget, the NIEHS Superfund Research Program was cut by 46% to $11.9 million while the 1990 reauthorization provided $35 million for FY 1992-1994. What is the reason for the drastic cut in this excellent program?

A. The NIEHS Superfund Basic Research Program is an innovative approach to answering the questions most often heard from people whose environment has been affected by uncontrolled hazardous substances: "What are the risks to me and my family and what can science and technology do to help us?" The NIEHS Program provides multiproject, multidisciplinary grants to universities to fund integrated studies in biomedicine, engineering, hydrogeology, ecology and statistical modelling. It is the only one of its kind funded by the federal government. The knowledge gained will provide a sound foundation for decisions about managing hazardous substances in ways that protect human health and the environment.

The eleven grants funded thus far provide support for 98 projects in 23 institutions. Accomplishments include:

- White rot fungus degrades a wide variety of waste site chemicals including industrial dyes, solvents, nitro compounds and halogenated hydrocarbons. Genetic engineering is being used to enhance the speed of degradation.

- A number of bacterial strains isolated from carbon filtration units have been used to treat benzene, ethylbenzene, toluene, and xylene in contaminated groundwater.

- Sperm numbers, morphology, and motility show differences in normal vs. certain chemically exposed persons. Studies show men exposed to perchloroethylene have dose-dependent changes in sperm motion and morphology.

- New equipment to monitor incinerator processes, e.g., photographic and spectroscopic, has been developed and is being tested.

- A new method of cleaning up solvents from hazardous wastes sites such that they can be reclaimed from soil and recycled has been developed.

- Analytical chemists have devised ways to identify and measure a wide range of chemicals bound to proteins in human blood. Genetic toxicologists have developed ways to see if the specific genetic signatures of these chemicals are written on the genes of cells in the same blood samples. Civil engineers have mapped the movement of water in the chemically polluted Aberjona River and its tributaries. Soon this Superfund team will be processing human samples and getting the answers as to whether chemicals are moving from dumps to ground water and into people in ways that cause detectable and possibly significant genetic damage.

The NIEHS Superfund Basic Research Program receives its funding from the Superfund Trust Fund through the Environmental Protection Agency. The FY 1992 total EPA Superfund budget was limited to an increase of $135 million over its FY 1991 appropriation of $1629 million. The urgency of cleaning up sites of great concern to the public dictate that funding for research be a lower priority than that for cleanup and enforcement.

#19

Question: In its review of the FY 1991 U.S. Global Climate Research Program, the National Academy of Sciences commented on the need to achieve an appropriate balance between spaced-based observational capabilities and ground-based process studies and modeling research as the program evolves. How does the FY 1992 budget respond to this recommendation?

Overall constraints on Federal funding have led the Committee on Earth and Environmental Sciences to pursue a U.S. Global Change Research Program (USGCRP) more focused on the highest priority scientific and policy issues over the next few years. In particular, the highest priority scientific and policy issue for the USGCRP in FY 1992 is whether, and to what extent, human activities are changing or will change the global climate system.

Despite the constraints on funding and need to focus the USGCRP on the highest priority global change issues, the FY 1992 budget proposed by the President for the Program is consistent with the Academy's recommendation. The budget reflects a continued commitment to establish an integrated, comprehensive (space- and ground-based) atmosphere, ocean,and terrestrial observing system which will acquire the long-term databases necessary for the development and testing of predictive models and for monitoring to document global environmental changes. The budget also reflects a strong, continued commitment to both conduct focused studies necessary to improve our understanding of key processes that control the global Earth system, including its climate. Further, a strong commitment is reflected in the budget to augment research on climate modeling and prediction, one of the highest scientific priorities identified by the Intergovernmental Panel on Climate Change.

The proposed funding level for spaced-based research programs in the USGCRP in FY 1992 is $596.2 million; an increase of 23.2 percent over the FY 1991 level. A comparable increase is requested for ground-based research. The funding level requested for these activities is essential if we are to put in place space- and ground-based systems necessary for observing key environmental processes at the global scale, a scientific capability that we presently lack. We agree with the Academy's recommendation of maintaining an appropriate balance between space- and ground-based research and observation programs. Such a balance is essential for a successful USGCRP given the spatial and temporal variability of the systems being studied and the need to scale processes occurring at the local level to the regional and global scales.

The remainder ($589 million) of the proposed budget of $1186 million for the USGCRP in FY 1992 is for a combination of ground-based studies, modeling, and data management. The level of funding for these activities is, in the view of the CEES agencies, consistent with the scientific needs and priorities, the state of the science, and the development of the USGCRP.

20. LAST YEAR YOU EXPRESSED CONSIDERABLE PRIDE IN THE MODEL THAT THE COMMITTEE ON EARTH AND ENVIRONMENTAL SCIENCES AND THE USGCRP PROVIDED FOR INTERAGENCY PROGRAM DEVELOPMENT AND INTEGRATION, AND YOUR INTENTIONS TO APPLY THAT MODEL TO OTHER SCIENCE AND TECHNOLOGY ARENAS. COULD YOU GIVE US AN UPDATE ON YOUR EFFORTS.

ANSWER: Upon confirmation, one of my early goals was to reinvigorate interagency collaboration in key fields of science and technology relevant to the missions of several agencies. As you are aware, the Federal Coordinating Council is an interagency forum within the Executive Branch for reviewing and coordinating research and development activities that cut across the missions of several federal agencies. Working with the strong support throughout the Administration, the Council is now comprised of Cabinet secretaries, deputy secretaries, and heads of independent agencies that have statutory authority for R&D programs in the federal government. These departments/agencies integrate and help to implement federal science and technology policy. The Council has seven umbrella subject matter committees whose members are at the Assistant Secretary level representing the views and subject matter interests of their respective agencies or departments. Unlike the committees in the Legislative Branch, each of which has discrete authority for oversight, interagency fora are mechanism for discussion, analysis, collaboration, and consensus building. The member agencies, i.e., the heads of the R&D departments and agencies, have the responsibility for implementing the agreed upon program as proposed by the President's budget and as legislated by the Congress, proceeding with the necessary contracting, budgeting and so on, developed through the interagency process. This year, I am pleased by the progress made by FCCSET in inventorying federal efforts in mathematics and science education and identifying opportunities to maximize federal activities in support of the President and Governors. Furthermore, the FCCSET interagency mechanism has helped to bring forward two additional presidential initiatives in the R&D budget for FY 92, the U.S. Global Change Research Program and the High Performance Computing and Communications Program.

Recognizing a potential gap in the FCCSET activities because, by law, all members of FCCSET and of FCCSET committees are government employees and therefore private sector calibration and validation of FCCSET activities is of great importance, I am pleased that the President has created the President's Council of Advisors on Science and Technology (PCAST) reporting directly to him to provide this essential private sector input.

21. The Budget proposes a 71 percent increase ($52 million) for Agricultural Research, most of which is for the competitive grants program. In the longer term, how do you see the balance in the Agricultural Research program between the competitive grants program and the older, decentralized formula program under which block funding is provided to the agricultural land grant colleges in each state?

A: The Administration fully supports the goals of formula block grant programs for maintaining States' basic agricultural research programs. The competitive grants program in the National Research Initiative is designed to foster cutting-edge research to complement that done with formula block grant funds. Provided that the 14 percent cap on indirect cost recovery is not an inhibitor of interest and that the program is as successful in stimulating cutting-edge research as we think it will be, we will seriously consider requesting additional funding for the NRI.

22. **The President's budget calls for making permanent the research and development tax credit as a means of spurring long-term R&D. Please elaborate on what you see as the potential benefits of such a tax policy. What are the potential tax expenditures?**

The Administration is extremely concerned that the rate of growth in industrial R&D has leveled off since the mid-1980s. For 1990 and 1991, both the National Science Foundation and the Battelle Memorial Institute estimate that industrial R&D will, at best, keep pace with inflation. The tax incentive can help boost private R&D investment. The fact that the credit has not been a permanent one has kept it from having a maximum impact on long-range corporate planning. Making the credit permanent will permit businesses to establish and expand R&D operations and facilities without fearing that the tax laws will suddenly change. The revenue cost of a permanent research and experimentation tax credit is estimated to be $6.2 billion from fiscal years 1991 through 1996.

23. Does the Administration plan to submit a proposal to Congress addressing the competitive disincentives of current anti-trust law?

ANSWER: The Administration has proposed legislation to eliminate concern that our antitrust laws may be applied unreasonably to joint ventures that produce goods and services, including joint ventures between competitiors, and thereby benefit U.S. international competitiveness and consumers alike. On May 7, 1990, Attorney General Thornburgh and Secretary Mosbacher transmitted to Congress the Administration's proposed "Cooperative Production Act of 1990." This bill would amend the National Cooperative Research Act of 1984 to extend its coverage of reseach and development joint ventures to production joint ventures as well. The NCRA clarifies that the potentially procompetitive joint ventures it covers are to be analyzed under the antitrust "rule of reason" that takes full account of international competition as well as potential efficiences. NCRA coverage also provides for reduced antitrust damage exposure upon notification to the antitrust agencies.

24. Please submit to the Committee the memorandum to EPA listing your nominees for witnesses at the Science Advisory Board hearings on the EMF report. Who (by name and organizational affiliation) provided you with the names of your recommended witnesses?

ANSWER: We are not at liberty to disclose the confidential deliberative processes within the Executive Branch, but the Committee can be confident that all responsible points of view were considered in our reflections on this important issue.

GEORGE E. BROWN, JR., California, CHAIRMAN

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U.S. HOUSE OF REPRESENTATIVES
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DIRECTOR

February 28, 1991

Dr. D. Allan Bromley, Director
Office of Science and Technology Policy
Executive Office of the President
Washington, D.C. 20506

Dear Dr. Bromley

The Committee's R&D Posture hearing earlier this week was a fine success. Your excellent statement and thoughtful answers to Members' questions was central to that success, and I want, on behalf of the Committee, to express our thanks for your most valuable contribution.

The inevitable time constraints did not allow all our Members to pose the many questions which they had in mind. I wonder if we might impose on you for the answers to some of those questions, a set of which I attach. To meet our printing schedule for the hearing transcript, I would ask that the answers be provided to us no later than Friday, March 22nd. I would greatly appreciate your assistance in this matter.

I know that you share with me a strong conviction about the importance to the nation's future of the Federal Government's investment science and technology. I intend to work closely with all the officers in the Executive Branch and all the elected officials in the Congress to further augment that investment. Your own pivotal role in that endeavor is one I fully appreciate, and I look forward to working with you toward our common objective.

Sincerely,

George

GEORGE E. BROWN, JR.
Chairman

GEB/Htm
Attachment

QUESTIONS FOR THE RECORD
DR. D. ALLAN BROMLEY

1991 R&D Posture Hearing
February 20, 1991

1. What has been OSTP's involvement in assessing the results of the Report on the Advisory Committee on the Future of the U.S. Space Program? Do you plan on making any recommendations of your own as a member of the National Space Council?

2. The Augustine Committee identified once again the need for a broad and stable consensus on what we should be doing in space and how much we should spend on these activities. Such a consensus must involve the Administration, Congress and, most importantly, a well-informed public. What role will you play in developing a durable consensus on a long-term budget for NASA?

3. The Augustine committee noted the value of international cooperation for space activities, but recommended being more careful about entering into cooperative ventures. The committee also recommended that such cooperative ventures not include "in-line critical program elements." What guidelines would you recommend for evaluating potential cooperative space activities?

4. One of the President Bush's stated goals is to "make America number one in math and science." Please elaborate on how we can make that happen, and how that achievement can be measured.

5. We hear conflicting reports from the media as to the health of the scientific community; in your opinion what criteria should be used to assess the health of science in the U.S.?

6. Despite increasing budgets for federally-funded research, the demand for grants continues to increase. How do you think that the science community can more realistically prioritize its funding requests?

7. The High Performance Computing initiative includes creation of a National Research and Education Network (NREN). How will the views and concerns of the non-federal user community for the NREN be included in the planning process for the network, since FCSET membership is limited to federal agencies?

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9. What is the status of United States participation in ITER, the international program to build a large-scale fusion reactor?

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15. What do you believe should be our priorities for funding research in the areas of energy alternatives to fossil fuels and more efficient energy technologies? Do you believe the President's budget request is adequate to meet our current energy R&D needs?

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institutions. Although the President's Request includes a substantial increase for the Superfund budget, the NIEHS Superfund Research Program was cut by 46% to $11.9 million while the 1990 reauthorization provided $35 million for FY 1992-1994. What is the reason for the drastic cut in this excellent program?

19. In its review of the FY 1991 United States Global Climate Research Program, the National Academy of Sciences commented on the need to achieve an appropriate balance between space-based observational capabilities and ground-based process studies and modeling research as the program evolves. How does the FY 1992 budget respond to this recommendation?

20. Last year you expressed considerable pride in the model that the Committee on Earth and Environmental Sciences and the USGCRP provided for interagency program development and integration, and your intentions to apply that model to other science and technology arenas. Could you give us an update on your efforts?

21. The Budget proposes a 71 percent increase ($52 Million) for Agricultural Research, most of which is for the competitive grants program. In the longer term, how do you see the balance in the Agricultural Research program between the competitive grants program and the older, decentralized formula program under which block funding is provided to the agricultural land grant colleges in each state?

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January 31, 1991

OFFICE OF SCIENCE AND TECHNOLOGY POLICY
ISSUES (in no particular order of priority)

Division of Life Sciences
Associate Director-Designate, DA Henderson

NIH, NSF (biological), CDC, FDA, USDA
Decade of the Brain
Misconduct in Science
Biotechnology
International Health Issues
Vaccine Development, Licensing,
and Application
Radiation
Food Safety
Animal Welfare
Protection of Human Research Subjects
Human Genome Project
Agriculture Research and Nutrition
Agent Orange
Electromagnetic Fields (health effects)
Health Care Reform
Drug Approval Process

Division of Industrial Technology
Associate Director, William D. Phillips

National Critical Technologies Panel/Report
Critical Technologies Institute
&2Space Council
Technology Transfer
University-Business-Government Interactions
Economic Competitiveness
Global Change - Industrial Liaison
Foreign Investment in U.S. Industry
Intelligent Manufacturing System
Manufacturing Forum
Science and Technology Attaches Abroad
Metrification

Division of Policy and International Affairs
Associate Director, J. Thomas Ratchford

International
  S&T Agreements
  Cooperation in Basic Science "Megaprojects"
  Intellectual Property Rights
Social Sciences
Mathematics and Science Education
University Infrastructure

National Critical Materials Council
Director, vacant

Superconductivity Action Plan
Critical Materials Report
Advanced Materials Program Plan

Division of Physical Sciences and Engineering
Associate Director, Eugene Wong

Computers and Computational Research:
  High Performance Computing
Physical Sciences Research:
  Astronomy, Physics, Chemistry, Mathematics, etc.
Engineering Research and Development
Energy Technologies: Basic Energy Sciences, Nuclear Energy,
  Renewable Energy Sources (Solar, Hydrogen, etc),
  Conservation, Transportation, etc.
Space Science Basic Research (Hubble Space Telescope, Gamma
  Ray Astronomy, Advanced X-Ray Astronomy Facility)
Risk Analysis/Risk Assessment
Nuclear Waste Management
Structure of Science Support (Large and Small Investigators)
National Energy Strategy
Aeronautics
National Laboratories

National Security
Assistant Director, Michelle Van Cleave

Defense
Intelligence
Arms Control
Export Controls
Military Space
Emergency Telecomunications Management
Chemical and Biological Terrorism
Information System Security

Environment
Assistant Director, Nancy Maynard

Environment
Global Climate Change/Global "Warming"
Forestry
Framework Convention on Climate Change

Federal Coordinating Council for Science, Engineering and Technology (FCCSET)
Executive Director, Maryanne Bach

Committee on Earth and Environmental Sciences (CEES)
Committee on Physical Mathematics and Engineering Sciences
Committee on International Science, Engineering and Technology
Committee on Education and Human Resources (EHR)
Committee on Life Sciences and Health
Committee on Food, Agriculture Research and Forestry
Committee on Industry and Technology

OFFICE OF CABINET AFFAIRS STAFFING MEMORANDUM

Date: 3-21-91 **Due by:** 5:00 Wed. March 27

Subject: OMB Clearance: OSTP Q+A's High Performance Computing

From: Holly Williamson

	ACTION	CONCUR	FYI
HOLIDAY	☐	☐	☐
DANZANSKY	☐	☐	☑
ADAIR	☐	☐	☐
BUCHHOLZ	☑	☐	☐
CASSE	☐	☐	☑
EVANS	☐	☐	☐
FARRAR	☐	☐	☐
GUNN	☐	☐	☑
HEIMBACH	☐	☐	☐
JACKSON	☐	☐	☑

	ACTION	CONCUR	FYI
FITZHENRY	☐	☐	☐
MCMUNN	☐	☐	☐
PORTER	☐	☐	☑
SCHALL	☐	☐	☐
SECHLER	☐	☐	☑
WETHINGTON	☑	☐	☐
WILLIAMSON	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐
_____	☐	☐	☐

Comments:

Please review and provide comments to me by 5:00 on Wednesday, March 27. Thanks.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503

4 March
4 pm

MAR 21 1991

LEGISLATIVE REFERRAL MEMORANDUM

LRM #M-128

TO: Legislative Liaison Officer:

ENERGY - Bob Rabben - 586-6718 - 209
NASA - Martin P. Kress - 453-1948 - 219
NSF - Charles H. Herz - 357-9435 - 248
COMMERCE - Michael A. Levitt - 377-3151 - 324
EPA - Thomas C. Roberts - 382-5414 - 326
DEFENSE - Samuel T. Brick, Jr. - 697-1305 - 325
HHS - Frances White - 245-7760 - 328

SUBJECT: OSTP Q&As on High Performance Computing

DEADLINE: Wednesday MAR 27 1991

The Office of Management and Budget requests the views of your agency on the above subject before advising on its relationship to the program of the President, in accordance with OMB Circular A-19.

Questions should be referred to **Constance BOWERS (395-3457)**, the legislative analyst for this item.

James J. Jukes

JAMES J. JUKES (for)
Assistant Director for
Legislative Reference

CC:
Jack Fellows
Norine Noonan
Joe Hezir
David Gold
Ken Schwartz
Greg Henry
Dan Taft
Nancy Milton
Bruce McConnell
Cyndi Vallina
Richard Turman
Holly Williamson

DRAFT

March 22, 1991

Dear Chairman Walker:

Thank you for your letter of March 11, 1991. Attached is the first part of my response to your questions. My recommendation for specific changes in H.R. 656 will follow.

Sincerely yours,

D. Allan Bromley
Director

Enclosure

The Honorable Robert S. Walker
Chairman
Committee on Science, Space and Technology
U.S. House of Representatives
Suite 2320 Rayburn House Office Building
Washington, D.C. 20515

Response to Questions from Chairman Walker
following Dr. Bromley's Testimony of March 7, 1991
before the House Committee on Science, Space and Technology

1. Please provide the Subcommittee with both the incremental and total run-outs for each of the agencies participating in the President's High Performance Computing and Communications Program (DOE, NASA, NSF, NIST, NOAA, EPA, NIH, and DARPA) over each of the next five years.

A: The following budget figures are for planning purposes only. Those for FY93 and later are subject to revision and reexamination by the Administration.

High Performance Computing and Communications Planning Budget
(in millions $)

Agency	92	93	94	95	96
DARPA	232	283	353	399	447
DOE	93	110	138	157	168
EPA	5	5	5	5	5
NASA	72	107	134	151	145
HHS/NLM	17	17	17	17	17
NIST	3	3	3	3	3
NSF	213	262	305	354	413
NOAA	2.5	3	3	3	3
Total:	638	789	956	1087	1202
increase:	49	51	167	131	115

2. Does the President's initiative envision the government buying and owning supercomputers, high end switches, fiber optical cable, and other hardware? Is there any reason why the network cannot be established commercially from its inception? Is it necessary for the federal government to do more than fund research and development and contract for services from the network?

A: The initiative envisages the government purchasing and owning supercomputers, as it currently does, especially the prototypes developed with government support.

These will be placed in strategic locations to allow early software development and application to Grand Challenge problems. However, except for research purposes, we do not envisage the purchase of switches, optical fiber, or any other networking hardware. The "establishment" of NREN will be achieved through purchasing telecommunications services from commercial vendors. The networking functions under the initiative will be to contract for services, to support research and development, and to use NREN as a testbed to develop network applications important to the research and education community.

3. What specific and detailed changes would you like to see made to H.R. 656?

A: We have extensive changes to recommend. These will follow in a supplementary response.

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01. Memo	To Robert M. White Re: Your Lunch with Reginald Bartholomew, State Under Secretary for International Security Affairs (4 pp.)	n.d.	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
P-3 Release would violate a Federal statute [(a)(3) of the PRA]
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P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [a)(5) of the PRA]
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C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Removed as a personal record misfile.

Freedom of Information Act - [5 U.S.C. 552(b)]

(b)(1) National security classified information [(b)(1) of the FOIA]
(b)(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
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(b)(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
(b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
(b)(9) Release would disclose geological or geophysical information

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
02a. Report	Re: An Alternative Intellectual Property Allocation Provision for Use with Institutions of the European Community and Member States (1 pp.)	n.d.	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
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AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

RESTRICTION CODES

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PRM. Removed as a personal record misfile.

Freedom of Information Act - [5 U.S.C. 552(b)]

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(b)(9) Release would disclose geological or geophysical information

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
02b. Attachment	Re: Joint Management Allocation Provision (1 pp.)	n.d.	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

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Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03a. Memo	Charles Wessner to Deborah L. Wince-Smith Re: Issues for CISET Meeting, March 1, 1991 (8 pp.)	2/28/91	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

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C. Closed in accordance with restrictions contained in donor's deed of gift.

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Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03b. Paper	Re: S&T Agreements with Brazil, The PRC, and Indonesia: Current Status and Courses of Action (3 pp.)	n.d.	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
AR Disposition:		**MR Disposition:**	
AR Disposition Date:		**MR Disposition Date:**	

RESTRICTION CODES

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Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03c. Outline	Re: Possible Courses of Action (1 pp.)	n.d.	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
AR Case #:		**MR Case #:**	
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AGENDA

Meeting
of
FCCSET Committee on International
Science, Engineering and Technology
(CISET)

March 1, 1991

3:00-4:30 p.m.

Department of State, Room 1105

1) Welcome by the Chairman

2) Remarks by Dr. Allan Bromley

Dr. Bromley will highlight S&T actions resulting from the President's Latin American trip, international facets of the Administration's new R&D budget, a meeting of G-7, EC and USSR Science Advisors under the auspices of the Carnegie Commission, and the first meeting of the U.S./EC Joint Consultative Group on S&T, which will take place on February 25.

3) Review and Approve Minutes of Previous Meeting (document)

4) Reports on Subcommittee Activities

a) S&T Cooperation with Industrialized Countries

Subcommittee Chairman Philip Schambra will briefly outline the Subcommittee's next major focus. Further observations about the U.S./EC meeting will be invited from CISET members.

b) S&T with Developing Economies (document)

Chairman Richard Bissell will distribute an advance copy of a request for data for a compendium of U.S. S&T activities with developing countries. He will seek Committee support for a prompt and thorough response by late March.

c) Title V

Chairman John Boright will highlight the 1990 report, based upon the conceptual outline approved by CISET in July.

d) Megascience

Chairman Fred Bernthal will report on the Subcommittee's current efforts to develop domestic and international guidance for cooperation on megascience projects.

5) Report on GATT - Post-Uruguay Round

The USTR representative will discuss the current outlook for the GATT.

6) "Joint Management Plan" for IPR Protection (document)

The Committee will be asked to approve a "joint management plan" approach for allocation of intellectual property rights (IPR) prepared by the CISET Working Group on IPR, for use in negotiations with the EC and its member nations.

7) S&T Agreements with the PRC, Indonesia and Brazil (document)

The Committee will receive a status report on current S&T negotiations with these countries and be invited to consider possible courses of action on S&T agreements with the PRC and Indonesia, scheduled to expire in April and May.

8) Other Business

9) Date of Next Meeting

MEMBERSHIP
COMMITTEE ON INTERNATIONAL SCIENCE, ENGINEERING AND TECHNOLOGY

CHAIRMAN:
Ambassador Reginald Bartholomew
Under Secretary of State
Department of State
2201 C Street, NW, Room 7208
Washington, DC, DC 20520
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FAX: 657-0775
Executive Secretary: Andy Reynolds
Phone: 647-3632
FAX: 647-0773

VICE CHAIRMEN:
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National Science Foundation
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Washington, DC 20550
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9000 Rockville Pike, Room B2C39 Building 31
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Alternate: Sara Bowden

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FAX: Same as above
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Assistant Secretary for the Office
of Postsecondary Education
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Washington, DC 20202-5100
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FAX: 708-9814
Point of Contact: Dr. Harry Gardner
Phone: 708-7862
FAX: 708-9814
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Ms. Deborah L. Wince-Smith
Assistant Secretary for Technology Policy
Department of Commerce
14th Street and Constitution Avenue, Room H481B
Washington, DC 20230
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FAX:
Alternate:

Dr. Raymond F. Siewert
Acting Deputy Director for Defense Research and Engineering
Department of Defense
Room 3E 114
The Pentagon
Washington, DC 20301-1000
Phone: 695-5036
FAX: 693-5229
Point of Contact: Col. James S. Butt, Military Assistant to Mr. Siewert
Phone: 703-695-3042
Phone: 703-694-6550
FAX: 703-693-5305
Alternate: Mr. Stuart Schwartzstein

Dr. James Decker
Director for Energy Research, Acting
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Washington, DC 20585
Phone: 586-5434
FAX: 586-4120
Point of Contact: Barbara Chambers (Secretary)
Phone: Same as above
FAX: Same as above
Alternate: KDr. David B. Nelson, Executive Director

Mr. John Sayre
Assistant Secretary for Water and Science
Mail Stop 6640
Department of the Interior
1849 C Streets, NW
Washington, DC 20240
Phone: 208-3186
FAX: 371-2815
Point of Contact: Dr. Hanlan Watson, Dep. Asst. Sec.
Phone: 208-4933
FAX: 371-2815
Alternate: Dr. Hanlan Watson, Dep. Asst. Sec.

Mr. Travis P. Dungan
Administrator of Research and Special Programs Administration
Department of Transportation
400 7th Street, S.W.
Washington, DC 20590
Phone: 366-4433
FAX: 366-7431
Point of Contact: Alfonso B. Linhares
Phone: 366-4208
FAX: 366-3272
Alternate: Mr. Mark C. Dowis, Associate Administrator

Mr. Tim Atkenson
Assistant Administrator of International Activity
Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460
Phone: 382-4870
FAX: 755-0653
Point of Contact: Dr. Allan Hecht
Phone: 382-4870
FAX: 755-0653
Alternate: Dr. Allan Hecht, DAA of International Activity

Mr. John Weicher
Assistant Secretary for Policy Development and Research
Department of Housing and Urban Development
451 Seventh Street, S.W.
Washington, DC 20410
Phone: 708-1600
FAX: 619-8000
Point of Contact: Doris Lesesne
Phone: 708-1600
FAX: 619-8000
Alternate: James Stimpson - 708-4230

Ms. Margaret G. Finarelli
Associate Administrator for External Relations, Acting
Code X, Room 7021
National Aeronautics and Space Administration
Washington, DC 20546
Phone: 453-8310
FAX: 755-3741
Point of Contact: Joyce Cristenbury (Secretary)
Phone: Same as above
FAX: Same as above
Alternate: Peter G. Smith

Mr. Harold Denton
Director of Governmental and Public Affairs
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Nuclear Regulatory Commission
Washington, DC 20555
Phone: 492-1780
FAX: 492-1672
Point of Contact:
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FAX:
Alternate:

Dr. Charles Hess
Assistant Secretary for Science and Education
Room 217W
U.S. Department of Agriculture
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Mr. Peter Allgeier
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Office of the United States Trade Representative
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Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03d. Minutes	Re: FCCSET Committee on International Science, Engineering and Technology (CISET) Draft Summary Minutes (4 pp.)	10/25/90	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
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RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
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Freedom of Information Act - [5 U.S.C. 552(b)]

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(b)(9) Release would disclose geological or geophysical information

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
03e. Memo	To Dr. D. Allan Bromley Re: CISET Final Report on "The Implications of European Integration for Science and Technology" and Other Current Activities (4 pp.)	11/17/90	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
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S&T SEED II Projects

Attachment 2

Statistics

Duration of projects:		
	less than 1 year	6
	up to 1 year	13
	1 - 2 years	12
	2 - 3 years	12
	3 - 4 years	1
	4 - 5 years	3
		47

1 year or less projects = 40%+
2 years or less projects = 66%+
3 years of less projects = 91%+

Cost of Projects

	Number	Percent
Up to $50,000	13	27% +
$50 - 100,000	7	42% + $100,000 or less
$100 - 300,000	12	68% $300,000 or less
$300 - 500,000	6	
$500 - $1 million	3	
$1 - 2 million	2	
Over $2 million*	2	
	45**	

*Two big ticket items: Energy assessments - $9 million +
Health training - $3.5 million

**Between $100,000 and $1.375 million - health libraries upgrade
Between $100,000 and $1.6 million - post-Chernobyl assessment

Themes

Library upgrades, computer linkages
Medical university upgrade
Community involvement in health care enhancement
Drug abuse
Medical and lab equipment upgrades
Energy data collection & assessments
Energy efficiency
Industrial energy use
Safe nuclear power
Mining
Conservation and environmental protection
Management training and services
- medical & health; transportation; industry energy use; fishing industry; environmental protection

Cross-disciplinary topics
- health-environment; environment-tourism; geologic science-environmental pollution; energy-environment

2585D

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

December 11, 1990

MEMORANDUM FOR HONORABLE REGINALD BARTHOLOMEW, CHAIRMEN
COMMITTEE ON INTERNATIONAL SCIENCE,
ENGINEERING AND TECHNOLOGY

FROM: **D. ALLAN BROMLEY, CHAIRMAN**

SUBJECT: **CHARTER FOR COMMITTEE**

It is my pleasure to forward to you the signed charter for the Committee on International Science, Engineering, and Technology. On behalf of the Full FCCSET, let me thank you and the Vice-Chairmen for your hard work and dedication to assisting in further coordination of Federal R&D activities.

The signed charter reflects both your recommendations and revisions based upon final review by the Council. It should be considered an internal working document to guide the Committee in the deliberative process of providing recommendations to the FCCSET. Feel free to contact me or Maryanne Bach, Executive Director of FCCSET, for any clarification you may desire.

Again, thank you for your enthusiastic support for and continued participation in the FCCSET process.

Attachment

Internal Document

CHARTER

COMMITTEE ON INTERNATIONAL, SCIENCE, ENGINEERING AND TECHNOLOGY of the Federal Coordinating Council on Science, Engineering, and Technology

The Committee on International Science, Engineering and Technology (CISET) is hereby established by action of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET). It serves as a part of the internal deliberative process of the FCCSET, which provides overall guidance and direction. The Council shall serve as the forum for developing consensus and resolving issues raised in the Committee process.

Purpose

The purpose of the Committee on International Science, Engineering and Technology is to advise and assist FCCSET to increase the overall effectiveness and productivity of Federal efforts in international science, engineering and technology affecting two or more Federal agencies. The Committee will address significant international policy matters which cut across agency boundaries and shall provide a formal mechanism for interagency policy review, planning, coordination as well as exchanges of information regarding international science, engineering and technology.

Functions

Reporting to and under the direction of the Chairman of FCCSET, the CISET will:

- o provide review and advise on Federal programs and issues in international science, engineering and technology including technical assistance.
- o facilitate planning, coordination, and communication among Federal agencies engaged in international science, engineering and technology;
- o review and advise on U.S. programs, policies and positions concerning science, engineering and technology in multilateral organizations;
- o identify and recommend options for Federal priorities and plans in international science, engineering and technology;

Structure

The Chairman of the FCCSET appoints the Chairman of the Committee on International Science, Engineering and Technology.

Responsibilities of the Chairman:

- o hold regular meetings of the Committee (no fewer than four per year) and approve agendas;
- o submit an annual report, approved by the Committee, to the Chairman of the FCCSET for review by the full Council;
- o appoint with consultation of the FCCSET Committee Chairman (and as necessary, abolish) subcommittees, task forces and working groups as necessary to achieve the Committee's purpose;
- o meet regularly (bimonthly) with the Chairman of the FCCSET and other Committee chairmen to evaluate progress, discuss policy coordination, receive new instructions from the FCCSET and report on ongoing activities.

The following departments and agencies are represented on this Committee, normally at the Assistant Secretary level or above.

Department of State, Chair
Department of Defense
Department of the Interior
Department of Agriculture
Department of Commerce
Department of Health and Human Services, NIH, Vice Chair
Department of Housing and Urban Development
Department of Transportation
Department of Energy
Department of Education
Office of Management and Budget
U.S. Trade Representative
Nuclear Regulatory Commission
Agency for International Development
Office of Science and Technology Policy
National Aeronautics and Space Administration
Environmental Protection Agency
National Science Foundation, Vice Chair

Terms of Reference (ToR), shall be developed by the Committee Chairman, in consultation with the Committee, for all subcommittees, task forces and working groups dealing with significant and complex questions. The Terms of Reference shall identify and bound the issues to be addressed, specify the desired products and delivery times to the Committee, and be forwarded to the FCCSET Directorate for FCCSET final review, coordination with other ongoing activities and approval. All documents are considered internal unless otherwise approved by FCCSET for publication. Membership on subcommittees, task forces, and working groups is not restricted to Committee members but must be full-time federal government employees.

Committee activities shall be coordinated by an Executive Secretary, designated by the Committee Chairman. Additional staff and funding assistance, consistent with the functions of this charter are the joint responsibility of the Committee members to the extent that funds are available from within their existing appropriations.

Private Sector Interface

The Committee shall recommend to the Chairman of the FCCSET the nature of private sector advice needed to accomplish its mission.

The Chairman of the FCCSET shall take necessary steps to ensure appropriate interaction between the President's Council of Advisors on Science and Technology (PCAST) and the FCCSET.

The Committee may also receive ad hoc advice from various private sector groups as consistent with the Federal Advisory Committee Act.

Compensation

All members are full-time Federal employees who are allowed reimbursement for travel expenses by their agencies plus per diem or subsistence while away from their duty stations and in accordance with standard government travel regulations.

Documentation

Agendas and records of actions of Committee meetings are prepared and disseminated to members by the Executive Secretary. Records of actions are submitted to members for approval, and minutes are distributed to all members of the Committee, and to the Executive Director of FCCSET. Complete records of all Committee activities, including those of task forces and working groups are maintained in the office of the Chairman. The Committee prepares an annual report for the Chairman of the FCCSET not later

than 60 days after the end of each fiscal year. The report contains, as a minimum, the Committee's functions; a list of members; a list of subcommittees, task forces and working groups and their Terms of Reference; the dates, places and agendas for all meetings; and a summary of the Committee's activities, accomplishments and recommendations during the year.

Termination Date

Unless renewed by the Chairman of FCCSET prior to its expiration, the Committee on International Science, Engineering and Technology shall terminate not later than October 1, 1991.

Determination

I hereby determine that the formation of the Committee on International Science, Engineering and Technology is in the public interest in connection with the performance of duties imposed on the Executive Branch by law and that such duties can best be performed through the advice and counsel of such a group.

Approved :

Chairman, FCCSET

Dec 11, 1990
Date

Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
04. Memo	Working Group on Intellectual Property Rights (IPR) to Committee on International Science, Engineering and Technology (CISET) Re: An Alternative Intellectual Property Allocation Provision for Use with Institutions of the European Community and Member Sta (2 pp.)	2/25/91	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
Re-review Case #:		**Appeal Disposition:**	
P-2/P-5 Review Case #:		**Disposition Date:**	
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Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
05. Report	Re: An Alternative Intellectual Property Allocation Provision for Use with Institutions of the European Community and Member States (2 pp.)	n.d.	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
FOIA/SYS Case #:	2005-0336-F	**Appeal Case #:**	
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Withdrawal/Redaction Sheet
(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
06. Attachment	Re: Joint Management Allocation Provision (1 pp.)	n.d.	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
File Location: Science & Technology [2]

Date Closed:	1/6/2010	**OA/ID Number:**	04296-002
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Withdrawal/Redaction Sheet
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Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
07. Attachment	Re: Standard IPR Annex (3 pp.)	n.d.	(b)(1)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Policy Council (EPC)
Series: Wethington, Olin, Files
Subseries: Subject Files
WHORM Cat.:
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