

# Appendix B

## TECHNOLOGY ASSESSMENT ADVISORY COUNCIL ACTIVITIES

### Appendix B

#### LETTER OF CHAIRMAN WIESNER, TECHNOLOGY ASSESSMENT ADVISORY COUNCIL, TO SENATOR KENNEDY, CHAIRMAN, TECHNOLOGY ASSESSMENT BOARD

January 4, 1977

The Honorable Edward M. Kennedy  
Chairman, Technology Assessment Board  
Russell Senate Office Building  
Washington, D.C.

Dear Mr. Chairman:

The OTA Advisory Council continued to work with the OTA Board and staff in 1976 to develop and refine ways in which the Council might best contribute to OTA activities. As a general advisory body, the Council presented observations and recommendations to the Board, gave special guidance and assistance to a number of OTA programs and activities, helped develop and extend the theory and methods of technology assessment, and attempted to promote consideration of long-term trends and impacts of technologies. Throughout the year, the Council placed special emphasis on OTA assessment priorities, methodologies, emerging issues, and public participation mechanisms. And, in response to concerns expressed by the Council's first Chairman, Harold Brown (See appendix F to the 1976 Annual Report), the Council worked to improve its commitment, cooperation, and communication with the Board and OTA staff.

During 1976, regular Advisory Council activities included meetings of the full membership, joint meetings with the Technology Assessment Board, and special subcommittee and panel meetings. The six regularly scheduled business meetings of the full council membership in 1976 included briefings from OTA staff on the following programs and projects: Technology and World Trade, Oceans (offshore energy systems), Transportation (coal slurry pipelines), Energy (nuclear proliferation), Emerging Technologies, and National Research and Development Policies and Priorities. During such briefings, the Council was able to give advice and guidance to ongoing and proposed assessment projects. In addition, regular meetings with the Technology Assessment Board and one working session with OTA staff provided opportunities for the Council to advise on more general issues involving OTA operations and approaches. Two OTA activities in which the Advisory Council played a major role in 1976 are the assessment program on National Research and Development Policies and Priorities and the Planning Study on Emerging Technologies. Both activities are designed to provide the Congress with better understanding with which to shape and evaluate the Nation's technical research and development programs.

## National Research and Development Policies and Priorities Assessment

As you know, the Research and Development Program covers not only Federal R&D, but also the impacts of Federal legislation, regulation, and other actions on the utilization of science and technology in the private sector. At the request of the OTA Board and after extensive deliberations, the Advisory Council agreed to play a continuing role in guiding this program. A Research and Development Program Steering Committee was established under the chairmanship of Harold Brown, myself, and the chairmen of the three advisory panels serving as members: Harvey Brooks, chairman of the Panel on the Health of the Scientific and Technical Enterprise; Lewis Branscomb, chairman of the Panel on the Applications of Science and Technology; and Edward Wenk, Jr., chairman of the Panel on Decisionmaking on Research and Development Policies and Priorities.

Each of the three program panels held three or four meetings during the period of the annual report. Based on the deliberations of these panels, the Steering Committee approved a program consisting of the following projects:

- Health of the Scientific and Technical Enterprise Panel:

- (1) Definition of the scientific and technical enterprise and the criteria for evaluating its health, (2) consideration of the special problems confronting the academic science and engineering communities; (3) expanding opportunities for women and minorities in science and engineering; and (4) setting priorities for national effort among fields of science and engineering.

- Applications Panel:

- (1) Consideration of possible governmental actions to enhance the processes of technological innovation in our society; (2) international technology transfer issues with emphasis on the less developed countries; and (3) how the Nation can better mobilize its scientific and technical resources to meet national goals or solve social problems.

- Decisionmaking Panel:

- (1) Development of guidelines for congressional evaluation of R&D; (2) Federal reorganization of its science and technology activities; (3) methodology for evaluating the economic and social impact of research and development; and (4) methods for improving foresight in R&D decisionmaking.

- Projects in which all three panels will be involved:

- (1) The role of the national laboratories; (2) "appropriate technology"; and (3) public participation in science and technology.

Specific projects have been launched in various of these areas through the OTA staff, consultants, and contractors. Examples are a study of the impact of zero-based budgeting on research programs; a contract to delineate key Government policy issues in influencing technological innovation; and a consultant study of national laboratories.

## Planning Study on Emerging Technologies

The Advisory Council has become heavily involved in the newly initiated Emerging Technologies Planning Study. This project will emphasize larger, long-term issues and alternative approaches to important technological developments of needs. Initiated at the request of the OTA Board in the summer of 1976, the activity was seen by the Council as an opportunity to merge its own expertise and interest in priorities and wide-impact technologies with studies that would attempt to develop

methods for identifying potential large-impact and long-term technologies as they emerge.

In September, the Council agreed to work with the Emerging Technologies study by assigning this task to the Priorities Subcommittee (now a committee-of-the-whole). Since then, members of the planning staff have worked closely with the Council to identify objectives, approaches, scope, and specific issues the program will address. At the end of the year, the staff expanded their planning study to look into the feasibility of evaluating the influence of society upon technology. It is anticipated that the planning study will be completed by April 1977 and presented to the Council and the Board at that time.

The Advisory Council believes that both the Research and Development Policies and Priorities Program and the Emerging Technologies Planning Study hold great promise for helping Congress improve its authorization, appropriation, and oversight of science and technology programs, and the Council is ready to continue its guiding role in these assessments at the request of the OTA Board.

During 1976, the Advisory Council continued its subcommittee activities. The activities of the former Priorities Subcommittee were merged into the work of the Emerging Technologies study: Also, the Council reestablished the Methodology Subcommittee under the chairmanship of John McAlister; this subcommittee has focused on approaches that have been used, and those which might appropriately be used, in OTA's assessments.

To accomplish this task of a broad examination of methods used by OTA in its first few years of operation, the Methodology Subcommittee is comparing the accomplishments of OTA with the methods used to achieve them. Members of the subcommittee have participated in the series of workshops on program management convened by Mr. Daddario in the fall of 1976, and have formulated a study approach which goes beyond the self-examination that is to be summarized in the proceedings of the workshops. A final report, due in 1977, should provide opportunities to improve OTA's capabilities for quality control in its assessments.

Throughout 1976, individual Council members continued to be involved in various OTA program advisory positions based upon their own interests and expertise. J. M. Leathers, Vice President of the Dow Chemical Corporation, is a member of the OTA Energy Advisory Committee; Frederick C. Robbins, Dean of the School of Medicine at Case Western Reserve University, plays a leading role in planning OTA's program of health assessment by chairing the Health Advisory Committee; Hazel Henderson, Co-Director of the Princeton Center for Alternative Futures, provides advice on public participation methods, particularly those employed by OTA's Oceans Assessment Program; and J. Fred Bucy, President of Texas Instruments, Inc., serves on the Advisory Committee to the Assessment of Technology and World Trade.

At the end of 1976, some changes in the Council membership were expected, and made. As he was appointed Director of the Congressional Research Service, the Honorable Gilbert Gude replaced Norman Beckman as the Council member from the CRS of the Library of Congress. The Council also expected a replacement for Harold Brown, who was appointed Secretary of Defense at the beginning of 1977, and reappointment of John McAlister, Jr., and J. Fred Bucy to the Council.

As a summary note, the activities of individual Council members and those of the Council as a whole over the past year might be examined in light of the correspondence between former Chairman Harold Brown and former Board Chairman Olin E. Teague in December 1975. In his letter of resignation as

chairman, Dr. Brown pointed out three areas in which the operation of the Council could be improved: (1) communication and coordination with the OTA Board; (2) communication and guidance of OTA program areas; and (3) commitment of Council members to improving OTA products and processes. At the end of 1976, the Advisory Council still faces the need for improvement in each of these areas.

Over the past year, the Council planned to send representatives to regular Board meetings as a means of improving communications between the two bodies. Often, it was not possible to do this. Similarly, the Advisory Council discussed the need for more frequent and meaningful contact with OTA program staff and their products. But, except for certain programs described previously, and the commitments of certain individual Council members to program areas, improvements can be made here as well. Finally, since Council members have other obligations which must frequently take precedence over OTA activities, the time spent by many members in connection with Council and OTA matters has been insufficient to provide the level of guidance and oversight a body such as the Advisory Council could give.

Suggestions for improvements in all these areas might not only include renewed commitments on the part of Council members, but also the addition of new Council members or associate members. With increased membership, and more frequent scheduling of regular meetings, the Council as a whole might be able to spend more time in contact with the Board, OTA programs, and other Council activities. The Council sees opportunities to learn from its strengths, successes, and shortcomings in order to improve both the Council and OTA operations. We are ready to assist the Board in any wise and considered course for doing so.

Sincerely yours,

JEROME B. WIESNER