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THE WHITE HOUSE

WASHINGTON

February 3, 1990

MEMORANDUM FOR DAVID Q. BATES

FROM: KENNETH P. YALE KY

SUBJECT: Federal Coordinating Council on Science, Engineering and Technology (FCCSET)

BOTTOM LINE: The Office of Science and Technology Policy is revitalizing their FCCSET organization. Unless we have full coordination with OSTP staff, FCCSET could duplicate existing processes in the Cabinet Councils and create confusion.

BACKGROUND: A FCCSET meeting was held on January 24, 1990 to discuss: 1) the structure and function of FCCSET, 2) the structure of FCCSET Committees, and 3) financing and support personnel for FCCSET (see attached briefing book).

An elaborate FCCSET structure was envisioned, basically a scientific Cabinet Council, chaired by Dr. Bromley. It would have interagency committees with representatives at the assistant secretary level or above. Although there was some mention of taking issues to the appropriate Cabinet Councils for review, it was also stated that the FCCSET would resolve science and technology policy issues.

Unless there is very close coordination with DPC and EPC, FCCSET could encourage forum shopping and circumvent the DPC and EPC processes. Instead of career level scientists preparing background reports on science issues and acting as a clearinghouse for information (eg., the CES), it appears the proposed FCCSET formulation could consist of political level people (ie. Assistant Secretary) developing policy -- a very different function. You will recall that the original DPC and EPC charters stated they would formulate, coordinate and implement policy and "serve as the primary channels for advising the President on policy."

RECOMMENDATION: We should be actively involved in the development and operations of FCCEST, to avoid forum shopping and confusing signals to the agencies. The value of FCCSET committees composed of knowledgeable, career level scientists -- developing reports and acting as information clearinghouses for agencies and DPC/EPC working groups -- should be emphasized. Regular meetings between OSTP Associate Directors and Cabinet Council Executive Secretaries would be appropriate.

THE WHITE HOUSE

WASHINGTON

February 5, 1990

MEMORANDUM FOR D. ALLAN BROMLEY

FROM: DAVID Q. BATES

SUBJECT: Federal Coordinating Council on Science, Engineering and Technology

Thank you for including us in the development of your Federal Coordinating Council on Science, Engineering and Technology (FCCSET). I am responding to the request for comments on the FCCSET structure. You may contact Ken Yale for more specific comments and recommendations.

We would like to work closely with you as your FCCSET committees get up and running. The scientific expertise which your Committee on Earth Sciences brings to the DPC Global Change Working Group has been very beneficial. There is much value in assembling scientific staff from the agencies to investigate the underpinnings of the issues faced by the Administration.

My staff and I look forward to working with you as your FCCSET Committees develop. Our Cabinet Councils and associated working groups are at your service. You may find them a valuable resource as the FCCSET Committees develop reports and background papers.

As the "primary channels to advise the President on policy" -- and without agency, statutory or advisory status -- both the DPC and EPC are fully protected by executive privilege. As a result, they are not subject to many of the statutory restrictions that make it difficult for political appointees to have a full and frank discussion. Thus, you may want to consider close coordination with the DPC and EPC in order to develop a process for full and adequate vetting of issues that are Presidential in nature or require Presidential or Cabinet attention or decisions.

Again, I thank you for allowing us to participate. Should you have any questions, do feel free to contact myself, or the Executive Secretaries of the Councils: Lehmann Li and Ken Yale.

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

February 12, 1990

Dear David:

As you know, on January 24 I chaired the first meeting of the Federal Coordinating Council for Science, Engineering and Technology. I was pleased to have Ken Yale from your staff there to represent the Office of Cabinet Affairs. I believe that we are off to a good start on putting together a clearly much-needed structure to address and coordinate cross-cutting science and technology issues within the Administration. I would like to take this opportunity to fill you in on the outcome of our meeting and to extend a personal invitation to you to participate in succeeding meetings. I would greatly appreciate your support and input in these initial months as we develop the charter, committee structure, and staffing arrangements.

Several issues were raised during the course of our discussion on the 24th, some of which are fairly easy to resolve while others will require the careful consideration of all FCCSET members. First, I think there was a general consensus that we need to define in more detail the functions and activities of the FCCSET. There were concerns expressed, for example, about the FCCSET's role vis-a-vis the President's Council of Advisors on Science and Technology (PCAST), the types of issues the FCCSET would address, FCCSET's role in the budget process, possible duplication of the functions of other policy coordinating bodies such as the Domestic Policy Council and the Economic Policy Council, frequency of meetings, etc.

In general terms, we have agreed that the future success of FCCSET and of its committees depends crucially upon the participation of very senior policy level representatives of the member agencies both in the FCCSET and in its committees.

We have also agreed that inasmuch as I chair both FCCSET and PCAST, I shall accept the responsibility for insuring communication between the private sector PCAST panels and the FCCSET committees and working groups that may be established to consider parallel issues.

You will find attached a draft charter for the FCCSET which I believe addresses these and other issues concerning the role, structure and functions of the FCCSET. I request that you give this draft careful consideration and let me know your thoughts on how it might be modified or improved.

Second, at our meeting on the 24th, we discussed possible changes in the list of FCCSET committees. There was general consensus that we should keep the number of committees down but no agreement on how to accomplish that objective. There are, I think you would agree, two types of committees. First, there are those that are designed to oversee functional areas of R&D, such as health and life sciences or mathematical and physical sciences. These committees would be responsible for coordinating cross-cutting activities within their field of responsibility and reporting on emerging issues and policy concerns. (I have attached a draft sample charter for this type of committee.)

There are also those committees that are designed to address cross-cutting concerns that affect the scientific well-being of this country but go beyond the confines of any one functional area. They have a policy focus or enabling character that cuts across all of the functional areas. Examples are: education, industrial technology, and international science and technology.

Each of these two types of committees has validity within the FCCSET structure and I would suggest that we find a way to keep both when needed. I have attached a revised committee structure which incorporates many of the suggestions from our meeting. In addition, I have suggested some cross-cutting issues that may be included in the mandate of these committees. I encourage you to review this suggested structure in detail and let me know whether or not it meets the needs of your agency.

I am also interested in your ideas on critical cross-cutting issues which require FCCSET attention and your suggestions as to which committee they might be assigned. I encourage you to be as creative as possible and not necessarily restrained by the committee structure suggested, because, it is by the development of a variety of cross-cutting issues, that we will be able to test the validity of the suggested framework.

A third issue coming out of our meeting on the 24th was the need for a FCCSET executive secretariat. I am in the process of developing a list of candidates to serve in this capacity. I am inclined to identify one senior, and one mid-level professional staff person, together with support staff, to serve in the executive secretariat to the FCCSET. The executive secretariat would be responsible for coordinating our activities as well as overseeing the FCCSET committee structure. I would be interested in any thoughts you have on this structure as well as any candidates you believe merit consideration. One of the first tasks I will assign the executive

secretariat is to work with the Department of Education to develop the necessary language to amend PL 94-282 to incorporate the Department of Education as a permanent member of the FCCSET.

I am anxious to move rapidly on all of these issues. As you know, there are a number of urgent concerns that require FCCSET attention, and I would like us to get to work on these posthaste. Therefore, I have asked my staff to try to arrange the next meeting of the FCCSET as soon as possible. They will be contacting your office to find a mutually convenient time. I hope that during the course of the meeting we can reach agreement on the charter and the committee structure. I want to try and have the executive secretariat established by that time. Therefore, if you have candidates in mind for these positions, please let me know by February 14 so that I can give them fair consideration.

Again, let me thank you for your continued support, and I look forward to seeing you at our next meeting.

Sincerely yours,

Allan

D. Allan Bromley
Director

Attachments:

| | |
|---|---|
| Tab A | Draft FCCSET Charter |
| Tab B | Suggested Committee Structure |
| Tab C | Sample FCCSET Committee Charter |
| Tab D | FCCSET Membership List |
| Tab E | Attendees at January 24 FCCSET Meeting |

The Honorable David Q. Bates, Jr.
Assistant to the President
and Secretary to the Cabinet
The White House
Washington, D.C. 20500

cc: Kenneth P. Yale

February 6, 1990

# DRAFT CHARTER

## Federal Coordinating Council For Science, Engineering and Technology

### LEGISLATIVE MANDATE

The Federal Coordinating Council for Science Engineering and Technology (FCCSET) was established in 1976 pursuant to Public Law 94-282, Title V of the "National Science and Technology Policy Organization and Priorities Act of 1976" to consider cross-cutting science, engineering and technology issues. the law states that:

> "The Council shall consider problems and developments in the fields of science, engineering, and technology and related activities affecting more than one Federal agency, and shall recommend policies and other measures designed to:
>
> (1) provide more effective planning and administration of Federal scientific, engineering, and technological programs,
>
> (2) identify research needs including areas requiring additional emphasis,
>
> (3) achieve more effective utilization of the scientific, engineering, and technological resources and facilities of Federal agencies, including the elimination of unwarranted duplication, and
>
> (4) further international cooperation in science, engineering, and technology."

### OBJECTIVES

In fulfilling this mandate, the FCCSET's two major objectives are:

- to provide authoritative scientific and technological expertise and advice to policy discussions and decisions to other cabinet-level councils including the National Security Council, the Economic Policy Council, the Domestic Policy Council, the Space Council and the Competitiveness Council.

- to coordinate science and technology efforts affecting more than one Federal agency and surface and resolve S&T policy issues.

FUNCTIONS

To accomplish these two objectives the FCCSET will:

- serve as a central coordinating forum for addressing problems and issues affecting more than one Federal agency, sharing information, reviewing national and international policy objectives and developing consensus;

- identify priority research and development needs;

- facilitate continuing cooperation in planning coordination and communication among Federal agencies on science and technology issues;

- issue reports, studies and assessments of current S&T capabilities in fields of research and development of concern to the Administration;

- provide reviews, analyses, advice and recommendations on science and technology matters to other policy coordinating bodies within the White House including the National Security Council, the Economic Policy Council, the Domestic Policy Council, the Space Council, and the Competitiveness Council;

- seek to inform other policy making bodies of reviews, studies and analyses underway, and coordinate activities so as not to duplicate functions with these bodies;

- identify science and technology issues and concerns of importance to the nation and bring policy recommendations to the attention of the President through appropriate policy bodies;

- with the close cooperation of the Office of Management and Budget, develop, and review annual and long-range Federal budget plans in selected cross-cutting areas of science and technology;

- improve planning, coordination and communication among Federal agencies engaged in science and technology.

ADMINISTRATIVE PROVISIONS

To accomplish these functions the FCCSET is authorized to:

- o detail employees to the Council to perform such functions, consistent with the purposes of the FCCSET, as the Chairman may assign to them;
- o establish committees for the purposes of conducting studies, making reports, coordinating Federal science and technology activities that involve more than one Federal agency, and making recommendations to the FCCSET;
- o develop, and review on an annual basis, charters for committees, and assign high priority agenda items as necessary;
- o Council meetings shall be called by the Chairman as deemed appropriate and each agency member shall attend at a senior policy level;
- o Council proceedings, studies, and reports, either preliminary or final, shall be printed and distributed only with the Chairman's authorization.

MEMBERSHIP

The Council shall be chaired by of the Director of the Office of Science and Technology Policy and shall be composed of one policy level representative of each of the following Federal Agencies:

Department of Agriculture
Department of Commerce
Department of Defense
Department of Energy
Department of Health and Human Services
Department of Housing and Urban Development
Department of the Interior
Department of State
Department of Transportation
Department of Veteran's Administration
National Aeronautics and Space Administration
National Science Foundation
Environmental Protection Agency

Other Agencies may be requested to participate in meetings of the Council concerned with matters of substantial interest to such agency.

Treasury, Education

DETERMINATION

I hereby approve and adopt this Charter which is determined to be consistent with PL 94-282 which establishes the FCCSET.

Approved:

_____ _____

D. Allan Bromley
Chairman, Federal Coordinating
Council for Science, Engineering
and Technology

Date

FEDERAL COORDINATING COUNCIL
FOR SCIENCE, ENGINEERING AND TECHNOLOGY

SUGGESTED COMMITTEE STRUCTURE
WITH CROSS-CUTTING/SUBSIDIARY ISSUES

Committees:

**Health and Life Sciences**

**Physical, Mathematical and Engineering Sciences**

**Earth and Environmental Sciences**

**Food Agriculture and Forestry Research***

**Education and Human Resources**

**Technology and Industry**

~~**International Science, Engineering and Technology**~~

Sample Cross-cutting/Subsidiary Issues:

Bioethics
Biotechnology
Global Change
High Performance Computing
Human Genome Research
Intellectual Property Rights
Manufacturing
Materials
Math and Science Education
S&T Initatives in Eastern Europe
S&T Information Collection, Utilization and Dissemination
Social and Behavioral Sciences
Technology Transfer

*Established by PL 94-282; legislative relief required if abolished or merged

February 6, 1990

DRAFT
SAMPLE FCCSET COMMITTEE CHARTER

The Committee on _____ is hereby established by action of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET). FCCSET derives its authority from PL 94-282.

Purpose

The purpose of the Committee on _____ is to increase the overall effectiveness and productivity of Federal R&D efforts in [fields related to the committee's jurisdiction]. The Committee will address significant national policy matters which cut across agency boundaries and shall provide a formal mechanism for interagency science policy coordination and exchanges of information regarding the scientific aspects of [field of jurisdiction].

Functions

The Committee on _____ will:

- review national and international Federal R&D programs, including budgets, in [the field of committee jurisdiction];
- facilitate planning, coordination, and communication among Federal agencies engaged in [the field of committee jurisdiction];
- identify and define Federal R&D needs in [the field of committee jurisdiction];
- develop and update long-range plans, including funding levels, for overall Federal R&D efforts in [the field of committee jurisdiction];
- address specific programmatic and operational issues and problems which affect two or more Federal agencies;
- provide reviews, analyses, advice, and recommendations to the FCCSET on Federal policies and programs concerned with [the field of committee jurisdiction].

Structure

The Chairman of the Committee on _____ is appointed by the Chairman of the FCCSET.

Responsibilities of the Chairman:

- hold regular meetings of the Committee (no fewer than six per year) and approve agendas;
- submit an annual report to the Chairman of the FCCSET for review by the full Council;
- approve the establishment, continuation or termination of subcommittees, task forces and working groups as necessary to achieve the Committee's purpose;
- 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 at the Assistant Secretary level or above:

[All FCCSET members and any other agency or department not on the FCCSET but with S&T activities in the committee's field of jurisdiction].

Membership on subcommittees, task forces, and working groups is not restricted to Committee members and is established as the Committee Chairman may determine appropriate.

Committee activities will be coordinated by an Executive Secretary, designated by the Committee Chairman. Additional staff and funding assistance, consistent with the functions of this charter, will be provided by member agencies as required by the Committee chairman.

Private Sector Interface

The Committee will recommend to the Chairman of the FCCSET the nature of private sector advice needed to accomplish its mission. The Chairman of the FCCSET will take necessary steps to ensure appropriate interaction between the President's Council of Advisors on Science and Technology (PCAST) and the Committee. The Committee may also seek ad hoc advice from various private sector groups as consistent with the Federal Advisory 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. 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 a 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 charters; the dates, places and agendas for all meetings; and a summary of the Committee's activities and recommendations during the year.

Termination Date

Unless renewed by the Chairman of FCCSET prior to its expiration, the Committee on _____ shall terminate not later than March 31, 1991.

Determination

I hereby determine that the formation of the Committee on _____ 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 Date

MEMBERSHIP LIST
**FEDERAL COORDINATING COUNCIL**
**FOR SCIENCE, ENGINEERING AND TECHNOLOGY**

Chairman

The Honorable D. Allan Bromley
Assistant to the President
for Science and Technology
and Director
Office of Science and Technology Policy
358 Old Executive Office Building
Washington, D.C. 20506

Members

The Honorable Manuel Lujan, Jr.
Secretary of the Interior
18th and C Streets, N.W.
Washington, D.C. 20240

The Honorable Clayton Yeutter
Secretary of Agriculture
12th Street and Jefferson Drive, S.W.
Washington, D.C. 20250

The Honorable Louis W. Sullivan
Secretary of Health and Human Services
200 Independence Avenue, S.W.
Washington, D.C. 20585

The Honorable Jack Kemp
Secretary of Housing and Urban Development
451 7th Street, S.W.
Washington, D.C. 20410

The Honorable James D. Watkins
Secretary of Energy
1000 Independence Avenue, S.W.
Washington, D.C. 20585

The Honorable Donald J. Atwood, Jr.
Deputy Secretary of Defense
The Pentagon
Washington, D.C. 20301

The Honorable William K. Reilly
Administrator
Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

The Honorable Richard H. Truly
Administrator
National Aeronautics and Space Administration
400 Maryland Avenue, S.W.
Washington, D.C. 20546

The Honorable Erich Bloch
Director
National Science Foundation
1800 G Street, N.W.
Washington, D.C. 20550

The Honorable Thomas J. Murrin
Deputy Secretary
Department of Commerce
14th and Constitution Avenue, N.W.
Washington, D.C. 20230

The Honorable Elaine Chao
Deputy Secretary
Department of Transportation
400 7th Street, S.W.
Washington, D.C. 20590

The Honorable Anthony J. Principi
Deputy Secretary
Department of Veterans Affairs
810 Vermont Avenue, N.W.
Washington, D.C. 20420

The Honorable Richard T. McCormack
Under Secretary for Economic Affairs
Department of State
2201 C Street, N.W.
Washington, D.C. 20520

Non-statutory Members

The Honorable Elizabeth Dole
Secretary of Labor
200 Constitution Avenue, N.W.
Washington, D.C. 20210

The Honorable Lauro F. Cavazos
Secretary of Education
400 Maryland Avenue, S.W.
Washington, D.C. 20202

Attendees
FCCSET Meeting
Wednesday, January 24, 1990

| Agency | Principal | Staff |
|---|---|---|
| HHS | Louis W. Sullivan | Dr. William E. Bennett<br>Special Assistant to<br>Secretary Sullivan |
| | | Dr. William F. Raub<br>Acting Director, NIH |
| DOE | James D. Watkins | Dr. James F. Decker<br>Acting Director<br>Office of Energy Research |
| DOEd | Lauro F. Cavazos | John T. (Ted) Sanders<br>Under Secretary |
| EPA | William K. Reilly | Erich Bretthauer<br>(Acting) Assistant<br>Administrator for R&D |
| DOC | Thomas J. Murrin | Deborah Wince-Smith<br>Assistant Secretary for<br>Technology Policy |
| VA | Anthony J. Principi | Richard J. Greene, M.D.<br>Assistant Chief Medical<br>Director for R&D |
| NASA | Richard H. Truly | Kenneth S. Pedersen<br>Associate Administrator<br>for External Relations |
| NSF | Erich Bloch | Dr. Luther Williams<br>Senior Science Adviser |
| DOS | Richard T. McCormack | Frederick M. Bernthal<br>Assistant Secretary<br>OES |

| | | |
|---|---|---|
| DOD | George P. Millburn | Craig I. Fields<br>Director, DARPA |
| DOA | Charles E. Hess | |
| HUD | | |
| DOI | Dallas L. Peck | Dr. Harlan L. Watson<br>Science Adviser to the<br>Secretary of the Interior |
| DOL | Jennifer Dorn<br>Assistant Secretary<br>for Policy | Mr. Gary Reed<br>Office Director, Office<br>of Program Economics |
| DOT | Travis P. Dungan<br>Administrator<br>Research and Special<br>Programs Administration | Joseph Canny<br>Deputy Assistant<br>Secretary for Policy |
| OMB | Robert Grady | |
| NSC | Eric D.K. Melby<br>Director for International Economic Affairs | |
| DPC | Ken Yale<br>Executive Secretary, DPC | |
| OSTP | Dr. J. Thomas Ratchford, Associate Director for Policy and International Affairs<br>Dr. Karl A. Erb, Assistant Director for Physical Sciences and Engineering<br>Ms. Sara Bowden<br>Dr. Mary Harley Kruter<br>Ms. Rachel Levinson | |

A16

# White House, Reversing Policy Under Pressure, Begins to Pick High-Tech Winners and Losers

By Bob Davis
*Staff Reporter of* The Wall Street Journal

WASHINGTON—While stoutly denying that it is in the business of picking technological winners and losers, the Bush administration is beginning to do just that.

The White House now is pushing technology programs in Congress that would subsidize makers of supercomputers, software and electric cars. It is also planning expensive new initiatives for the biotechnology and materials-processing industries, and selecting other commercial technologies for special attention.

"There's an industrial policy; it's just disguised," says Edward Miller, president of the National Center for Manufacturing Sciences, a manufacturing group in Ann Arbor, Mich.

Just 18 months ago, efforts to single out technologies for special favor were cause for dismissal in the Bush administration. The Pentagon last year fired technologist Craig Fields, while Deputy Commerce Secretary Thomas Murrin was squeezed out for pushing industrial-policy programs too forcefully. The administration also tried to kill research programs in next-generation television and semiconductors.

The change in the White House since then reflects pressure from business groups and Congress to increase funding for commercial technologies, and concern that the U.S. is losing trade battles with Japan and Europe. But it also reflects an attempt by White House officials to find a way to make investments in commercial research and development politically correct.

Technologies that require years of work before they can produce commercial products are all right for federal investment because they're too risky for industry, says Allan Bromley, the president's science adviser. But technologies that are ready for commercialization are taboo, he says, because the government would have to enter the market and "second-guess who's going to succeed or not."

## Faint Line

In practice, though, the line between what's acceptable ideologically and what isn't is faint, if not invisible. That vagueness allows the administration to stick to its free-market rhetoric, critics say, while starting to endorse some of the industrial-policy programs of its opponents. "The administration is schizophrenic on the whole issue," says Sen. Jeff Bingaman, a New Mexico Democrat who heads the Defense Industry and Technology subcommittee.

Robert White the Commerce Department's undersecretary of technology, who along with Mr. Bromley favors big increases in commercial technology, phrases it more delicately: "We're finding what the administration's philosophical position is, and what we can do within that approach."

**Picking Winners?**

Federal spending on selected high-technology projects

| PROGRAM | FISCAL YEAR 1991 (in millions) | FISCAL YEAR 1992 PROPOSAL (in millions) |
|---|---|---|
| **WINNERS** | | |
| Supercomputer network | $25 | $92 |
| Advanced Technology Program | 36 | 36 |
| High-speed trains | 12 | 24 |
| Electric vehicles | 30 | 42 |
| **LOSERS** | | |
| High-definition TV | $75 | $ 0 |
| X-ray lithography | 60 | 0 |
| ManTech (DOD manufacturing technology) | 311 | 96 |

For starters, the administration wants $92 million in the fiscal year beginning Oct. 1 to launch work on a supercomputer network originally championed by Democratic Sen. Albert Gore of Tenn. Administration officials compare the network to a highway—no industrial policy there. But they privately acknowledge that the network will subsidize such supercomputer makers as Cray Research Inc. and Thinking Machines Corp., whose machines will be at the heart of the network. "We're not against research that at the end of the day helps a broad range of companies," says a White House economic official.

The White House also is asking for $36 million for a Commerce Department program in advanced technology that was launched under the 1988 Omnibus Trade Act. The Commerce Department says the program funds only "pre-competitive, generic technologies"—the administration's favorite buzz words to describe politically correct R&D. But the program features projects in high-definition TV, semiconductors and manufacturing that are nearly identical to Pentagon projects the administration says cross the line into industrial policy and should be killed. (Congress is almost certain to restore funding for the Pentagon programs.)

"I go along with 'pre-competitive' and 'generic' because I've been told a program is dead-on-arrival if it mentions 'industrial policy,'" says Mr. Miller, whose group has won grants from the Commerce and Defense departments.

## Endless Subsidies

So far the amounts the administration has committed to new industrial-policy initiatives are small, and it has held fast on some prohibitions. It won't approve plans that call for low-interest loans for particular industries, say technology officials in and out of government, and it won't back plans to revive the consumer-electronics industry, fearing endless subsidies. But the rest is up for grabs.

Recently, the White House's science office put together a report naming 22 technologies as crucial for economic prosperity—a clear example of trying to pick technological winners. Michael Boskin, chairman of the Council of Economic Advisers, and Budget Chief Richard Darman tried to distance the White House from the study, administration officials say, by adding a sentence disclaiming White House responsibility for the report.

Early in the administration, that single sentence would have been a kiss of death. But with the easing of ideological pressures, Mr. Bromley and Commerce's Mr. White say they still plan to use the report to decide how best to allocate federal research funds.

In addition, Mr. Bromley says—and White House economic officials confirm—that he has won Mr. Darman's approval to map out costly new programs to aid the

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biotechnology and the materials-processing industries. If finally adopted, the administration will highlight these projects in the budget for the year beginning Oct. 1, 1992, says Mr. Bromley.

**Big Role**

Mr. Bromley, a former Yale nuclear physicist who is a friend of the president, has played a big role in shifting the administration's attitude toward commercial technology. He formulated the policy of favoring "pre-competitive, generic technology" that guides the administration's technology investments, and has put together interagency groups to find areas that need funding.

He also has often been able to recruit Mr. Darman, a long-time technology buff, as an ally. The budget chief is a big booster of plans in the fiscal 1992 budget, for instance, for improving batteries used in electric cars and for researching the practicality of magnetically levitated trains. "Bromley has legitimized the debate" over commercial R&D, says Erich Bloch, who headed the National Science Foundation under Presidents Reagan and Bush.

Research groups already want to cash in on the new White House attitude. Sematech, a semiconductor-manufacturing consortium in Austin, Texas, that once promised it wouldn't seek federal funds after fiscal 1992, now says it will seek $100 million a year indefinitely. The National Advisory Committee on Semiconductors, a federal semiconductor panel once ignored by the administration, convinced Mr. Bromley's office to co-sponsor a conference to draw up plans for another costly semiconductor project.

Robert Costello, the Pentagon's acquisition chief under President Reagan, says Commerce and Defense department officials are even helping him devise a plan to transform the Commerce Department into the Department of Science, Industry and Trade. He sees the new department as a hotbed of industrial policy—it would plot technology strategy, fund commercial research projects and force the government to buy high-tech products the department backs—but his allies want him to tone down the rhetoric. "They want me to go to the White House and see if I get my head chopped off," Mr. Costello says.

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**UNITED STATES DEPARTMENT OF COMMERCE**
The Assistant Secretary for Technology Policy
Washington, D.C. 20230

May 22, 1991

MEMORANDUM FOR: Olin Wethington
Executive Secretary
Economic Policy Council

FROM: Deborah L. Wince-Smith
Assistant Secretary for
Technology Policy

SUBJECT: R&D Issues in the GATT Procurement and Subsidies Code Negotiations: Concerns Expressed by R&D Community at April 2 Meeting of Interagency Committee on Federal Laboratory Technology Transfer

At its April 2, 1991 meeting, the Interagency Committee on Federal Laboratory Technology Transfer, which I chair, received briefings on several aspects of the GATT Procurement and Subsidies Code negotiations which involve government R&D programs. You then asked our Committee to prepare written comments summarizing the concerns expressed by agency representatives with these issues.

The attached document was prepared by the Committee pursuant to your request. The document consists of a summary of the Committee's concerns, followed by a more detailed statement of the issues posed by the negotiations, their projected impact on agency programs and some specific concerns expressed by the Committee members. Because of the seriousness of these concerns, many agencies are also preparing individual statements. We are forwarding to you copies of communications already received from the Departments of Agriculture and of Health and Human Services and of the Interior, the Small Business Administration and the Department of the Air Force. (For your information, I have also attached a list of the Committee's members.) I am also forwarding to you a copy of comments received from the International Trade Administration of the Department of Commerce on the Committee's discussion of GATT Subsidies Code issues.

Our Committee stands ready to help in this assessment in whatever way is appropriate.

**Summary of Concerns Expressed by the R&D Agencies**

U.S. Federal R&D Expenditures Provide an Important Source of U.S. Competitive Strength

- For many years the United States Federal government has invested large amounts in research in a broad range of areas. (The President's Budget for FY 92 proposes allocating $72 billion for R&D.)

- While some other countries spend a higher percentage of GNP on R&D, the U.S. expenditure is larger than any other country's and larger than the combined expenditures of Japan, West Germany, France and the United Kingdom.

- In the past ten years, the Reagan and Bush Administrations have successfully strengthened laws and policies encouraging private sector development of commercial applications for Federal R&D.

- Many states are also focusing their economic development efforts on research and development with programs of aid and assistance designed to strengthen local commercial technology bases.

The Proposed Changes in the GATT Code Are Likely to Impair U.S. Ability to Harness Federal R&D Expenditures as a Source of Competitive Strength

Subsidies Code

The Issue

- The question facing the U.S. is whether to agree to amend the Subsidies Code, which presently imposes no restrictions on the government research and development programs, to define the types of government research and development programs that are permissible under the Code.

- This definition would require either that:

  - the results of the research and development "may be used without fee or restriction and are promptly made available to the public ... at not more than half-yearly intervals during the course of the research" or

  - the assistance be limited to not more than 20% of the costs of "basic industrial research" or 10% of "applied research and development".

- If these requirements were not met, the enterprise benefitting from the research and development would risk challenge to its products by foreign governments under the Code.

Impact on U.S. Research and Development Programs

- A large portion of the research and development programs in the Administration's $72 billion annual research and development effort would fail to meet the proposed test.
- Most of these programs seek to encourage private sector commercialization of Federal research results by authorizing the transfer of exclusive rights to the intellectual property and related technical data to private parties, who are then able to develop commercial applications for the government work.
- The scope of the programs affected is indicated by Attachment A, which summarizes the Federal research and development activities proposed by the President's budget for FY 1992.
- Specific Examples of Agency Programs Affected:
  - The Department of Agriculture has approximately 125 active Cooperative Research and Development Agreements under the Federal Technology Transfer Act with approximately 100 different companies, many of which have strong international operations which would open them to challenges under the Code.
  - The Department of Energy has programs in a variety of areas that may be affected:
    - Four examples relate to research related to the securing of future energy supplies (total FY 1992 budget of $1.8 billion):
      - The Clean Coal Technology program features demonstration facilities cofunded with industry on innovative methods of burning coal. A total FY 1992 appropriation of $315 million is requested.
      - Nuclear power projects include making commercially standardized Advanced Light Water Reactors ($62.5 million for FY 1992), certification of an Advanced Liquid Metal Reactor ($49.5 million), and developing power systems for space applications ($56 million).
      - Renewable energy projects, such as solar technologies (including photovoltaics, solar thermal, biofuels and wind energy systems), for which $143 million is sought in FY 1992.

  - The demonstration program for the Uranium-Atomic Vapor Laser Isotope Separation (U-AVLIS) process ($214 million) and other uranium enrichment programs.

  - Environmental quality programs, involving applied research and development and demonstration projects, for which a total of $4,689 million is being requested for FY 1992.

- While the Department of Defense has not yet completed a full assessment of the impact of this proposal, its representatives have noted some serious concerns with the proposal, especially as they relate to programs such as those operated by the Army Corps of Engineers and the Strategic Defense Initiatives Office. While an effort is apparently being made to exclude defense-related research and development from scrutiny under the Code, an increasing amount of the more than $35 billion in DoD research is not classified and relates to so-called "dual use" technologies, capable of both military and commercial applications. The fact that such work is paid for by DoD may not protect it from challenge under the Code.

- The Public Health Service of the Department of Health and Human Services estimates that it will have entered into 380 patent licensing agreements by the end of FY 1991, many of which are with pharmaceutical manufacturers who do business worldwide and are thus exposed to potential actions by foreign governments under a revised Subsidies Code. In addition, the Public Health Service has 150 active Cooperative Research and Development Agreements (and 40 more under negotiation) and the exclusive transfer of intellectual property rights to the private participants in these agreements could be subject to challenge under the Code.

- Finally, the proposal is likely to have an adverse impact on U.S. states. Many states have economic development programs designed to encourage growth of local technology bases through support for research and development which may be affected. In addition, many of the 1,275 patents held by state universities and licensed to others are the results of Federal or state funded research and would also be subject to challenge under the Code.

Procurement Code

The Issue

- The United States is considering whether to include government research and development contracts as service contracts subject to the procedures of the Government Procurement Code.

- If such contracts are included, the United States and other signatories would be obligated to give equal treatment to domestic firms (U.S. owned firms and foreign owned firms operating in U.S.) and foreign owned firms operating entirely outside the U.S. for these contracts and to follow procurement procedures prescribed by the Code in procuring government research and development from third parties. Some foreign owned entities operating entirely outside the U.S. are owned or supported by foreign governments. U.S. R&D contracts could then support foreign governments' industrial policy projects.

- Any domestic laws or policies inconsistent with this standard of equal treatment would have to be eliminated.

Impact on U.S. Research and Development Programs

- The Committee estimates that the Federal government spent approximately $17 billion for extramural research in FY 1990 (excluding work done by the Department of Defense and the defense-related work of the Department of Energy).

- These contracts are, for the most part, awarded to domestic companies, who also receive the right to develop the commercial uses of the intellectual property and technical data generated by their work.

- Including R&D contracts in the GATT Procurement Code is likely to reduce or eliminate this important instrument for encouraging U.S. industrial competitiveness.

**Comments of Interagency Committee on Federal Laboratory Technology Transfer on GATT Proposals Involving Government Research and Development**

GATT Issues and Their Impact on Government Research and Development Programs

Issues involving government research and development programs have been raised in both the Government Procurement Code and Subsidies Code negotiations in this round of GATT talks.

Subsidies Code

The Issue

The United States is considering whether to agree to a proposal to define, for the first time, the types government research and development programs acceptable under the Subsidies Code. While the signatories have previously stated that "domestic subsidies", including government research and development programs, should not be used to "distort" international trade flows, the Code has explicitly imposed no restrictions on the use of such subsidies and only the United States, in the enforcement of its own countervailing duty laws (which it contends are consistent with the Subsidies Code), has challenged government research and development programs as impermissible subsidies.

The proposal now under consideration would define the types of government research and development programs that would be permissible under the Code. Although this proposal would not explicitly define what programs are not permissible, its definition of what conduct was permissible would appear to make all other programs subject to challenge.

The proposed definition of permissible government research and development programs requires either:

- that the results of the research and development "may be used without fee or restriction and are promptly made available to public . . . at not more than half-yearly intervals during the course of the research" or

- that the assistance be limited to not more than 20% of the costs of "basic industrial research or 10% of "applied research and development".

Impact on U.S. Research and Development Programs

A large portion of the research and development programs in the Administration's $72 billion annual research and development effort would fail to meet the proposed test. Pursuant to the technology transfer and commercialization policies adopted by the Bush and Reagan administrations in the past ten years, most of these programs seek to encourage private sector commercialization of Federal research results by authorizing the transfer of exclusive rights to the intellectual property and related technical data to private parties, who are then able to develop commercial applications for the government work. The scope of the programs affected is indicated by Attachment A, which summarizes the Federal research and development activities proposed by the President's budget for FY 1992.

The potential impact of the proposed definition is indicated by preliminary information received from several agencies. For example, the Department of Agriculture has approximately 125 active Cooperative Research and Development Agreements under the Federal Technology Transfer Act with approximately 100 different companies, many of which have strong international operations which would open them to challenges under the Code.

The Department of Energy operates a variety of research and development programs that would also be impacted by the proposed definition. Its Clean Coal Technology program, which is intended to introduce new methods of burning coal, involves demonstration projects cofunded with the private sector. A FY 1992 appropriation of $315 million is sought for that program. Similarly, Energy is involved in cooperative research with the Department of Agriculture on the development of energy crops for ethanol and methanol to reduce oil consumption. In the nuclear power area, Energy is seeking $431 million for FY 1992 for projects such as the production of a commercially standardized Advanced Light Water Reactor, certification of an Advanced Liquid Metal Reactor and developing power systems for space applications. Other research projects involve renewable energy (e.g., solar technologies, with a budget request of $143 million), uranium enrichment (e.g., the Uranium-Atomic Vapor Laser Isotope Separation (U-AVLIS) process program, with a budget request of $214 million) and environmental quality research and demonstration projects (with a total budget request of $4,689 million).

The Department of Defense has not yet completed a full assessment of the impact of this proposal on its programs. However, representatives of that Department have noted some serious concerns with the proposal. While an effort is apparently being made to exclude defense-related research and development from scrutiny under the Code, an increasing amount of the more than $35 billion in DoD research is not classified and

relates to so-called "dual use" technologies, that are capable of both military and commercial applications. In these circumstances, the fact that the work is paid for by DoD may not be enough to establish that it is defense-related and protected from challenge under the Code. Particular concerns were expressed for Defense programs run by the Army Corps of Engineers and the Strategic Defense Initiatives Office.

The Public Health Service of the Department of Health and Human Services estimates that it will have entered into 380 patent licensing agreements by the end of FY 1991, many of which are with pharmaceutical manufacturers who do business worldwide and are thus exposed to potential actions by foreign governments under a revised Subsidies Code. In addition, the Public Health Service has 150 active Cooperative Research and Development Agreements (and 40 more under negotiation) with private sector entities under the Federal Technology Transfer Act and the exclusive transfer of intellectual property rights to the private participants in these agreements could be subject to challenge under the Code.

Finally, the proposal is likely to have an adverse impact at the state level. Many states have economic development programs designed to encourage growth of local technology bases through support for research and development. These programs would be subject to challenge under the proposed test. Because many of the patents held by state universities are the results of Federal or state funded research, the more than 1,275 patents held by universities and licensed to others (as reported by the Association of University Technology Managers) would also be subject to challenge under the Code.

Agency Concerns with Proposal

U.S. Federal research and development expenditures provide an important source of U.S. competitive strength and the proposed changes in the GATT Code are likely to impair U.S. ability to harness those expenditures. The President's Budget for FY 92 proposes allocating $72 billion for research and development, including significant increases for many important research programs. (See Attachment A) While some other countries spend a higher percentage of GNP on R&D, the U.S. expenditure is larger than any other countries and larger than the combined expenditure of Japan, West Germany, France and the United Kingdom. These expenditures cover both basic and applied research and relate to virtually every significant area of economic activity in the U.S.

In the past ten years, the Reagan and Bush Administrations have successfully strengthened laws and policies encouraging private sector development of commercial applications for Federal R&D. Many states are also focusing their economic development efforts on science and technology with programs of aid and

assistance designed to strengthen local commercial technology bases.

The proposal to clarify exactly what types of government R&D are permissible and, by inference, what types are not, would expose the Administration's technology transfer and commercialization programs to challenge under the GATT Subsidies Code. For example, where a private party is licensed under a Government patent resulting from Federal research work, many months may be required before the confidential patent application results in the issuance of a patent. While the issuance of the patent would arguably make the results available publicly, it is unlikely this could be done quickly enough to satisfy the proposed standard.

Equally important, by encouraging the placing of research results in the public domain, the proposed GATT test diminishes, if not destroys, the economic value of the results of the Federal research and development programs. In bringing new products to market, the largest investment is not the basic research coming from the Federal program but the investment in prototype development, production facilities, distribution and marketing. No responsible private sector investor will want to make the investment necessary to commercialize research results if they cannot protect that investment from free riders.

The fact that U.S. R&D commercialization projects will be subject to challenge under the proposed test of the GATT code will raise the risks associated with commercialization. As a result, U.S. private sector investors will require a higher rate of return and fewer R&D results will be commercialized, harming U.S. competitiveness.

Federal law and policy recognize that the quickest, most efficient means for disseminating the results of Federally supported research is to invest it with property rights. This is the fundamental basis on which our market economy quickly makes available new products, processes and services. GATT rules that discourage the creation of property rights in results of Federally supported research will frustrate the President's policy of supporting R&D as a means of enhancing U.S. competitiveness.

Finally, the concepts of product subsidization used in the Subsidies Code are wholly inadequate tools to analyze the appropriateness of government R&D programs and policies. Government R&D programs may produce fundamental changes in basic areas of science or technology with broad social and economic impacts, unlike government subsidization of particular products. However, the Subsidy Code's product-oriented approach does not provide a useful vehicle for analysis of the many complex issues which would inevitably be raised, e.g.,:

- Where a large multi-year Federal investment in basic research (e.g., genetic research) was followed by a series of smaller private sector commercial investments that resulted in several successful new products, how would the value of the Federal investment be allocated to each of the commercial products?

- Where a private contractor operated a Government laboratory, what, if any, restrictions would be imposed on the contractor's ability to commercialize inventions resulting from its work?

- Would the full value of government research expenditures be regarded as a subsidy? Would any allowance be made for the value of the results obtained in furthering the agency's mission (e.g., improving human understanding of disease mechanisms, increasing domestic agricultural productivity or protecting the security of the nation)? Where R&D contracts are competitively awarded, would any allowance be made for the fact that the price paid by the government reflects the potential commercial value (adjusted for risk) at the time of the contract?

- How would "harm" be determined in the case of government R&D programs under the Code? Would any effort be made to weigh the social benefits of a new technology against the financial impact on a particular company or industry? If the research produced improved energy efficiency, or environmental benefits to society, could it still be held to have "harmed" the technologies or products it displaced in the marketplace?

Procurement Code

The Issue

The United States is considering whether to include government research and development contracts as service contracts subject to the procedures of the Government Procurement Code. If such contracts are included, the United States and other signatories would be obligated to give equal treatment to foreign and domestic competitors for these contracts and to follow procurement procedures prescribed by the Code in procuring government research and development from third parties. Any domestic laws or policies inconsistent with this standard of equal treatment would have to be eliminated.

## Impact on U.S. Research and Development Programs

Because the proposal to include government research and development contracts is in a preliminary stage, it is difficult to determine a specific impact on government research and development contracts. For example, although grants are generally not included in the Code, a competitive awarding of grants is used by several agencies as a means of awarding research and development funding to third parties and it is not clear precisely what status these programs would have under the Code. Similarly, while exclusions may exist for defense-related work, it is possible that some work by the Departments of Defense and Energy involving dual-use technologies (i.e., capable of both military and commercial applications) may not qualify for exception on that basis.

In any event, a conservative estimate of the amount the Federal government spends on non-defense research and development performed by third parties is approximately $17 billion. The amount of such work varies from department to department. The Department of Energy spent more than $3.6 billion in FY 1990 on non-defense extramural research, in a wide variety of energy-related areas. The Public Health Service of the Department of Health and Human Services estimates that its biomedical research programs at the National Institutes of Health (NIH) and the Alcohol, Drug and Mental Health Administration (ADAMHA), the Food and Drug Administration (FDA) and the Centers for Disease Control (CDC) spent more than $6.8 billion dollars supporting biomedical research and development in FY 1990. The Department of Agriculture spends almost $500 million per year on extramural research, most of which goes to land-grant universities, while NASA spent more than $4.5 billion on extramural research in FY 1990.

At present, these contracts are, for the most part, awarded to domestic companies and those companies are able to secure the right to develop commercial uses for the intellectual property and technical data generated in connection with their work for the government. Including R&D contracts in the GATT Procurement Code is likely to reduce or eliminate this important source of support for U.S. industrial competitiveness.

## Agency Concerns with Proposal

The United States has a unique and highly effective Federal research and development program which advances the complex missions of the Federal agencies while also providing an extensive base of scientific and technical knowledge which can be developed into commercial products by the private sector. Opening competition for research and development contracts to

foreign competitors would require the abandonment of the Administration's efforts to promote U.S. private sector commercialization of Federal research results and might well lead to the commercialization of this Federal knowledge base by other countries.

Attachment A

**FY 1992 PROPOSED BUDGET AUTHORITY FOR RESEARCH AND DEVELOPMENT**

| | 1992 Proposed (Millions) |
|---|---|
| Governmentwide totals: | |
| Conduct of R&D: | |
| Basic Research | 13,320 |
| Civilian | 12,278 |
| Defense[1] | 1,041 |
| Applied R&D | 58,758 |
| Civilian | 16,552 |
| Defense[1] | 42,206 |
| Total | 72,078 |
| Conduct of R&D by Five Largest Agencies: | |
| Defense-military | 40,479 |
| Health and Human Services | 9,836 |
| Energy | 6,410 |
| National Aeronautics and Space Administration | 8,602 |
| National Science Foundation | 1,828 |
| Agriculture | 1,224 |

[1] Includes military-related programs of the Departments of Defense and Energy

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

APR 3 0 1991

SUBJECT: Proposed Procurement and Subsidies Codes in GATT Negotiations

TO: Deborah L. Wince-Smith
Assistant Secretary for Technology Policy
U.S. Department of Commerce

I am writing to express serious concern on behalf of the Science and Education agencies of the U.S. Department of Agriculture (USDA) regarding proposed codes in GATT.

Extramural and intramural research programs in the USDA are administered by two different agencies. The extramural research agency is the Cooperative State Research Service (CSRS). This agency distributes nearly $500 million annually in research funding to U.S. universities through several types of instruments. These include competitive grants, special grants, specific cooperative agreements, formula funds distributed to all land-grant universities in accordance with provisions of the Hatch Agricultural Experiment Station Act of 1887, and funds distributed to Schools of Forestry under the McIntyre-Stennis Act.

Depending upon the precise interpretation of the language in the proposed GATT procurement code, foreign universities might demand the right to access to some or all of these extramural funds. If allowed to happen, this could totally undermine the food and agricultural research system in the United States. A more immediate effect would be a tremendous political backlash, especially by the land-grant universities, many of which are heavily dependent on funds from CSRS for survival of their schools of agriculture.

The intramural agricultural research agency in USDA is the Agricultural Research Service (ARS). This agency has developed an aggressive and effective technology transfer program based on the Federal Technology Transfer Act (FTTA) of 1986. It has taken a great deal of effort to generate cooperation between industry and ARS laboratories. The real progress we have made in overcoming industry concerns over such issues as confidentiality, publication and ivory tower images of our laboratories has resulted in nearly 200 Cooperative Research and Development Agreements (CRADA's). If agribusiness companies become faced with fear that they will be penalized in international trade because of this cooperation with Federal laboratories, I confidently predict our rate of generation of new CRADA's will rapidly fall to zero.

Received
APR 30 1991
D.L. Wince-Smith
Assistant Secretary for Technology Policy

For these reasons we believe that the research and development aspects of the procurement and subsidy codes in the GATT negotiations are of utmost concern with regard to the vitality of the food and agricultural sector of the U.S. economy, and we have little doubt that the same is true for other sectors. We urge that the U.S. position on these codes be reviewed more thoroughly in an appropriate interagency forum such as the Economic Policy Council.

Charles E. Hess

CHARLES E. HESS
Assistant Secretary
Science and Education

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Office of the Assistant Secretary
for Health
Washington DC 20201

APR 24 1991

Mr. Joseph P. Allen
Director, Office of Technology
Commercialization
U.S. Department of Commerce
Room 4416
Washington, D.C. 20230

Dear Mr. Allen:

Thank you for the opportunity to comment on the impacts on Public Health Service (PHS) agencies of the current GATT negotiations regarding procurement and subsidies. This proposal would make a number of significant changes as listed below:

- The current U.S. proposal on procurement would allow foreign entities to receive extramural research and development funds on exactly the same basis as domestic entities.

- The current U.S. proposal on subsidies would characterize most PHS intramural research as a subsidy actionable under the GATT (i.e. subject to tariffs and countervailing duties) if the research results, in the form of patents or other intellectual property, were licensed to private firms for commercialization and product development.

The PHS is very concerned about the negative impacts these proposals would have on research programs at the PHS, particularly the impacts on biomedical research programs at the National Institutes of Health (NIH), the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA), the Food and Drug Administration (FDA) and the Centers for Disease Control (CDC). The NIH/ADAMHA/CDC are the largest sponsors of biomedical research in the world, supporting over $6.8 billion dollars of biomedical research and development in Fiscal Year 1990. More than three quarters of this money is awarded through 27,000 grants and contracts as part of NIH's extramural research program. In addition, the NIH has one of the best and most aggressive technology transfer programs in the Federal Government. Both of these programs would be severely compromised if current U.S. proposals regarding procurement and subsidies were to become part of the GATT.

GATT Procurement Initiative

Extramural Research Programs

The NIH/ADAMHA spent a total of $5.96 billion on extramural research and development (R&D) projects in FY 1990. A majority of these "external" research funds, $5.2 billion (87%) was awarded as grants to either U.S. based non-profit research institutions or U.S. based private sector companies. Another $700 million was spent on research contracts with U.S. based organizations. The majority of these grants and contracts are awarded on a competitive basis. U.S. based non-profit organizations (including private universities) received $5.48 billion of this total while U.S. based for-profit concerns received $436 million. Foreign-based organizations received $36 million (0.6%) of the total extramural research funds in FY 1990. Foreign entities are not per se barred from all PHS extramural research programs, but they are excluded from some programs, such as the SBIR program and Biomedical Research Support grants. In addition, foreign entities can not recover their indirect costs under PHS grants. The current U.S. GATT proposal on procurement would open up the competition for all NIH funding programs to both foreign firms and foreign research institutions.

The impact of opening up this source of basic research funding to foreign companies would be extremely negative. It could provide our foreign competitors with U.S. taxpayer-supported funding for the basic research necessary to produce novel technologies (such as biotechnology or gene therapy) or the next generation of existing technologies, thereby injuring U.S. competitiveness. The U.S. biotechnology industry, acknowledged as one of the few advanced technologies in which the U.S. is still the world leader, grew primarily out of Federal (NIH) grants to U.S. research universities. In addition, opening up of these grants and contracts would lead to intense competition between U.S.-based researchers and foreign-based researchers for limited PHS research funds. Such competition for NIH research funds is already fierce and increasing the competition on already under-funded projects would be counterproductive. Many worthy projects which could have a beneficial impact on the U.S. public health and U.S. economic health might have to be shelved or severely cut back.

DHHS' Small Business Innovative Research Program

The Department of Health and Human Services (DHHS), which includes the PHS and several other health-related agencies, has an active Small Business Innovation Research (SBIR) Program. The SBIR program would also likely be affected by the procurement provisions that would open up R & D grants or contracts to foreign entities would most likely allow foreign small businesses to apply for SBIR grants. The SBIR program is currently limited

to U.S.-based small businesses. Under the current U.S. proposal, however, and in the absence of specific exceptions, all Federal R & D programs would be open to foreign entities including the SBIR program.

In FY 1990 the DHHS awarded small firms over $84 million for research and development projects under the SBIR program. In FY 1989 $79.3 million was awarded. It should be noted that most agencies' policy under the SBIR Act allows small firms to retain title not only to patentable inventions (under the Bayh-Dole Act), but also to technical data associated with the research conducted under the SBIR award. Although foreign firms cannot obtain patent rights under the Bayh-Dole Act, they might be able to use this technical data from SBIR research projects to enhance their competitive position in many fields of technology. This result would clearly be contrary to the spirit of the SBIR Act and would unnecessarily punish the most innovative sector of the U.S economy--small high technology businesses.

## GATT Subsidies Initiative

The current U.S. proposal on subsidies would severely impact the PHS's efforts to transfer technology under the Federal Technology Transfer Act of 1986 (FTTA). The definition of a non-actionable R & D subsidy in the U.S. proposal is limited to R & D whose results may be used without fee or restriction and which is made available to the public at least every six months during the research project. This conflicts directly with the intent of the FTTA and Executive Order 12591 which direct Federal agencies to seek patent protection for their valuable technologies and then to attempt to license these patents to private sector firms for commercial development. In addition, since the proposed subsidy provisions would apply to state or local government R & D spending programs as well as the Federal R & D programs, many publicly supported universities with R & D technology transfer programs could be adversely affected.

## DHHS Technology Transfer Programs

All agencies within the DHHS that conduct intramural (or in-house) research have a technology transfer program. The goal of these programs is to enhance U.S. industrial competitiveness through the licensing of technologies developed in DHHS laboratories to the private sector. Since 1977 over 340 license agreements have been executed on behalf of DHHS agencies. A majority of these inventions have come from the National Institutes of Health technology transfer program. In FY 1990, 48 licenses were granted. In FY 1991 an estimated 50 licenses will be granted. This would bring the total number of license agreements to over 380. The current subsidies proposal could subject every one of DHHS's licensees to tariffs and

countervailing duties under the GATT, because these patents are the result of government funded research which is not freely available and is not published every six months. Many of DHHS' licensees are multinational pharmaceutical manufacturers who do business worldwide and are thus greatly exposed to potential tariffs on products produced under DHHS patents.

The subsidies proposal could put firms who had licensed DHHS technologies in good faith and under licensing terms similar to terms available from commercial entities into a situation where they would be attacked under the GATT merely because they purchased their technology from a government entity rather than from a private sector entity. This problem is significant not only for the 380 licensees of DHHS patents, but for the more than 1,275 licensed university-owned patents recently reported by the Association of University Technology Managers. Most of these licensees would potentially be subject to retaliatory tariffs and duties under the GATT since a majority of the licensed patents were the results of research sponsored state governments or performed by state-funded universities.

An important component of DHHS' technology transfer program is the Cooperative Research and Development Agreements (CRADAs) with private sector firms. All of these agreements would be considered actionable subsidies if the current proposal on subsidies were made part of the GATT. The NIH, ADAMHA, and CDC have 150 active CRADAs and approximately 40 more under negotiation. No private firm would enter into a CRADA if they knew that they would be subject to retaliatory tariffs or duties under the GATT. This would further frustrate the intent of the FTTA and E.O. 12591 as well as hurt U.S. competitiveness by making it very difficult to transfer government technology.

Conclusion

PHS strongly objects to the current U.S. proposals on procurement and subsidies as they relate to R & D. We believe this proposal is contrary to the Technology Transfer Act and administration's policy. These proposals would severely harm U.S. competitiveness by eroding our support of the private and non-profit research base, putting U.S. taxpayer dollars into the research and development projects of our economic competitors reducing the already limited funding of United States universities, and destroying both Federal and State technology transfer programs. The subsidies provisions alone could negatively impact over 1,600

license agreements between private firms and government or university technology transfer programs. Therefore, the PHS urges the U.S. Trade Representative to withdraw these proposals from consideration at the next round of GATT negotiations.

Sincerely,

Frank E. Young, M.D., Ph.D.
Deputy Assistant Secretary for Health/
Science and Environment

cc: James O. Mason, M.D., Dr.P.H. (Assistant Secretary for Health)
Bernadine P. Healy, M.D. (Director, NIH)
Fred Goodwin, M.D. (Director, ADAMHA)
Reid Adler, J.D. (Director, OTT/NIH)

# United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

TAKE PRIDE IN AMERICA

APR 26 1991

Memorandum

To: Joseph P. Allen, Director of Technology Commercialization, Department of Commerce

From: John M. Sayre, Assistant Secretary - Water and Science, Department of the Interior

Subject: Draft Committee Comments on GATT Issues

In response to the April 24, 1991, memorandum from Ms. Deborah L. Wince-Smith, Assistant Secretary for Technology Policy, our comments follow.

The position expressed in the draft can be described as the position of the United States research establishment against the U.S. position on subsidies since the Tokyo Round negotiations.

As the draft points out, the Subsidies Code has imposed no restrictions on the use of such subsidies (for research and development) and only the United States has challenged government research and development programs as impermissible subsidies.

The two provisions proposed by the chairman of the subsidies negotiation can be seen as language that goes in the direction of supporting the U.S. position. It would seem, therefore, that it would be quite embarrassing to the United States to have a admit that the position it has taken since the 1970's was mistaken and that it is quite satisfied with the current treatment of R&D subsidies in the Code.

Thus, while the letter to the Economic Policy Council raises valid concerns (the U.S. should not trade away a major comparative advantage), it offers no suggestion how to get out of this embarrassing situation.

Therefore, I would suggest that the ad hoc group that drafted the comments (with which I concur) should propose a revised U.S position to be included in the letter, or inform the Council that a revised position would be provided shortly.

cc: Deborah L. Wince-Smith, Assistant Secretary for Technology Policy, Department of Commerce

U.S. SMALL BUSINESS ADMINISTRATION
WASHINGTON, D.C. 20416

April 26, 1991

Ms. Deborah L. Wince-Smith
Assistant Secretary for Technology Policy
Technology Administration
U. S. Department of Commerce
Room 4818 Hoover Building
Washington, DC 20230

Dear Ms. Wince-Smith:

In your letter of April 23, 1991 you requested that we provide our comments and concerns on the GATT Procurement and Subsidies Code Negotiations discussed at the Meeting of the Interagency Committee on Federal Laboratory Technology Transfer.

It is obvious, we believe, that the proposed Gatt proposals would have an extremely deleterious effect on the Federal effort to encourage the American entrepreneur to undertake a more active role in the commercialization of Federal research and development activities. The Small Business Innovation Research (SBIR) program is a clear example of this effort. In the enabling legislation (P. L. 97-213) the Congress found that technological innovation creates jobs, increases productivity, competition, and economic growth and is a valuable counterforce to inflation and the balance of payments deficit. Congress further found that small businesses are the principal source of significant innovations in the Nation, are among the most cost effective performers of research and development, and are particularly capable of developing research and development results into new products. These findings have led to a number of important efforts, including the SBIR program, to enhance the role of small business in the effort to improve the competitive posture of the Nation by assuring small business presence in the efforts to commercialize Federally sponsored innovations.

Both proposals discussed would undermine this effort, as well as the American high technology small business community, and do a disservice to the historic role of the American entrepreneur in developing new technologies. If the Subsidies Code is amended as proposed, the Small Business Innovation Research firms will suffer severely in any attempt to commercialize their innovations internationally. These firms, presently working on about 3,000 projects a year, with current funding in excess of $470 million, all of which are undertaken in conjunction with Federal agencies, and all of which have the potential to be commercialized, would be severely penalized. This effort of the last nine years would be essentially destroyed with resulting loss to the small business community and to the economy.

Unlike most of our trading partners, the strength of American technological innovation efforts has historically been driven by the small entrepreneur. To enrich the potential of these small firms in the R & D effort, where half of the research and

development funding is provided by the Federal government, it has been necessary to establish mechanisms to assure that entrepreneurs can participate in these Federal efforts. By bringing their unique ability to commercialize innovations into the major R & D efforts of the Nation the entrepreneur plays an essential role in the American innovation process. Clearly the GATT proposal to amend the Subsidies Code would devastate this effort by crippling this unique and efficient mechanism.

It must also be understood that the implementation of this proposal would lead to situations the administration of which would be impossible. The issues involved would be extremely contentious to the orderly conduct of international trade in high technology products and services by American small businesses.

The proposal to include government research and development contracts as service contracts subject to the procedures of the Government Procurement Code would oblige us to give equal treatment to foreign competitors for R & D contracts that are now set aside for American small businesses. Here again our ability to develop innovations from Federal R & D and bring those innovations to the marketplace is heavily dependent on our ability to assure that the American entrepreneur can participate on a fair and reasonable basis. The proposal, as we now understand it, would devastate this process.

The role of the American entrepreneur in developing and bringing to market new products and services has historically been largely responsible for our leadership position in technological development. This resource, stemming from a cultural uniqueness valuing independence, individuality, and risk-taking, is intrinsic not only to our economy but to our society. These proposals have the potential to bring harm to institutions of great national importance.

Sincerely,

R J Shane

Richard J. Shane
Assistant Administrator for Innovation
Research & Technology

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC 20330-1000

MAY 9 1991

OFFICE OF THE ASSISTANT SECRETARY

MEMORANDUM FOR DIRECTOR, OFFICE OF TECHNOLOGY COMMERCIALIZATION
(MR. JOSEPH P. ALLEN), DEPARTMENT OF COMMERCE

SUBJECT: R&D Issues in the General Agreement on Tariff and Trade (GATT) Subsidies and Procurement Code Negotiations - INFORMATION MEMORANDUM

The Air Force is very concerned about the possible inclusion of R&D in the GATT Subsidies and Procurement Codes. This action would clearly not be in the best interest of the Air Force, the Department of Defense, or the U.S. industrial base and would have a negative effect on DoD R&D and technology transfer activities.

The Air Force strongly endorses the concerns iterated by Ms. Wince-Smith in her memorandum (draft dated April 23) to Mr. Wethington of the Economic Policy Council. In addition, suggest the following concern be added to the "Agency Concerns" section of the "Procurement Code" (page 7):

> "The maintenance of a strong industrial base is crucial to national security. Infusing technology by direct contracts and domestic technology transfer are important tools for maintaining that base available to the Government. There is evidence of erosion of that base. Inclusion of R&D in the procurement code will seriously impede our ability to use these tools and exacerbate erosion."

We urge you to continue to fight against the inclusion of R&D in the GATT Subsidies and Procurement Codes and will continue to assist to the maximum extent possible.

Daniel B. Rak

DANIEL S. RAK
Deputy Assistant Secretary
(Acquisition)

UNITED STATES DEPARTMENT OF COMMERCE
International Trade Administration
Washington, D.C. 20230
ASSISTANT SECRETARY FOR IMPORT ADMINISTRATION

MAY 14 1991

MEMORANDUM FOR: Deborah L. Wince-Smith
Assistant Secretary for
Technology Policy

FROM: Eric I. Garfinkel
Assistant Secretary for
Import Administration

SUBJECT: Coverage of Government-Supported Research and Development Activity Under GATT Subsidy Rules

This responds to your request for comments on the concerns of the federal R&D community expressed in your draft memorandum to Olin Wethington of May 2.

Under existing GATT Subsidies Code rules, R&D subsidies may either be countervailed or challenged in the GATT if they cause material injury or other adverse trade effects.

After two years of negotiation, it is clear that it will be virtually impossible to negotiate a mutually acceptable permissible category for R&D with either the Europeans or the Japanese, our chief opponents in the Subsidies Code talks. Throughout the negotiations, the Europeans and the Japanese have sought, through their definition of "green" R&D subsidies, to protect their own subsidies programs while leaving U.S. programs vunerable to attack. In light of this, our negotiating position has been to maintain existing Code rules. Thus, we have been opposed to making any subsidy "permissible", or immune from countervailing duty or GATT action, if it causes adverse trade effects.

As we discussed previously, I would be more than willing to meet with representatives of the technology agencies to brief them on the status of the subsidies negotiation, as well as our negotiating strategy on the R&D issue.

Received
MAY 15 1991
D.L. Wince-Smith
A/S for Technology Policy

MEMBERSHIP OF THE
INTERAGENCY COMMITTEE FOR FEDERAL LABORATORY TECHNOLOGY TRANSFER

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**PRESIDENT'S COUNCIL ON COMPETITIVENESS**

**FACT SHEET**

**Achieving Competitiveness in National Critical Technologies**

**Policies in Support of Technology Development in America**

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"If America is to maintain and strengthen our competitive position, we must continue not only to create new technologies but to learn to more effectively translate those technologies into commercial products.

President George Bush
November 13, 1990

"For America to be number one in the development of critical technologies and commercialization of related products, we must have a healthy entrepreneurial climate for private sector development of these technologies."

Vice President Quayle
April 24, 1991

## INTRODUCTION

1. The release of the Report of the National Critical Technologies Panel provides an important opportunity to restate those steps necessary to improve the U.S. entrepreneurial climate and maintain our competitiveness. While the American private sector is asked to invest in our future, the government must continue to remove those unnecessary government restraints that chill the climate for investment in new technology. The benefits of technology will bring us closer to the national goals of improved quality of life for all Americans, continued economic growth, and national security.

2. This Fact Sheet incorporates points made in previous Administration initiatives such as the critical technologies reports of the Department Defense and the Department of Commerce, U.S. Technology Policy prepared by the Office of Science and Technology Policy, and the National Energy Strategy. These policies encourage the development of technologies.

3. Critical technologies are fundamental "building blocks" for American industry and international competitiveness. Market

forces must be allowed to support their development, not selection and promotion by government.

The Free Market

4. The free market has served to make the United States the world's largest economy. The United States has a $5.5 trillion economy that achieves one-quarter of the world's production with 5% of the world's population. We are the world's leading exporter of goods and services, and the world's leading importer.

5. Creating and maintaining the proper entrepreneurial climate for national critical technologies depends on:

- o A quality workforce that is educated, trained, and flexible in adapting to technological and competitive change;
- o A financial environment that is conducive to longer-term investment in technology;
- o The translation of innovation into timely, cost competitive, high quality manufactured products;
- o An efficient technological infrastructure, especially in transfer of information;
- o A legal and regulatory environment that provides stability for innovation and does not contain unnecessary barriers to private investments in R&D and domestic production

The Private Sector Role

6. In the free market system it is the role of the private sector to identify and utilize technologies for commercial products and processes. Responsibilities of the private sector include:

- o Conduct R&D to advance industry-related knowledge and technology;
- o Identify and aggressively pursue potential commercial applications for technologies developed by private laboratories as well as by universities, Federal laboratories and foreign sources;
- o Increase quality, output, and productivity by undertaking necessary investments in physical capital;

- o Improve the skills and abilities of the private sector workforce to meet its own needs;

In addition, the private sector can participate cooperatively in improving the quality of U.S. education.

The Government Role

7. The government role is to foster a stable economic environment that is conducive to investment. Steady non-inflationary growth and adequate national savings are critical requirements for investment because investors need confidence in the future. Investment decisions should not be dominated by fears of erratic government policy, uncertainty in tax laws, or excessive or uncertain regulation.

8. The government role regarding critical technologies should be limited to (1) providing needed support to activities that are clearly undersupported by the market because they generate economic benefits that greatly exceed their profitability, and (2) removing unnecessary and artificial barriers to proper market functioning, including legal and regulatory barriers.

9. In order to assure that economic considerations determine allocations of resources in the market, the government should forego policies, tax laws, and practices that benefit specific industries, products or sectors in relation to others except where market externalities exist which prevent private sector investment from realizing full economic benefit of the investment. Actions that yield encouraging results for a particular industry create a larger cost to the economy in terms of reduced efficiency, productivity and standards of living.

ADVANCEMENT AND TRANSFER OF SCIENTIFIC KNOWLEDGE

10. Education, enhancement of technical knowledge in science, and the conduct of research and development in science and technology are responsibilities shared by government at all levels and a broad range of private organizations. Scientific literacy benefits all Americans.

11. The government helps to support research especially in situations where the private sector cannot reasonably be expected to recover sufficient benefits. Generic enabling technologies that cut across industries and at the precompetitive stage often cannot be developed by individual firms acting solely on their own. Support also may be needed for areas where the private sector could not be expected to earn an adequate rate of return on its R&D investments because it would be unable to assert property rights if the research results were commercialized. This precompetitive research is often crucial to maintaining public health, safety, and national security.

Federal Funding

12. President Bush's budget proposal to Congress for FY '92 allocates $76 billion to R&D, an increase of 13 percent over FY' 91 enacted levels. Activities targeted for increases are examples of the types of areas where Federal support is appropriate:

- Basic research at the National Institutes of Health
- Basic research at the National Science Foundation
- Defense R&D
- Space activities
- Mathematics and science education
- Global change research
- Biomedical (including AIDS) research
- National Agricultural Research Initiative
- Superconducting Super Collider
- High-performance computing and communications
- Energy R&D
- Advanced manufacturing and materials R&D
- Aeronautics R&D
- R&D at the National Institute of Standards and Technology

Federal Technology Transfer

13. Technology transfer between Federally-supported researchers and the commercial market place is an important government function that offers fruitful opportunities for development of national critical technologies. Technology transfer conducted under cost sharing arrangements increases the benefits from Federal R&D expenditures and boosts government-private sector partnerships. The climate for technology transfer is enhanced by laws and arrangements that protect intellectual property rights and avoid conflicts of interest. Defense-related research can make major contributions when adequate safeguards for protecting information important to national security are available.

14. The 1980 Bayh-Dole Patent and Trademark Amendments Act permitted universities, nonprofit corporations and small businesses to retain patent rights resulting from Federally supported R&D. The Federal Technology Transfer Act of 1986 allowed Federally owned and operated laboratories to manage patentable rights. The 1986 Act also encourages directors of Federal laboratories to form joint R&D projects with businesses, universities and the states, and allowed Federal inventors to receive a portion of royalties resulting from commercialization of patents obtained from the research developed. Executive Order No. 12591 further mandated implementation of technology transfer by Federal agencies. In 1989 the provisions of the 1986 Act were

extended to the National Laboratories operated for the Department of Energy.

Federal Procurement

15. Because the U.S. government is the country's largest purchaser, spending nearly $200 billion for products and services annually, it can influence the development of commercial technologies. Government procurement practices generally should not dictate which technologies to use, rather firms should be able to compete to find the best way of meeting government's needs. In this way, government procurement practices should emulate the best commercial practices, allow government to participate to the greatest possible extent in the commercial marketplace, and take full advantage of the free market's ability to generate innovation.

16. Two special issues in Federal procurement are technical data rights and recoupment. Firms producing for the Federal government should be able to provide their best technical expertise without fear of its free release to their competitors. And firms should have the right to appropriately profit from the investment they make in commercial applications of technologies developed under Federal contracts. The government benefits from these practices through ready access to innovations occurring in the commercial market place, expansion of the industrial base supporting government activities, and price discounts recognizing the value of commercialization rights. The Administration will soon issue proposed regulations to ensure that government purchases only those rights and data required to meet the government's needs and to protect those it does not buy. The Administration is now reviewing the requirements to recoup R&D costs from contractors that develop commercial derivatives of products.

17. The Administration is pursuing a number of other changes in the Federal government's procurement practices that would contribute to technological innovation and development. Federal procurement statutes and regulations need to permit greater integration of government and commercial production at the factory level, as well as encourage greater innovation and efficiency in development and production. Also, the government should use commercial products, to the extent feasible, for defense, space, and other government applications. For those products and processes for which it is the sole or major consumer and no commercially available products can be substituted, the Federal government should (1) rely principally on the private sector to undertake the development process; and (2) strengthen the abilities of companies involved in developing and demonstrating these products to use the same research and technologies for commercial purposes.

## THE LEGAL AND REGULATORY CLIMATE

### Antitrust Concerns

18. Effective antitrust laws and their enforcement are crucial to the maintenance of a competitive economy, and thus to international competitiveness. Undue concern with antitrust enforcement should not, however, provide an unwarranted deterrent to activities that may in many circumstances enhance efficiency and competition. In particular, American firms should be assured that antitrust laws will not be applied in an overly restrictive way to joint ventures, including joint ventures among competitors, to engage in research and development of new technology, and to commercialize that technology. Reducing unwarranted antitrust uncertainties related to such interfirm cooperation would facilitate, where parties so desire, the pooling of limited resource and a rapid diffusion of results while still protecting against anticompetitive practices.

19. The National Cooperative Research Act of 1984 took an important step to mitigate antitrust uncertainty with respect to joint R&D. The Act clarified that R&D joint ventures should be analyzed under the antitrust "rule of reason," which takes full account not only of domestic and international competition to such ventures, but also of their potential procompetitive efficiencies. The Administration has proposed expansion of the NCRA to cover joint production ventures as well. Such ventures could promote the commercialization of new technology and help assure that United States leadership in basic scientific research is translated into leadership in commerce as well. At the same time, NCRA coverage of joint production ventures will permit the antitrust laws to play their proper role in preserving competition and thus the competitiveness of the American economy.

### Intellectual Property Rights

20. Essential to the free market development of technology is the right of the private sector to maintain ownership of intellectual property rights of inventions at home and overseas. The Administration is aggressively pursuing improved international protection of intellectual property through the achievement of international agreements that would increase protections abroad in the Uruguay Round of the GATT, at the World Intellectual Property Organization and in trilateral talks with the European Community and Japan. Bilateral negotiations are also conducted under the provision of the 1988 Omnibus Trade and Competitiveness Act. The Administration also supports strengthened domestic patent protection.

### Product liability

21. The current product liability system generates excessive litigation and concomitant transactional costs, thereby increasing the cost of doing business in the United States and discouraging innovation for products and related services such as health care. The Administration supports the adoption of a single, Federal, uniform product liability law based on three principles of fairness: the right to fair compensation for actual damages where there is liability, the remedy of liability based on responsibility for harm and not ability to pay, and the encouragement of alternatives to costly litigation. These proposals would maintain the appropriate incentives to produce safe products while restoring balance to the tort system and reducing uncertainty surrounding the introduction of new products.

Prohibitions on Competition

22. Clearly among the potentially most damaging aspects of government laws are prohibitions or restrictions on competition in particular markets. Competition drives the free market to optimal price and output for the benefit of consumers and society generally, and creates incentives for innovations and the means for new product introductions. When government erects barriers to market competition, it reduces the economy's flexibility, competitiveness and innovative capacity. In the energy area, for example, the Administration's National Energy Strategy calls for an end to unnecessary regulatory impediments to the expanded utilization of natural gas and innovative technologies for electricity generation. In telecommunications the Administration is seeking to change the antitrust consent decree that prohibits telephone companies from conducting R&D and manufacturing telecommunications equipment.

Export Controls

23. Export controls restrict the export of specific "dual use" products to certain destinations, for national security and foreign policy reasons. In an increasingly international economy, with rapid technological innovation in other countries, these controls require continuing revisions to ensure that the burden and delays associated with licensing do not adversely affect American firms relative to foreign firms in their ability to compete in international markets, and thereby, discourage R&D investments in the United States.

Non-Tariff Trade Barriers

24. Non-tariff trade barriers prevent open markets for international commerce, and thus, injure competition by reducing opportunities for new products, particularly high volume products such as certain electronic components. The U.S. is working through GATT, other multi-national and bilateral negotiations to

ensure that U.S. firms will be allowed to compete fairly in foreign markets. Private restraints on imports also can constitute significant non-tariff barriers to trade by American firms. Among the Administration's goals in the Structural Impediment Initiative talks with Japan is more effective enforcement of that nation's competition laws against private restraints on imports in Japan, such as group boycotts.

Regulatory Concerns

25. In high technology industries, Federal regulation is a critical determinant of the time and the cost required to bring a product to market. Regulation is also a major factor influencing investment decisions for new technologies. Regulatory uncertainty or the expectation of burdensome regulation increases risk for potential investors, and reduces incentives for investment. Because technological innovation holds the promise of providing new and better ways to meet the very objectives of particular health, safety, or environmental regulations, those regulations that discourage or penalize innovation are self-perpetuating burdens on American industry.

26. In general terms, Federal regulations impose direct costs on the economy of estimated to be $185 billion annually. While appropriate regulation in response to market failures can serve valuable social and economic functions, it may also impose significant costs that particularly affect the ability and incentive of firms to develop new high technology products. Some regulatory regimes are no longer appropriate to new technologies, others were developed without adequate consideration of the burdens placed on international competition, and many regulations explicitly impose greater burdens on new facilities and products, such as the New Source Review provisions of the old Clean Air Act and the rules for "new chemicals" under the Toxic Substances Control Act.

27. Regulation most inhibits innovation when the regulatory agency takes on the task of specifying which technologies or designs industry must employ. Further, once a technology is enshrined in regulation, firms have little incentive to invest in better techniques. This has been the experience with numerous environmental regulations in which the Federal government selects control technologies. An excellent example is the old Clean Air Act's mandate that firms employ "best available control technology" (BACT) to reduce $SO_2$ emissions. BACT was translated into smokestack scrubber technology. Mandating scrubbers, however, discouraged innovation of other means to remove sulfur, such as removal from the fuel before combustion; and it discouraged use of low-sulfur coal to begin with. The Administration's new Clean Air Act cuts $SO_2$ by 50% -- but lets industry choose how best to do so.

28. In general, regulatory reform can substantially improve the incentives for innovation by using market-based incentive approaches that set performance goals but let industry devise the best means to attain those goals. An example is the Administration's emissions trading program to reduce acid rain in the 1990 Clean Air Act.

29. The Administration has developed principles that Executive Branch agencies are to use when developing regulations or reviewing current standards. These principles offer a useful set of guidance for minimizing the burden of regulation on innovation.

- Regulations should be issued only on evidence that their potential benefits exceed their potential costs. Regulatory objectives, and the methods for achieving these objectives, should be chosen to maximize the net benefits to society.

- Regulations that seek to reduce health or safety risks should be based upon scientific risk-assessment procedures, and should address risks that are real and significant rather than hypothetical or remote.

- Regulation of prices and products in competitive markets should be avoided. Entry into competitive or potentially competitive markets should be regulated only where it is clearly necessary to protect health or safety.

- Voluntary private standards and disclosure should be relied on where possible instead of inflexible regulation.

- Health, safety and environmental regulations should address ends rather than means. They should employ performance-based incentives that harness the creativity of market actors to design and continually innovate better ways of reducing excess risks. They should not specify technologies or designs that firms must employ.

- Where regulations create private rights or obligations, unrestricted exchange of these rights or obligations should be encouraged.

- Federal regulations should not preempt state laws or regulations, except to guarantee rights of national citizenship or to avoid significant burdens on interstate commerce.

- o Regulations establishing terms or conditions of Federal grants, contracts, or financial assistance should be limited to the minimum necessary to achieving the purposes for which the funds were authorized and appropriated.

- o Licensing and permitting decisions and review of new products should be made swiftly and should be based on standards that are clearly defined in advance.

- o Standards for receiving government licenses and permits should not exceed the necessary minimum. If the number of comparably qualified applicants exceeds the number of available licenses, the licenses should be allocated by auction or other market-based means rather than by administrative procedure.

## THE FINANCIAL CLIMATE: INCREASING THE POOL OF CAPITAL FOR INVESTMENT

30. Recent Federal policy has been successful in improving the environment for private investment in R&D. Important actions have been taken to increase incentives to invest, including investment in R&D. The Tax Reform Act of 1986 substantially reduced marginal income tax rates for businesses and individuals. The maximum tax rate on corporate income dropped from 46% to 34%. The top personal income tax rate that had been 70% as recently as 1981 was dropped to 28% in 1986 and increased to 31% in 1990. "Subchapter S" corporations generally can pass through their income to shareholders and have it taxed at lower individual tax rates and avoid the double taxation of corporate income.

31. Discipline must be maintained to curb the Federal budget deficit. The single greatest contribution that the Federal government can make to increase the pool of capital available for investment is to reduce the Federal budget deficit. The budget deficit has a major impact on the level of gross domestic savings available for investment. Efforts to reduce the Federal budget deficit (the Omnibus Budget Reconciliation Act of 1990) and to impose Federal credit programs (Federal Credit Reform Act of 1990) will increase the availability of national savings for private sector uses, including investment in new technology. The Omnibus Budget Reconciliation Act of 1990 will reduce Federal budget deficits, and therefore national dissaving, by almost $500 billion over the next five years, and will virtually eliminate the Federal budget deficit by fiscal year 1995. In addition, better control of the deficit enhances the opportunity for the Federal Reserve to pursue a noninflationary growth monetary policy.

32. Through the use of guarantees and interest rate subsidies, the Federal Government redirects credit in the economy to certain favored activities. In doing so, non-favored activities in the economy are penalized and the efficiency of the resources available to the economy is reduced. The Federal Credit Reform Act of 1990 places the cost of credit programs on the same budgetary basis as direct Federal spending. For 1991 it is estimated that direct Federal loan guarantees will total $119 billion and direct Federal loans will total $16.8 billion; these exclude secondary loan guarantees. Discipline will be needed to constrain the growth of Federal credit programs.

Increased Savings

33. A larger pool of capital also would be assured if proposals advanced by the Administration are enacted. These include the capital gains tax cut, family savings accounts and enhanced IRAs. Failure to act on these proposals will have a negative effect on national savings and the availability of capital for investment.

34. Pressures to increase Federal expenditures continue for a wide variety of purposes and programs. This has led to proposals to raise marginal tax rates for upper income individuals and corporations. Higher marginal tax rates reduce the return from investment. If Federal actions discourage investment, inevitably economic growth will suffer. The Administration will continue to resist pressures to raise marginal income tax rates.

Research and Experimentation Tax Credit

35. The Administration has proposed to make permanent the Research and Experimentation (R&E) tax credit. Current law allows a 20% tax credit for a certain portion of a taxpayer's qualified research expenses. The credit is computed on the increase in qualified expenses compared to a base period. The credit will expire at the end of 1991 unless it is extended or made permanent. A permanent credit would provide more certainty for firms regarding the availability of the credit as they make investment plans for future years. The credit cannot induce additional R&E expenditures unless its future availability is known at the time firms are planning future outlays. Thus, to have its intended incentive effect, the credit should be permanent.

R&E Expense Allocation

36. The Administration has proposed a change in the rules for allocating R&E expenses on foreign source income for the purpose of computing net income from foreign sources. Under the proposal, there would be a lower allocation of U.S. R&D against foreign source income than required by the original 1977 regulations. For companies with unused foreign tax credits, the

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# CHARTER

## FEDERAL COORDINATING COUNCIL FOR SCIENCE, ENGINEERING, AND TECHNOLOGY

**The Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) is established pursuant to Public Law 94-282, Title V of the "National Science and Technology Policy Organization and Priorities Act of 1976" to consider cross-cutting science, engineering and technology issues. Specifically,**

**The Council shall consider problems and developments in the fields of science, engineering, technology and related activities affecting more than one Federal agency, and shall recommend policies and other measures designed to:**

**(1) provide more effective planning and administration or Federal scientific, engineering, and technological programs,**

**(2) identify research needs including areas requiring additional emphasis,**

**(3) achieve more effective utilization of the scientific, engineering and technological resources and facilities of Federal agencies, including the elimination of unwarranted duplication, and**

**(4) further international cooperation in science, engineering, and technology.**

## OBJECTIVES

**In fulfilling this mandate, the FCCSET's two major objectives are:**

- **to coordinate science, engineering and technology activities affecting more than one Federal agency and surface and resolve science, engineering and technology policy issues with respect to those activities.**

- **to develop authoritative scientific, engineering and technological expertise and advice for the Executive Branch.**

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## FUNCTIONS

To accomplish these two objectives the FCCSET will:

- o serve as a forum for coordinating science, engineering and technology programs affecting more than one Federal agency, sharing information, reviewing and implementing national and international policy objectives and developing consensuses with respect to science, engineering and technology activities;
- o identify research and development needs and priorities;
- o issue reports, studies and assessments of current scientific, engineering and technological capabilities in fields of research and development of concern to the Executive Branch;
- o inform other policy making bodies of review, studies and analyses underway;
- o identify science, engineering and technology issues and concerns of importance to the nation and give expertise and advice to policy bodies;
- o work closely with the Office of Management and Budget in developing and reviewing annual and long-range Federal budget plans in selected cross-cutting areas of science, engineering and technology;
- o improve planning, coordination and communication among Federal agencies engaged in science, engineering and technology.

## ADMINISTRATIVE PROVISIONS

To accomplish these functions the FCCSET is authorized to:

- o detail employees to the Council to perform such functions, consistent with the purposes of the FCCSET, as the Chairman may assign to them;
- o establish committees for the purposes of conducting studies, making reports, coordinating Federal science, technology and engineering activities that involve more than one Federal agency, and making recommendations to the FCCSET;
- o develop, review on an annual basis, charters for committees, and assign high priority agenda items as necessary;
- o Council meetings shall be called by the Chairman as deemed appropriate and such agency member shall attend at a senior policy level;
- o Council proceedings, studies and reports, either preliminary or final, shall be printed and distributed only with the Chairman's authorization.

## MEMBERSHIP

The Council shall be chaired by the Director of the Office of Science and Technology Policy and shall be composed of one senior policy level representative of each of the following Federal agencies:

Department of Agriculture
Department of Commerce
Department of Defense
Department of Education
Department of Energy
Department of Health and Human Services
Department of Housing and Urban Development
Department of the Interior
Department of State
Department of Transportation
Department of Veteran's Administration
National Aeronautics and Space Administration
National Science Foundation
Environmental Protection Agency

Ex-Officio Members:

Director, Office of Management and Budget
Assistant to the President for National Security Affairs

Other agencies may be requested to participate in meetings of the Council concerned with matters of substantial interest to such agency.

## DETERMINATION

I hereby approve and adopt this Charter which is determined to be consistent with PL-94-282 which establishes the FCCSET.

Approved:

D. Allan Bromley

June 6, 1990

D. Allan Bromley
Chairman, Federal Coordinating
Council for Science, Engineering
and Technology

Date:

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# FCCSET

# COMMITTEES, SUBCOMMITTEES AND WORKING GROUPS WITH FCCSET SECRETARIAT AND OSTP POINTS OF CONTACT



**revised JUNE 26, 1990**

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## COMMITTEE ON EARTH AND ENVIRONMENTAL SCIENCES

**FCCSET POC:** Maryanne C. Bach

**OSTP POC:** Nancy Maynard/Bill Busch

**Subcommittees:**

Atmospheric Research (Bill Busch)
Ground Water (Bill Busch)
Federal Oceanographic Fleet Coordinating Committee (Bill Busch)
International Decade for Natural Disaster Reduction (Bill Busch)

**Working Groups:**

Global Change (Nancy Maynard/Bill Busch)
Mitigation and Adaptation Technologies for Global Change (Bill Busch)

## COMMITTEE ON LIFE SCIENCE AND HEALTH

**FCCSET POC:** Maryanne Bach

**OSTP POC:** Dr. Wyngaarden

**Subactivities:**

Biotechnology Science Coordinating Committee (Rachel Levinson)

Committee on Interagency Radiation Research and Policy Coordination (Alicia Dustria)

*Decade of the Brain (Alicia Dustria)

Protection of Human Subjects (Alicia Dustria)

**Other Suggested:**

Neurological and Behavioral Science
Risk Assessment Research

*Proposed by Chair to be part of FCCSET

Other Suggested cont...

International Research
Computational Biology
Plant Biology
Social Sciences
Ecology/Environmental Biology
Support for Basic Biological Research
Global Ecological Health

## COMMITTEE ON FOOD, AGRICULTURAL AND FORESTRY RESEARCH

FCCSET POC: Maryanne Bach
OSTP POC: James Wyngaarden

Subcommittees:

TBD

## COMMITTEE ON INTERNATIONAL SCIENCE, ENGINEERING AND TECHNOLOGY

FCCSET POC: Hugh Stringer
OSTP POC: Sara Bowden

Subcommittees:

Title V Report (Sara Bowden)
International Science and Technology Cooperation (Sara Bowden)
Science and Technology Cooperation with Developing Countries (Sara Bowden)
International Cooperation in Big Science (Kathy Yuracko)
Technology and Competitiveness (Sara Bowden)
International Environment (Sara Bowden)

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## COMMITTEE ON TECHNOLOGY AND INDUSTRY

FCCSET POC: Hugh Stringer
OSTP POC: TBD

**Subcommittee:**

Materials (Robert Post/Perry Lindstrom)

**Working Groups:**

High Temperature Superconductivity
Structural Ceramics
Versailles Advanced Materials Study
Interagency Materials
Nondestructive Inspection/Evaluation
Automated Materials Processing
Composites
Electronic Materials

Others TBD (Possibly Regulation, Technology Transfer, Intellectual Property Rights)

## COMMITTEE ON EDUCATION AND HUMAN RESOURCES

FCCSET POC: Charles Dickens
OSTP POC: Katherine Yuracko

**Working Groups:**

FY 1992 EHR Budget Proposal (Kathy Yuracko)

## COMMITTEE ON PHYSICAL, MATHEMATICAL, AND ENGINEERING SCIENCES

FCCSET POC: Charles Dickens
OSTP POC: Eugene Wong

**Working Groups:**

High Performance Computing Initiative (Eugene Wong)
Access and Representation (Karl Erb)
Structure/Support of Science (Karl Erb)

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# FCCSET COMMITTEES*

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

**May 14, 1990**

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

**April 15, 1991**

**MEMORANDUM FOR HONORABLE ROBERT M. WHITE, CHAIRMAN, FCCSET COMMITTEE ON INDUSTRY AND TECHNOLOGY**

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

**SUBJECT:** **CHARTER FOR COMMITTEE**

**It is my pleasure to forward to you the signed charter for the Committee on "Industry and Technology." On behalf of the Full FCCSET, let me thank you and the Vice-Chairman 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 on final review by the Council. It is 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 INDUSTRY AND TECHNOLOGY
## of the
## Federal Coordinating Council for Science, Engineering and Technology

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

### Purpose

**The purpose of the Committee on Industry and Technology is to address and assist the FCCSET in science and technology (S&T) issues critical to examining, monitoring, encouraging and increasing the effectiveness of Federal policies, programs and initiatives to enhance the development and application of technology by U.S. industry to improve global competitiveness. Particular attention will be given to encouraging industry leadership and initiative in meeting our competitive challenges. The Committee will address significant national S&T policy matters which cut across agency boundaries and shall provide a formal mechanism for interagency science policy coordination and exchanges of information regarding industry and technology.**

### Functions

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

- **improve planning, communication and coordination among Federal agencies which conduct programs affecting the use of technology by industry.**
- **develop and recommend criteria for identifying generic, precompetitive enabling technologies.**
- **identify and assess Federal programs which expedite the commercialization of new technologies by industry in less time and at lower cost, resulting in world-class products and services. These may include efforts in concurrent engineering and management, total quality management, and flexible computer-integrated manufacturing.**

- o identify and address issues that affect the diffusion and exchange of technology among universities, Federal laboratories, and industry.

- o improve the coordination of Federal technology and industry outreach programs with state and local initiatives, and examine the effectiveness of existing mechanisms based largely in the Federal laboratories.

- o review options for gaining greater commercial advantage from Federal science and technology investments.

- o evaluate, strengthen, and recommend establishment of mechanisms, which balance long and short term perspectives, for systematic and early private sector involvement in setting Federal R&D priorities, and in advising on Federal program implementation whenever industry is likely to be affected.

- o review Federal agency technology efforts to track foreign technology advances and business strategies, and recommend ways to more effectively gather, process and disseminate such information for use by U.S. industry.

- o review the role of the Federal government in stimulating private sector training, and in closing the gap between workforce skills and technology requirements.

- o review specific technology-industry issues and problems that affect two or more Federal agencies.

Structure

The Chairman of the FCCSET appoints as Chairman and Vice Chairman of the Committee on Industry and Technology, with the approval of the Full FCCSET. The Vice Chairman is from an agency other than that which the Chairman represents. The Executive Secretary is designated by the CIT Chairman, with the approval of the FCCSET Chairman. The Committee Chairman has responsibility for additional staff assistance and funding and may call upon other agencies for support, as needed, consistent with the function of the charter.

Responsibilities of the Chairman

- o hold regular meetings of the Committee (no fewer than three per year) and approve agendas.

- o submit an annual report to the Chairman of the FCCSET for review by the full Council.

- o appoint, in consultation with the FCCSET Chairman, (and as necessary abolish) sub-committees, task forces and working groups as necessary to achieve the committee's purpose.

- o meet regularly 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
Department of Treasury
Department of Defense
Department of Justice
Department of the Interior
Department of Agriculture
Department of Commerce
Department of Labor
Department of Health and Human Services
Department of Transportation
Department of Energy
Department of Education
Department of Veterans Affairs
Office of Management and Budget
Central Intelligence Agency
United States Trade Representative
Office of Science and Technology Policy
National Aeronautics and Space Administration
Environmental Protection Agency
National Science Foundation
Council on Environmental Quality
Economic Policy Council

Membership on subcommittees, task forces, and working groups is not restricted to Committee members, but all members must be full-time Federal employees. The Committee will subsume the previously existing FCCSET Committee on Materials. The Committee Chairman will appoint the Chairs of all subcommittees, task forces, and/or working groups after consultation with the Committee and approval of the FCCSET Chairman.

A Terms of Reference (ToR) shall be developed by the Committee Chairman, in consultation with the Committee, and approved the the FCCSET Chairman for all subcommittees, task forces and working groups dealing with significant and complex

questions. The ToR will 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.

The Committee shall work closely with other FCCSET committees and interagency groups to include the Council on Competitiveness headed by the Vice President, subgroups of the Economic Policy Council and Domestic Policy Council, Interagency Committee for Federal Laboratory Technology Transfer, Trade Policy Review Group, Interagency Working Group on Advanced Manufacturing, Interagency Committee on Standards Policy, and Interagency Council on Metric Policy.

Committee activities shall be coordinated by an Executive Secretary, designated by the Committee Chairman with the approval of the FCCSET Chairman. Additional staff and funding assistance, consistent with the functions of this charter, shall be the responsibility of the Chairman.

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 Committee. 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. Complete records of all committee activities including those of subgroups, are maintained in the office of the Chairman. The Committee prepares a 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.

Internal Document

**Termination date**

**Unless renewed by the Chairman of FCCSET prior to its expiration, the Committee on Industry and Technology shall terminate not later than October 1, 1992.**

**Determination**

**I hereby determine that the formation of the Committee on Industry 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

April 16, 1991
Date