The original documents are located in Box 32, folder "Science and Technology Policy, Office of (5)" of the James M. Cannon Files at the Gerald R. Ford Presidential Library.

COMMITTEE ON SCIENCE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES

Jim —

For your
info.

regards,

Phil Yeager

COMMITTEE ON SCIENCE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515

PRESS RELEASE

FOR RELEASE: April 2, 1975

The full Committee on Science and Technology expects to undertake the third phase of its 2-year inquiry into Federal science policy and organization beginning early in June, Chairman Olin E. Teague (D-Tex.) announced today.

Mr. Teague said that the coming hearings would probably give special attention to the National Science Policy and Organization Bill (H.R. 4461) which he and Rep. Charles A. Mosher (R-Ohio), Ranking Minority Member of the Committee, introduced on March 6.

He added that if the Senate has acted on similar legislation or if the White House has indicated relevant preferences by the time the hearings begin, these would also be given particular attention.

"Our work in this area, going back a decade or so, convinces us that we need some statutory base in order to obtain a consistent science and technology policy for the future -- plus effective organizational structures to implement it," Mr. Teague said. "We plan, therefore, to cooperate with the Executive Office and with the Senate in the matter as we go along. This should make our task a lot easier and the results a lot better."

The Teague-Mosher bill follows a Committee investigation beginning early in 1973 when President Nixon abolished the Office of Science and Technology and transferred science policy and advisory functions to the National Science Foundation. The essential elements of the bill are the establishment of:

1) A definitive National policy for support and use of science and technology; 2) an advisory mechanism in the Executive Office of the President to deal with the scientific and technological aspects of major contemporary issues; 3) a Department of Research and Technology Operations to house and oversee Federal agencies whose sole function is "R&D", and to review the total Federal "R&D" effort on an annual basis; 4) a Science and Technology Information and Utilization Corporation to incorporate, coordinate and synthesize the activities of the three major Federal science information agencies.

EDWARD E. DAVID, JR.
1000 INTERNATIONAL TOWER BUILDING
8550 WEST BRYN MAWR AVENUE
CHICAGO, ILLINOIS 60631

April 3, 1975

Science Advisor

Dear Mr. President:

I am taking the liberty of writing to you directly concerning science in the White House. You may recall that we discussed this matter some months ago when you were Vice President. Subsequently, I wrote to you detailing my thoughts during that conversation.

I am aware that events regarding science in the White House have progressed, and am knowledgeable about some of the relevant private discussions. Furthermore, within the scientific and engineering community itself, there have been many symposia, conferences, and rump discussions. Still further, the Congress has moved and bills are in train in both the House and Senate. All of this activity has revealed additional dimensions of the problem which were not evident at the time of our earlier discussion.

To outline the situation as I now see it, let me oversimplify somewhat. Remembering our previous discussion, I assume you are still anxious to have sound scientific influences in Presidential policy-making and execution. The technical community is unanimous in wanting to see scientific and technological inputs for government processes at the top level. However, the community is not unanimous on how this should be done, though they are anxious to serve. The White House staff and Executive Offices (particularly OMB, NSC, and the Domestic Council) have in many instances taken on technical advisers of their own and have operated satisfactorily with them. Thus, they are reluctant to relinquish their capabilities to any new science mechanism. The White House staff has become well knit, and no one that I have spoken with there sees clearly how a new independent technical element would fit into the staff, nor what its function would be. The Congress feels that something is needed, but is not anxious to legislate a mechansim for the Executive.

Taking all this into account, it seems to me that the problem is how to establish a science mechanism which has an accepted function to perform and sits at a high enough level in government that it can ensure that the nation's profound technical capabilities can be brought to bear for our benefit.

This puzzle has a solution, I believe, along the following lines. Appoint a Counsellor for Science and Technology with a small staff. He would have two assigned functions: First, have all federal R&D budgets funneled through his office for approval and submission to OMB for further action. Second, have the R&D-intensive agencies "report" to the Counsellor on your behalf. These agencies are NSF, NASA, ERDA, NOAA, and NBS. Note that no R&D activity vital to the function of any existing department would be included. The R&D arms of DOD, HEW, Interior, Agriculture, and so on would remain in place to perform their service. Nevertheless, the aggregation under the Counsellor could be pictured as a budding department of government, as proposed in the Teague-Mosher bill now in the House. If the aggregation eventually were legislated as a new Department of Science and Technology, it could function as such. Meanwhile, it could provide a focal point for science and technology. This would be a statesmanlike move and would I believe satisfy most of the constituencies. At the same time it would provide you with one of the tools you desire to aid you in getting the job done.

The question of candidates for the Counsellorship will be a critical one. I would be happy to advise Mr. Rumsfeld and his personnel chief Walker in this task should you so desire.

I would be privileged to discuss this matter with you more fully and to clear up any remaining points.

Yours very truly,

Edward E. David Jr.

The Honorable Gerald M. Ford
President of the United States
The White House
Washington, D. C.

DRAFT

THE WHITE HOUSE

WASHINGTON

April 17, 1975

MEMORANDUM FOR THE PRESIDENT

FROM: JIM CANNON

SUBJECT: Science and Technology Adviser to the President

BACKGROUND:

Some time ago you requested a recommendation from the Vice PResident on a Science and Technology Adviser to the Administration.

The Vice President submitted a proposal, then conducted additional research and submitted another proposal on March 3, 1975. (Tab I)

You then indicated an interest in having a study made of what previous Presidential science advisers had actually accomplished for the Presidents they served. A summary study is at Tab II, and Dr. James R. Killian's complementary personal account is at Tab III.

CONGRESSIONAL SITUATION

1. Congress is likely to pass some kind of Science and Technology bill at this session. The House Committee on Science and Technology is committed to passage of a bill creating a Council of Advisers on Science and Technology in the Executive Office. On March 6, 1975 Representatives Teague

and Mosher introduced a comprehensive bill that would --

a) write into law a national science policy,

b) create a five-member Council of Advisers, with a Chairman to be Science Adviser to the President.

c) establish a Cabinet level Secretary of Research and Technology Operations,

d) form a government corporation to promote public use of research and development.

2. Informal discussions with House Science and Technology Committee members and staff indicates that the House Committee is flexible and wants to work with your staff on passage of a bill that is acceptable to you. But it appears that Chairman Teague's Committee does want the President and his Administration to have a strong, effective and visible scientific advisory group.

3. The Senate is likely to pass a Science and Technology bill at least as extensive as the proposed House bill.

MEMORANDUM

OFFICE OF THE VICE PRESIDENT

WASHINGTON

THE VP

FROM: ANN

Oscar says that everything he has heard about Pat Haggerty is favorable. He will do a little more research and let us know.

Pat Haggerty

OFFICE OF THE VICE PRESIDENT

WASHINGTON

April 17, 1975

MEMORANDUM FOR THE VICE PRESIDENT

FROM: Peter J. Wallison Peter

SUBJECT: Science Advisor

I met yesterday with Dr. Edward David, who was the head of the Office of Science and Technology just prior to the abolition of the Office during the Nixon Administration.

Dr. David suggested that an excellent choice for a science advisor would be Pat Haggerty, Chairman of Texas Instruments.

I haven't seen Haggerty's name on any of your lists, and I thought you might want to keep him in mind.

I am Oscar let's check on this name

April 18, 1975

MEMORANDUM FOR:

PHIL BUCHEN - OK.
MAX FRIEDERSDORF - #3.
BOB GOLDWIN #3
ALAN GREENSPAN #3
ROBERT HARTMANN #3.
JIM LYNN
ED MARRS #2
JACK MARSH #3
BILL SEIDMAN #4

FROM: JIM CANNON

SUBJECT: Science and Technology Adviser to the President

After the last proposal for a Science and Technology Adviser to the President was prepared, the President indicated he wanted an analysis of what previous Presidential Science Advisers had actually accomplished.

In light of this additional information at Tabs II and III, I feel it important to obtain additional views before submitting this package to the President.

I would, therefore, most appreciate having your comments and recommendations by Tuesday noon, April 22nd.

Thank you.

Attachment

bcc: Dick Dunham
Jim Cavanaugh
Mike Duval
Glenn Schleede
Jim Connor
Jerry Jones

April 18, 1975

MEMORANDUM FOR:

The Honorable Russell W. Peterson
Chairman, Council on Environmental Quality #2 with variation

The Honorable Russell E. Train #2
Administrator, Environmental Protection Agency

The Honorable Frank G. Zarb #3 modified
Administrator, Federal Energy Administration

961-6025
John Hill

SUBJECT:

Science and Technology Adviser to the President

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Thank you.

James M. Cannon
Assistant to the President
for Domestic Affairs

Attachment

bcc: Dick Dunham
Jim Cavanaugh
Mike Duval
Glenn Schleede
Jim Connor
Jerry Jones

THE WHITE HOUSE

WASHINGTON April 18, 1975

MEMORANDUM FOR THE PRESIDENT

FROM: JIM CANNON

SUBJECT: Contributions of Science Advisers to Previous Presidents

SUMMARY:

The Presidential scientific apparatus was a splendid tool in the early days under President Eisenhower. It met a visible need to catch up with the Russians, and was an important political plus for the President.

But in time, the scientists corrected the specific weaknesses that had at first made them necessary. Then their proposals became more diffuse, and seemed directed at preventing ills that had not yet materialized e.g., food and energy. Thus they lost out to greater demands within the White House for solutions to problems that were immediate and pressing. To make matters worse, the scientific community became politicized during the Vietnam war, and was perceived as critical and unfriendly.

The 15-year record of the office indicates that when a Presidential science adviser supported the President's goals, broadened his range of solutions, and kept his ego and ambitions in check, he made great contributions to government and was a major political asset.

EISENHOWER ADMINISTRATION

James Killian of MIT became science adviser to President Eisenhower in 1957 and was later succeeded by George Kistiakowski, a Harvard chemist. This was probably the most effective and influential period for science advisers.

ACCOMPLISHMENTS:

1. Following SPUTNIK, helped assure the U. S. public that the country's missile and space program was in good hands and moving ahead.

2. Prompted creation of National Aeronautics and Space Administration.

3. Provided the scientific basis for President Eisenhower's proposal which ultimately resulted in the 1963 test ban treaty.

4. Made a major impact on the ICBM program, including emphasis on solid fuel rockets.

5. Accelerated the development of a ballistic missile early warning system and anti-submarine capabilities.

6. Assisted in advancing photo reconnaissance by satellite.

7. Helped make available scientific and technical information for dealing with such problems as food additives and environmental health.

8. Helped strengthen programs for the education of U. S. scientists and engineers.

9. Through the respect and prestige they commanded, Killian and George Kistiakowski, helped reassure a shaken public that the U. S. ballistic missile and space programs would close the "technological gap" between the U. S. and Soviet Union.

PROBLEMS:

No major problems other than some criticism of their focus on defense and space-related questions.

KENNEDY ADMINISTRATION

Dr. Jerry Wiesner of MIT was President Kennedy's science adviser. Some of the successes and most of the problems of this period were a product of Wiesner's personal and his assertive attempts to seek a bigger and bigger role in government decision making.

ACCOMPLISHMENTS:

1. Provided valuable guidance leading to the rejection of a number of Pentagon proposals which subsequent research has shown would have indeed been mistakes. e.g. the Dynasoar space plane.

2. Introduced interests beyond space and defense and focused on many other areas of government scientific research such as health.

PROBLEMS:

1. Bitter public debates with NASA over techniques to be used in moon landing, which became a personal struggle between Wiesner and Wernher von Braun.

2. Alienated the scientific community by high-handed attitude and suspicion that he was ambitious to become the "Czar" of American science.

3. Criticism of the Defense Department. For example, he boasted that he could make a better evaluation of defense development projects than Secretary McNamara.

4. Expanded his authority to the point that he was attempting simultaneously to be an unbiased and impartial staff adviser as well as director of a scientific operations unit advocating specific programs.

JOHNSON ADMINISTRATION:

President Johnson's adviser was Donald Hornig, a chemist from Princeton. Hornig has a stormy and unfriendly relationship with the President and therefore appears to have had very little influence on policy.

ACCOMPLISHMENTS:

1. Instituted many siginificant long-range studies, e.g. the potential of the oceans; the world food problem; restoring the environment.

2. In 1965 conducted the first major assessment of the U. S. energy situation.

PROBLEMS:

1. Despite the predictive merit of his proposals, Hornig had little impact because he had no access to the President and little standing within the White House staff.

2. As the Viet Nam war expanded, the scientific communitie's mounting opposition to the war made it even more difficult for Hornig to serve as an adviser.

NIXON ADMINISTRATION:

Lee DuBridge was President Nixon's first science adviser and was succeeded by Ed David of Bell Laboratories in 1970. The decline of influence which began during the Johnson Administration accelerated until 1972, when President Nixon abolished the science adviser.

ACCOMPLISHMENTS:

1. Attempted to develop practical applications of science research.

PROBLEMS:

1. Presidential Science Advisory Committee strongly and publicly opposed SST proposal at a time when the Administration was actively seeking support for the SST.

2. Acquired a reputation within the White House for generating proposals to spend more Federal money.

3. Scientific community regarded Ed David as lacking credentials because of his background as an engineer.

Not final

THE WHITE HOUSE

WASHINGTON

April 18, 1975

MEMORANDUM FOR THE PRESIDENT

FROM : JIM CANNON

SUBJECT : Science and Technology Adviser to the President

BACKGROUND:

Some time ago you requested a recommendation from the Vice President on a Science and Technology Adviser to the Administration.

The Vice President submitted a proposal, then conducted additional research and submitted another proposal on March 3, 1975. (Tab I)

You then indicated an interest in having a study made of what previous Presidential science advisers had actually accomplished for the Presidents they served. One outside analysis is at Tab II. An evaluation by Dr. James R. Killian, Jr., who was the first adviser to President Eisenhower and one of the best of all science advisers, is at Tab III.

The 15-year record of the office indicates, in sum, that when a Presidential science adviser had a clear and specific objective within the President's broader goals, provided a wider range of solutions for the President, and kept his own ambitions and ego in check, he made great contributions to government and was a major political asset.

The best example of the effectiveness of the Presidential scientific apparatus came in the late Fifties, under President Eisenhower. It met a visible need to catch up with the Russian space and missile technological advances, gave a sense of confidence to the American people, and thereby became a political plus for the President.

Today's need for scientific and technological advances to meet energy needs appears to be somewhat analagous.

Any proposal for a Scientific Adviser would be a new spending program, and it seems to me it could be justified only if it were related closely to energy.

CONGRESSIONAL SITUATION

1. Congress is likely to pass some kind of Science and Technology bill at this session. The House Committee on Science and Technology is committed to passage of a bill creating a Council of Advisers on Science and Technology in the Executive Office. On March 6, 1975 Representatives Teague and Mosher introduced a comprehensive bill that would --

a) write into law a national science policy,

b) create a five-member Council of Advisers, with a Chairman to be Science Adviser to the President.

c) establish a Cabinet level Secretary of Research and Technology Operations,

d) form a government corporation to promote public use of research and development.

2. Informal discussions with House Science and Technology Committee members and staff indicates that the House Committee is flexible and wants to work with your staff on passage of a bill that is acceptable to you. But it appears that Chairman Teague's Committee does want the President and his Administration to have a strong, effective and visible scientific advisory group.

3. The Senate is likely to pass a Science and Technology bill at least as extensive as the proposed House bill.

OPTIONS

The Vice President offers three options:

Option 1. A three-member Council of Technology and Science Advisers with up to 20 assistants, at a cost of $2.5 - $5 million annually.

Arguments for:

Such an approach would be a substantial committment that would enable initiatives in a full range of subject areas. It would be well received by the scientific and academic community and would probably satisfy Congress.

Arguments against:

It would be a large and costly operation, and difficult to integrate into the present White House staff.

___Agree ___Disagree

Option 2. A single Director of Technology and Science with up to 17 assistants as needed. Initial cost would be $1 - $1.5 million annually.

Arguments for:

A single director would provide a better reactive capacity and a clearer identity. This option would probably be acceptable to Congress, and would be less costly than what Congress is likely to come up with. The staff would be easier to organize and integrate than Option I.

Arguments against:

Expenditures and staff additions are still large and the organization could not be set up quickly.

Dr. Marrs recommends this option.

Since previous Presidential science advisers were most effective in solving specific problems subject to scientific and technological resolution, I would recommend this option, with the Director specifically directed to work with your energy group toward reaching your energy independence goals. But I think the spending could be scaled down.

___Agree ___Disagree

Option 3. A Science and Technology adviser with up to three assistants, at a cost of $100,000 - $200,000 annually.

Arguments for:

Extremely simple approach whose cost would be relatively minor and such an effort could be in place quickly. Only adminis-

trative action would be required.

Arguments against:

This approach would have limited capability in terms of issues it could deal with on its own and thus would have to rely almost exclusively on outside resources. It probably would not preclude further action by Congress.

Mr. Marsh and Mr. O'Neill recommend:

___Agree ___Disagree

Option 4. Phil Buchen recommends a fourth option:

The appointment of the Scientific and Technology Liaison Adviser to the President who would serve simply as a point of contact between the Administration and the scientific community. (Tab IV)

Arguments for:

Simple step which could be taken immediately at little cost. It would be understood as having no substantive responsibility other than liaison and therefore would not create false expectations.

Arguments against:

Would probably not satisfy Congress and could be viewed in the Scientific community as no more than a token effort.

___Agree ___Disagree

THE WHITE HOUSE

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Ted Russ Train, Russ Peterson
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Arguments against:

This approach would have limited capability in terms of issues it could deal with on its own and thus would have to rely almost exclusively on outside resources. It probably would not preclude further action by Congress.

Jack ~~Mr.~~ Marsh, Frank Zarb Bob Goldwin and Mr. O'Neill recommend: Max Friedersdorf.

___Agree ___Disagree

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The appointment of the Scientific and Technology Liaison Adviser to the President who would serve simply as a point of contact between the Administration and the scientific community. (Tab IV)

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Simple step which could be taken immediately at little cost. It would be understood as having no substantive responsibility other than liaison and therefore would not create false expectations. as a point of contact

Arguments against:

Would probably not satisfy Congress and could be viewed in the Scientific community as no more than a token effort.

___Agree ___Disagree

THE VICE PRESIDENT
WASHINGTON

March 3, 1975

MEMORANDUM FOR THE PRESIDENT

FROM: The Vice President

SUBJECT: Re-establishing a Science and Technology Advisory Apparatus in the Executive Office of the President

This is in response to your request for a memorandum concerning the re-establishment of a science and technology advisory apparatus in the Executive Office of the President.

INDEX

Tab A - Problem

Tab B - Background

Tab C - Functions

Tab D - Structure

Option 1 - Creation of a Council of Technology and Science Advisers

Option 2 - Creation of an Office of Technology and Science

Option 3 - Appointment of a Science and Technology Adviser to the President

A

PROBLEM

PROBLEM

The dissolution of the science advisory structure in the White House in 1973 was greeted with great dismay by the scientific community. Pressure is growing steadily from scientific community leaders for action to restore some science presence in the White House.

A June 1974 report by a special committee of the National Academy of Sciences, recommending the creation of a Council on Science and Technology in the Executive Office of the President, has heightened this pressure and has made likely Congressional action to re-establish some kind of scientific and technical policy organization in the Executive Office of the President.

B

B

BACKGROUND

BACKGROUND

President Truman

The concept of providing scientific and technical advice directly to the President in a formal way was initiated by President Truman in 1951. The Scientific Advisory Committee in the Office of Defense Mobilization met occasionally with the President and, in spite of its location in the Department of Defense, had direct access to the President. President Truman, himself, recognized this function of the group and dealt with them as personal advisers.

President Eisenhower

The "Sputnik" crisis of 1957 created a political situation that made it advisable to locate a scientific advisory structure in the White House itself. Accordingly, the scientific advisory function which was located in the Office of Defense Mobilization was moved to the White House and greatly expanded. An official with the title of Science Adviser to the President was appointed and a President's Science Advisory Committee was established.

The President's Science Adviser also served as Chairman of the new interagency Federal Council on Science and Technology, which took over the function of coordinating all of the scientific research and technical development going on with the Federal Government.

President Kennedy

In 1962, under a reorganization measure of the Executive Branch, President Kennedy created a large staff office in the White House under the Science Adviser to assist in advising the President and in overseeing the burgeoning Federal responsibility for science and technology. This office, called the Office of Science and Technology, also served as the staff arm of the President's Science Advisory Committee.

The Office of Science and Technology and the President's Science Advisory Committee were remarkably successful in heightening the overall interest in scientific and technical developments among the various Departments of the Federal government. In fact, their creation sparked the establishment of line offices in charge of scientific research and development in all of the operating Departments of the Federal government.

Through the early and middle 1960s, the Office of Science and Technology enjoyed a fairly prominent position in the White House, as the space and defense programs dominated the national scene. As the national focus shifted to the economic and social problems of the late Sixties, however, the role of the Office of Science and Technology in national policy formulation became less clear and its influence in the White House less substantial.

President Nixon

During the late Sixties and the early Seventies, the Office of Science and Technology became more and more of a "special pleader" for its science constituency -- advocating positions and ideologies not always consistent with Administration policy. Instead of serving to advise the President, the Office of Science and Technology often became his critic.

Finally, in July 1973, President Nixon abolished the position of Science Adviser, the Office of Science and Technology and the President's Science Advisory Committee. The functions of the Science Adviser were given to the Director of the National Science Foundation and those of the Office of Science and Technology and the President's Science Advisory Committee transferred to the National Science Foundation in civilian areas and the National Security Council in military areas.

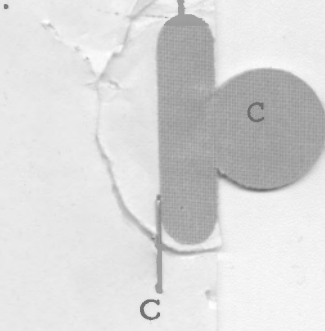
Although many scientists viewed the dissolution of the science advisory structure in the White House as purely politically motivated, there were several good reasons for making some kind of change.

1. By the early 1970s, virtually all Federal Departments had developed their own scientific and technical arms. This significantly lessened the need for a large scientific and technical staff in the White House (which, after all, had no line functions).

2. The failure of the Office of Science and Technology's staff to relate to the White House policy formulating procedure made it difficult to integrate that Office's recommendations with those of other advisory functions in the White House. Therefore, as emerging national problems began to include components other than "hard" technology, the Office of Science and Technology became less effective and useful in contributing to Presidential-level decision-making.

3. As the Office of Science and Technology's allegiance to its constituency grew, its effectiveness in serving the President diminished.

FUNCTIONS



FUNCTIONS

The scientific community is now generally united in the belief that the President should have available to him an independent source of scientific and technological judgment on a wide range of areas, including:

-- social and behavioral sciences;
-- physical and life sciences;
-- medicine;
-- engineering;
-- international aspects of science and technology;
-- science and technology in the private sector;
-- education and training of scientific manpower.

They have pointed out that a White House science and technology advisory apparatus could perform the following vital functions:

1. Advising the President in the formulation and review of national policies in areas involving science and technology development. Energy, transportation, environmental planning, health care delivery and food supply are examples of these.

2. Providing technical advice for the President and his staff, including the Domestic Council, the Council of Economic Advisers, and the Office of Management and Budget, on specific issues and questions dealing with science and technology.

3. Working with the Federal Council on Science and Technology in coordinating the large existing in-house capability of the Federal government in scientific and technological research and development. There are approximately 100,000 people employed in Federal research and development establishments, and it is important to see that this large and sophisticated work force is properly and effectively employed.

4. Identifying and reporting on gaps in scientific research and technological developments in the public and private sector and initiating studies where appropriate.

5. Providing the President with "early warning" of problems, opportunities or developments that have a scientific or technological component, including some longer-range forecasting of such problems, opportunities and developments.

6. Consulting with the President on the appointments of various scientific and technical officials in the Federal agencies.

Moreover, the scientific community is now in full agreement that the proper function of such an advisory apparatus is to advise and service the President -- not to be public advocates.

STRUCTURE

STRUCTURE

OPTION 1. CREATION OF A COUNCIL OF TECHNOLOGY AND SCIENCE ADVISERS

The President could propose legislation creating a 3-member Council of Technology and Science Advisers in the Executive Office of the President. The Council would be similar in function to the Council of Economic Advisers. The members of the Council would be appointed by the President from among the different disciplines in the science and technology fields. The Chairman of the Council would also serve as the President's Technology and Science Adviser.

(VARIATION: Some have proposed creation of a 7-member Council, composed of four Presidential appointees and the Presidents of the National Academy of Science, the National Academy of Engineering and the Institute of Medicine serving ex officio.)

STAFFING: The Council's staff would consist of an Executive Assistant to the Chairman and a number of professional assistants (15-20) and supporting clerical staff. The Council would also be authorized to establish ad hoc committees composed of governmental and/or non-governmental experts to do in-depth analyses of selected problems and issues.

FISCAL IMPLICATIONS: $2.5 - $5 million annually.

ARGUMENTS FOR:

-- In essence, this is the approach embodied in the "Kennedy bill" passed by the Senate last year. It incorporates the recommendation of the National Academy of Science's special committee, and is fully responsive to the scientific community's demands.

-- This assures greater depth in the science and technology advisory apparatus and greater representation and input from the various disciplines in the science and technology field.

-- This would ensure an ongoing structure in the Executive Office of the President fully capable of rendering scientific and technological advice or performing such other related responsibilities as the President may assign to it.

-- The authority to create ad hoc groups permits tapping of the resources of the scientific community.

ARGUMENTS AGAINST:

-- This structure might be difficult to integrate into the existing White House operation.

-- It is more susceptible to "politization" both as to its internal operation (with each of the three members representing the views of his own constituency) and as to its relationship with the Administration (because of the structural autonomy of a council).

-- It would result in a visible increase in the size and budget of the White House.

-- This structure is larger than is necessary to meet the problem and is also unwieldy.

OPTION 2. CREATION OF AN OFFICE OF TECHNOLOGY AND SCIENCE

The President could propose legislation creating an Office of Technology and Science in the Executive Office of the President. The Director of the office would be a highly qualified scientist appointed by the President, who would serve also as the President's Technology and Science Adviser.

STAFFING: In addition to the Director, the office would have a Deputy Director (for administration) and, as is required

- -- up to five Assistant Directors (for various specialties);
- -- up to twelve professional assistants; and
- -- supporting clerical staff.

The Director would also be empowered to establish ad hoc committees composed of governmental and/or nongovernmental experts to do in-depth analyses of selected problems and issues.

FISCAL IMPLICATIONS: $1 - $1.5 million annually.

ARGUMENTS FOR:

- -- This is largely responsive to the legitimate demands of the scientific community and could, therefore, be expected to satisfy the Congress.

- -- It assures to the President and his staff the availability of a broad range of scientific and technical expertise. This would be tremendously useful to the Domestic Council, the Council of Economic Advisers, the Office of Management and Budget, et al.

-- This structure will help to assure the development of an ongoing scientific and technological capacity in the Executive Office of the President.

-- The authority to create ad hoc groups permits tapping of the resources of the scientific community.

-- This structure is sufficiently flexible to permit growth of in-house capacity when and as necessary.

ARGUMENTS AGAINST:

-- This would involve Congressional action to implement (and, of course, to undo).

-- There are those who feel that this would unduly increase the size of the President's staff.

-- Some contend that the need for a science and technology capacity in the White House does not justify the creation of an office.

OPTION 3. APPOINTMENT OF A SCIENCE AND TECHNOLOGY ADVISER TO THE PRESIDENT

The President could, by administrative action, appoint a full-time Science and Technology Adviser to the President to serve on the White House staff.

STAFFING: The Science and Technology Adviser would be authorized a few (1-3) professional assistants and supporting clerical staff, but would otherwise have to rely on National Science Foundation professional staff for support.

FISCAL IMPLICATIONS: $100,000 - $200,000 annually.

ARGUMENTS FOR:

-- This could be accomplished by administrative act of the President.

-- It would relieve some of the pressure for Congressional action on this issue.

-- This would make available to the President and his staff at least some independent scientific and technological expertise.

-- This would be relatively inexpensive and would not significantly increase the size of the President's staff.

ARGUMENTS AGAINST:

-- This approach would satisfy neither the scientific community nor the Congress and, therefore, it could not be expected to avert independent Congressional action on the issue.

-- It is doubtful whether, under this structure, the Science and Technology Adviser could "cover the waterfront." Therefore, pressure to increase the size and scope of this apparatus will continue.

-- This structure is not suitable for the development of an on-going scientific and technological capacity in the White House.

-- This structure is not suitable for tapping the resources of the scientific community on an interim basis since the Science and Technology Adviser would not be empowered to create ad hoc panels for special research purposes.

PRESIDENTIAL DECISION

Proceed with further development of:

Option 1 _____

Option 2 _____

Option 3 JM

Discuss JM

THE WHITE HOUSE

WASHINGTON

March 10, 1975

MEMORANDUM FOR: JIM CANNON

FROM: TED MARRS

SUBJECT: Re-establishing a Science and Technology Advisory Apparatus in the Executive Office of the President

Thanks for my inclusion in distribution of the paper on Science Advisory apparatus. My thoughts are as follows:

1. There is a real advantage in the President's taking action in this matter to prevent being preempted by establishment of a Congressional creation which would become a focal point of advocacy and embarrassment to this and future administrations.

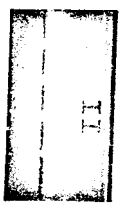
2. The functions as stated are indeed vital ones, but we should have little confidence in the scientific community's intent that the advisory role be kept out. Also, there are strongly polarized elements in that community which are currently jockeying for future control.

3. Of the three options offered, Option 1, the establishment of a "Council" would be most acceptable in the highly vocal parts of the politico/scientific world. Option 3 would probably be ineffective and unproductive and not acceptable to the Congress or to the scientific community. Option 2 should be modified.

4. Option 2 should have a larger budget if it is intended to have a productive ad hoc committee capability. This "Office" is a potentially highly productive function which can pay its way - if properly managed - by savings through selectivity and coordination of scientific activities.

5. Because of the internal battles within the scientific community, consideration should be given to having a well qualified administrator rather than a well qualified scientist as the Director in Option 2 - a referee rather than a player. In any event, I would recommend keeping this open at this stage.

TAB II



THE WHITE HOUSE

WASHINGTON April 18, 1975

MEMORANDUM FOR THE PRESIDENT

FROM: JIM CANNON

SUBJECT: Contributions of Science Advisers to Previous Presidents

SUMMARY:

The Presidential scientific apparatus was a splendid tool in the early days under President Eisenhower. It met a visible need to catch up with the Russians, and was an important political plus for the President.

But in time, the scientists corrected the specific weaknesses that had at first made them necessary. Then their proposals became more diffuse, and seemed directed at preventing ills that had not yet materialized e.g., food and energy. Thus they lost out to greater demands within the White House for solutions to problems that were immediate and pressing. To make matters worse, the scientific community became politicized during the Vietnam war, and was perceived as critical and unfriendly.

The 15-year record of the office indicates that when a Presidential science adviser supported the President's goals, broadened his range of solutions, and kept his ego and ambitions in check, he made great contributions to government and was a major political asset.

EISENHOWER ADMINISTRATION

James Killian of MIT became science adviser to President Eisenhower in 1957 and was later succeeded by George Kistiakowski, a Harvard chemist. This was probably the most effective and influential period for science advisers.

ACCOMPLISHMENTS:

1. Following SPUTNIK, helped assure the U. S. public that the country's missile and space program was in good hands and moving ahead.

2. Prompted creation of National Aeronautics and Space Administration.

3. Provided the scientific basis for President Eisenhower's proposal which ultimately resulted in the 1963 test ban treaty.

4. Made a major impact on the ICBM program, including emphasis on solid fuel rockets.

5. Accelerated the development of a ballistic missile early warning system and anti-submarine capabilities.

6. Assisted in advancing photo reconnaissance by satellite.

7. Helped make available scientific and technical information for dealing with such problems as food additives and environmental health.

8. Helped strengthen programs for the education of U. S. scientists and engineers.

9. Through the respect and prestige they commanded, Killian and George Kistiakowski, helped reassure a shaken public that the U. S. ballistic missile and space programs would close the "technological gap" between the U. S. and Soviet Union.

PROBLEMS:

No major problems other than some criticism of their focus on defense and space-related questions.

KENNEDY ADMINISTRATION

Dr. Jerry Wiesner of MIT was President Kennedy's science adviser. Some of the successes and most of the problems of this period were a product of Wiesner's personal and his assertive attempts to seek a bigger and bigger role in government decision making.

ACCOMPLISHMENTS:

1. Provided valuable guidance leading to the rejection of a number of Pentagon proposals which subsequent research has shown would have indeed been mistakes. e.g. the Dynasoar space plane.

2. Introduced interests beyond space and defense and focused on many other areas of government scientific research such as health.

PROBLEMS:

1. Bitter public debates with NASA over techniques to be used in moon landing, which became a personal struggle between Wiesner and Wernher von Braun.

2. Alienated the scientific community by high-handed attitude and suspicion that he was ambitious to become the "Czar" of American science.

3. Criticism of the Defense Department. For example, he boasted that he could make a better evaluation of defense development projects than Secretary McNamara.

4. Expanded his authority to the point that he was attempting simultaneously to be an unbiased and impartial staff adviser as well as director of a scientific operations unit advocating specific programs.

JOHNSON ADMINISTRATION:

President Johnson's adviser was Donald Hornig, a chemist from Princeton. Hornig has a stormy and unfriendly relationship with the President and therefore appears to have had very little influence on policy.

ACCOMPLISHMENTS:

1. Instituted many siginificant long-range studies, e.g. the potential of the oceans; the world food problem; restoring the environment.

2. In 1965 conducted the first major assessment of the U. S. energy situation.

PROBLEMS:

1. Despite the predictive merit of his proposals, Hornig had little impact because he had no access to the President and little standing within the White House staff.

2. As the Viet Nam war expanded, the scientific communitie's mounting opposition to the war made it even more difficult for Hornig to serve as an adviser.

NIXON ADMINISTRATION:

Lee DuBridge was President Nixon's first science adviser and was succeeded by Ed David of Bell Laboratories in 1970. The decline of influence which began during the Johnson Administration accelerated until 1972, when President Nixon abolished the science adviser.

ACCOMPLISHMENTS:

1. Attempted to develop practical applications of science research.

PROBLEMS:

1. Presidential Science Advisory Committee strongly and publicly opposed SST proposal at a time when the Administration was actively seeking support for the SST.

2. Acquired a reputation within the White House for generating proposals to spend more Federal money.

3. Scientific community regarded Ed David as lacking credentials because of his background as an engineer.

TAB III

III

JAMES R. KILLIAN, JR.

77 MASSACHUSETTS AVENUE
CAMBRIDGE, MASSACHUSETTS 02139

March 20, 1975

The Honorable Nelson A. Rockefeller
Vice President of the United States
The White House
Washington, D. C.

My dear Mr. Vice President:

In response to your request, I have prepared the attached list of some of the contributions to Presidential policy-making in the Eisenhower administration made by the Special Assistant for Science and Technology and the President's Science Advisory Committee. At the beginning of this list, I have summarized the longer statement which follows. In listing these contributions made during the period when I was a participant, may I express some personal views bearing on the study you are making of proposed science advisory arrangements.

I fully recognize that present circumstances differ from those of the Eisenhower years both in the organization of the Presidential staff machinery and in the diversity and complexity of the issues faced by the President.

President Eisenhower looked to his science advisory mechanism for assistance in the national defense area and for supporting the work of the National Security Council. I am aware that the National Security Council now has staff competence and consultant panels which are providing a technological dimension to the examination of national security issues. These did not exist in the Eisenhower period. This arrangement appears to be working

effectively and to have the confidence of the Special Assistant for National Security Affairs. I personally do not recommend that these arrangements be supplanted by a new science and technology advisory mechanism but I do feel that the proposals for the new mechanism are no less essential because these NSC panels exist. The existing NSC arrangements have a national security policy focus on a very limited number of problems, and I am convinced that there are important issues involved in assuring a healthy scientific and technological foundation for military research and development, and the proposals of the National Academy Committee are directed toward providing this foundation.

I am also convinced that the scientific and technical feasibility and soundness of major weapons systems developments evaluated by objective panels of the proposed advisory mechanism could serve the needs of the President and the Office of Management and Budget as well as the National Security Council as the NSC might request. In my view it would be a mistake to exclude the Science Adviser from the national security area and from the deliberations and studies of the National Security Council because of the inseparability of policy and program considerations and the special perspective and judgments that a science advisory group could contribute to Presidential-level discussion of national security issues.

In the Domestic Council area there is, of course, much greater emphasis on problems in the civilian sector, where developments in science and technology in many instances offer the best hope of long-term solutions. The existence of the Domestic Council means that there is a focus for scientific and technological assessments of domestic problems and an opportunity to couple scientific and technological considerations with economic, sociological, institutional, and political factors, all of which must

be brought to bear in developing options for Presidential consideration. The effectiveness of the Special Assistant for Science and Technology in the national security area in past years was in no small measure attributable to the existence of the National Security Council as a mechanism for assuring serious consideration of scientific studies.

In the latter days of the Special Assistants and the President's Science Advisory Committee many of the excellent, farseeing studies which were made by the advisory setup were not systematically considered and followed up because there was no mechanism such as the Domestic Council and its staff to receive and assess them. During the Kennedy, Johnson, and Nixon administrations there were numerous important studies made by PSAC and its panels which dealt with environmental matters, energy policy, and the world food problem which could have been of great value to the administration in the formulation of policy and the taking of initiative in areas that later came to be of great national concern. There was a national loss in the fact that these farseeing studies did not receive the necessary follow-through attention.

In making these observations, I am mindful of the arguments that by strengthening the scientific and technical capabilities of the National Security Council, the Domestic Council, and the Office of Management and Budget, there may be less need for a separate White House level science and technology mechanism and that a separate mechanism might have difficulty in relating its scientific and technological analyses to the issues as they are perceived by those staff agencies. These arguments were carefully examined by the National Academy of Sciences Committee on Science and Technology, which I chaired. The membership

of that Committee included a former Assistant Director of the Office of Management and Budget and a former member of the Council of Economic Advisers, both of whom were experienced in the operations of the White House staff. It was the strongly held view of the Committee that the scientific and technical capabilities of the National Security Council, Domestic Council, and OMB should be strengthened and by so doing there would be a more effective interaction achieved and a two-way coupling between those offices and a new science and technology mechanism. The new mechanism proposed can look at the totality of the nation's scientific and technical resources in relation to national needs and by having this broader view, can help to offset a fragmented approach occasioned by the differing missions of the executive agencies, both at operating and Presidential staff levels.

The reasons supporting the establishment of a new science and technology mechanism have been intensively treated in the National Academy and other excellent reports and articles in the past year. My interest in making the foregoing observations is to emphasize a few points arising out of the discussions which were prompted by the Academy report.

I am in full accord with the comments made by President Handler of the National Academy of Sciences when he wrote you recently emphasizing that the mission of the new science and technology advisory mechanism which has been proposed should be to serve the needs of the President. "It should," as he wrote, "not be a privileged means to represent special interests of the scientific and technological communities. Nor should it be a privileged advocate

for science and technology per se. To be useful, its analyses must recognize the essential interdependence of science, technology and fiscal, economic, social, political, and institutional factors in developing policy alternatives."

I am grateful for this opportunity to provide supplemental information and to recall the many ways in which the scientific mechanism established by President Eisenhower served him and successive Presidents and assisted greatly in the formulation of sound national policies.

Yours respectfully,

J. R. Killian, Jr.

JRK:cp
enclosure