

SUBJECT
CC MASTER
~~AS~~



6
cc. C. Cunningham
Ch. Scientific Adviser
Off. Co.

10 DOWNING STREET
LONDON SW1A 2AA

From the Private Secretary

18 July 1986

Dear David,

The Prime Minister saw Sir Trevor Skeet, Sir Gerard Vaughan and Sir Ian Lloyd yesterday at their request to discuss their proposals for enhanced scientific support for Members of Parliament. The three MPs handed over the attached report which the Prime Minister undertook to read.

EF 11

During the discussion the Prime Minister pointed out to the Members that what they were proposing was essentially a matter for the House of Commons and indeed expressed a certain amount of scepticism about whether, following the vote to increase Members' allowances this week, further public money for such a purpose could be justified. It is clear that the Members are pursuing something of a campaign on this point and I know the Prime Minister would be grateful for the Lord Privy Seal's advice on how she should respond to the approach she has received.

Particular points which arose during the discussion were whether the Parliamentary and Scientific Committee might approach individual Members to dedicate part of their enhanced research allowance for a new organisation of the kind they propose. Alternatively it was suggested that the Department of Education and Science Select Committee might be split so that Members interested in science would have more ready access to the resources available in the House of Commons.

I have no idea whether there is anything in these suggestions and, as I have said, I am sure that the Prime Minister will not want to encourage anything which smacks of empire building.

Perhaps you could seek the Lord Privy Seal's views.

Tim Flesher

David Morris, Esq
Lord Privy Seal's Office.

THE PARLIAMENTARY AND SCIENTIFIC COMMITTEE

An unofficial group of members of both Houses of Parliament and British members of the European Parliament and representatives of certain scientific and technical institutions and some science-based companies.

SCIENCE AND TECHNOLOGY GROUP

CHAIRMAN
Sir Gerard Vaughan M.P., F.R.C.P.

16 GREAT COLLEGE STREET
LONDON SW1P 3RX

VICE-CHAIRMAN
Dr. John Bleby J.P.

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TECHNOLOGY ASSESSMENT - AN EXPANDED ROLE

FOR THE PARLIAMENTARY AND SCIENTIFIC COMMITTEE

AT WESTMINSTER

REPORT BY The Chairman of the Parliamentary and Scientific Committee
(SIR TREVOR SKEET, M.P.)

Chairman of the Science and Technology Group (SIR GERARD VAUGHAN, M.P.)

A Vice Chairman of the Parliamentary and Scientific Committee
(SIR IAN LLOYD, M.P.) and

The Vice Chairman of the Science and Technology Group (DR. JOHN BLEBY, J.P.)
who visited the Office of Technology Assessment in Washington
in March, 1986.

JUNE 1986

SCIENCE AND TECHNOLOGY GROUP

TECHNOLOGY ASSESSMENT - AN EXPANDED ROLE

FOR THE PARLIAMENTARY AND SCIENTIFIC COMMITTEE

AT WESTMINSTER

I ORIGINS OF THE PROPOSAL

The concern over the development of science and its technological application to the United Kingdom has developed progressively under successive governments over a period of several decades and has now reached a point at which it is clear that a new emphasis, policy and thrust, is required if the nation's scientific genius is to continue to flourish and its industrial performance benefit from policies, which recognise the importance of the issue and address the solutions with conviction and imagination.

The Parliamentary and Scientific Committee has, since its inception in 1939, pursued the objective of providing an effective forum between Parliamentarians of both Houses and scientists. Since the growth of technology, particularly in the past decade, this unique institution has been faced at once with an opportunity and a challenge. Further, it is apparent that there must be constant assimilation of technological evaluation into the political system. Technology is regarded as crucial to the nation's recovery, for while innovation and technical change may engender job losses in old industries, these elements will nevertheless create fresh employment and added-value in new industries.

Most of the discussion and analysis has centred around the internal organisation of both public and private science, the appropriate balance between the two, the availability and distribution of resources, and the methods needed to establish an acceptable and effective profile for science in the domain of public discussion and resource allocation. The "Save British Science" campaign is the latest expression of this concern. At the highest level, there has been some discussion of the organisation of science at Ministerial and departmental levels, some of which has revolved around the issue of whether or not a Minister for Science should be appointed, with or without a seat in the Cabinet, and what departmental reorganisation should follow such an appointment.

Beyond the whole range of this important and necessary discussion lies the issue which this paper seeks to address and which gave rise to the formation in 1985 of the Science and Technology Group following the initiative of Sir Trevor Skeet, M.P., the Chairman of the Parliamentary and Scientific, and chaired by Sir Gerard Vaughan, M.P. The objectives, membership and achievements of the STG are contained in Appendix I.

Subsequently, the Group visited Washington to examine the Office of Technology Assessment and the overall mechanism employed by the US Congress to inform its judgement on scientific issues or legislation which had important technological implications.

The question is whether a satisfactory and effective policy for science and subsequent legislation can ever be satisfactorily achieved if the House of Commons, in particular, has to continue to be dependent upon the limited and inadequate scientific support currently available.

The present Prime Minister suggested, in a letter to Sir Ian Lloyd, M.P., who put forward the proposal that a British institution serving Parliament along the lines of the Office of Technology Assessment should be set up, that the Parliamentary and Scientific Committee should itself consider this issue and, if appropriate, seek to fill the gap by developing an institution which would serve Parliament under its overall control. This invitation was considered by the Committee and the Science and Technology Group (STG) decided to send a small delegation to Washington to examine the issue and provide the parent organisation with information on which their recommendation could be made to Parliament. During the Easter recess, Sir Trevor Skeet (Chairman, Parliamentary and Scientific Committee), Sir Gerard Vaughan (Chairman of Science and Technology Group), Sir Ian Lloyd (Vice President Parliamentary and Scientific Committee) and Dr. John Bleby, (Vice Chairman Science and Technology Group) visited Washington at their own expense. This paper is essentially a report based on that visit.

II THE SCIENTIFIC SUPPORT AVAILABLE TO THE US CONGRESS

The Science and Technology delegation (referred to throughout as "the delegation") had three main objectives:-

- (i) To inform itself about the Office of Technology Assessment in particular.
- (ii) To gather general information about scientific and technological support for the US Congress.
- (iii) To examine what features of these organisations could be adapted, where effective, to the British parliamentary system and sustained by the level of resources which, in practical terms, could not be expected to exceed about one eighth of those available in the United States.

The delegation was impressed and surprised to discover the full extent of the scientific information base which the US Congress has built up to serve it. The Office of Technology Assessment is merely one of many major institutions, all of which deploy or have access to substantial scientific resources. These include:

- a) The Congressional Research Service (approx. 800 employees)
- b) The General Accounting Office (" 5,400 ")
- c) The Library of Congress (" 5,235 ")
- d) The Congressional Budget Office (" 202 ")
- e) The Office of Technology Assessment (" 171 ")

The Congressional Research Service of the Library of Congress, which has a considerable scientific staff is of course matched on a much smaller scale by the libraries of the Lords and Commons. We were surprised to discover, however, that both the Congressional Budget Office and the General Accounting Office each contained significant scientific sections to ensure that their advice was compatible with the best scientific judgement available on any particular issue when it arose, either centrally or marginally in more general policy recommendations. The Office of Technology Assessment is the most recent institution (1972) established by Act of Congress, and the scale and significance of its operation are not fully described by the comparatively small permanent staff, since its policy is to involve the relevant community of scientific or technological expertise on the broadest possible basis. What distinguishes the Office of Technology Assessment from the other institutions is that it tends to address long-term issues by conducting major enquiries, whereas the others tend to be "quick-response" organisations. The Congressional Research Service, for example, aims to respond to the vast majority of enquiries within a week.

If this is the base of the pyramid, the apex must be represented by the Committees and their support staffs in both Houses. Your delegation was staggered by the size of this component of the Congress, which comprises the following:-

	<u>HOUSE</u>	<u>SENATE</u>
<u>Staff</u>		
Members	7102 (16 per elected	4000 (40 per elected
Committee	2288 member)	1360 member)
Support	<u>1957</u>	<u>1740</u>
	11,347	7,000

Only a small proportion of these totals is obviously, directly related to the scientific concerns of Congress, but the scale may be judged by the Science and Technology Committee of the lower House, which has a "core" staff of 24, aided by 60 investigative staff who are hired/fired by the chairman of the Committee.

In addition, there are strong links between the National Academy of Sciences (established to serve the Federal administration within impartial scientific advice), the National Academy of Engineering (with a similar purpose) and the Congress. This was not, in our judgement, matched by any comparable input from any quarter of the scientific establishment in Britain to Parliament.

Of the total supporting staff of the Congress (some 40,000 individuals) it would be impossible to determine what proportions are either scientifically qualified or direct their activities specifically in that direction. But the number is evidently large. It would be surprising if it were less than 5% (2,000). If the range of expertise made available on a part-time basis to the Office of Technology Assessment and the committees alone were added, this figure would be very much higher. An example of this is given in Appendix II, in which full details are given of the panel of experts organised by the Office

of Technology Assessment, to advise its Energy and Materials programme. Whatever the figures may be, no comparable organisation or scientific input exists at Westminster.

The delegation was impressed by the fact that the Congress relied on several sources of scientific input and judgement, external and internal, that it had nevertheless judged the particular input of the Office of Technology Assessment to be required and that other congressional organisations, which may initially have resented and disputed the need for an Office of Technology Assessment, now considered that organisation to be indispensable. We were also struck by the fact that delegations from several European Parliaments had been examining the Office of Tehnology Assessment and that several domestic versions were about to be established in Europe. There have been substantial delegations from France, The Federal Republic, The Netherlands, Austria and Australia.

III THE OFFICE OF TECHNOLOGY ASSESSMENT

The delegations spent two full days with the Director, Mr. Jack Gibbons, and his senior staff. They were most anxious to give us the benefit of their experience, highlight their failures as well as successes and suggest the most important caveats that we should observe in setting up any organisation with similar objectives within the parliamentary system.

The Office of Technology Assessment was established by Act of Congress in 1972, its first director being Congressman Daddario. Its offices are located some few minutes walk from the Capital. The annual budget is \$15 million and both the budget and programme are controlled by a Committee of both Houses, entitled the Congressional Technology Assessment Board, comprising six Senators and six Representatives, appointed by

the President of the Senate and the Speaker of the House. The posts of chairman and vice-chairman alternate between the Senate and the House with each Congress. The Director is the only non-elected member.

In addition, the scientific community is strongly represented in the Technology Assessment Advisory Panel, comprising ten members of the public who are "eminent in scientific, educational and technological fields", the Comptroller General of the US and the Director of the Congressional Research Service. This committee advises the Board on the balance, comprehensiveness and quality of the Office of Technology Assessment's work.

The Office of Technology Assessment responds to requests from any standing, special, select or joint committee of Congress, acting alone, or at the request of the ranking minority member of such a committee, or a majority of the members of a committee. It does not respond to any other member, but the Office of Technology Assessment Board itself and the Office of Technology Assessment Director, in consultation with the board, may initiate work. The allocation of research funds is entirely the responsibility of the Board. (See organisation chart in Appendix III).

There are three operating divisions whose staff represent a wide range of disciplines and backgrounds, encompassing physical, biological, environmental and social sciences, engineering, law and public administration.

The community is heavily involved in the Office of Technology Assessment's work in several significant ways:-

- a) Advisory panels set up for each project.
- b) Workshops - up to two days in length - to which appropriate experts are invited.
- c) Research commissioned in the private sector.
- d) Congressional Fellows.

The delegation was particularly struck by the flexibility inherent in the use of temporary staff, including bright young post-graduate scientists whose career pattern is considered to be greatly enhanced by their choice and appointment as a "Congressional Fellow" for twelve-fifteen months. Some 5-10% of these are eventually retained on the permanent staff. The fellowship scheme is one most effective mechanism whereby the Office of Technology Assessment maintains contact with industry and universities.

The objective of all Office of Technology Assessment reports is to inform Congress on the limits of scientific judgement or technical knowledge affecting any major issue before it. The reports are thorough, well researched, carefully vetted and make no recommendations. A copy is sent to every member of both Houses on publication. All reports are published and each major report is accompanied by a separate, published summary.

The Office of Technology Assessment attaches great importance to three objectives. The first is its political independence. This is

studiously maintained by its bi-partisan board and its avoidance of any obviously partisan recommendations. We were told that in many debates, material in Office of Technology Assessment reports is generously used by both sides. The integrity of the organisation's work is seldom questioned, though the contents of its reports are often unpredictable and politically embarrassing to particular partisan positions. The second main objective is quality. This objective is given the highest priority and on occasions major reports on which considerable expense has been incurred are shelved if their quality is considered inadequate. The third objective is relevance. Great care is taken over the choice of subject. A committee request is only that and can be the subject of discussion and negotiation if the Office of Technology Assessment itself considers that such an enquiry would be flawed in concept or difficult to complete in a manner which would meet the other criteria.

The scope of the organisation's work may be illustrated by the output during the fiscal year 1985 in which 45 published documents were made available to Congress, including 17 assessment reports, 2 special reports, 2 supplements, 5 technical memoranda, 1 background paper, 8 health technology case studies, 2 workshop proceedings and 8 administrative reports. The Office of Technology Assessment encourages private sector reprinting of its reports and 49 have so far been reprinted.

In 1985 the Government Printing Officer published 45,600 copies of Office of Technology Assessment publications and the Office of Technology Assessment itself attaches much importance to the general influence of its work on public opinion and the consequent rise in the level of informed judgement which is brought to bear on major issues as a result, outside as well as within Congress.

In the same year (1985) some 46 projects were in progress, including 6 new studies. These range from Technology and Structural Unemployment to Wastes within the Marine Environment, from High Technology Ceramics to Low Resource Agriculture in developing countries. The full list may be seen in Appendix IV.

The committee was also impressed by the use of the "workshop" technique, in which some 15-20 experts are invited to Washington as Office of Technology Assessment's guests, on an expenses paid basis, to meet perhaps three or four times from the initiation to the completion of a report. This is one of the methods employed to ensure not only that all points of view are considered, but also that the eventual report is not immediately condemned by some organisation or body of opinion which feels itself to have been excluded.

The average cost of an Office of Technology Assessment report is \$500,000, though they can range from as little as \$5,000 to \$750,000.

The delegation had very useful discussions with the Office of Technology Assessment staff on the question of "critical mass" for such an organisation. Their view, with which we concur, is that this involves a minimum of about ten "core" staff, plus some 5-10 temporary staff. Assuming our own organisation in the United Kingdom was to be established on this basis it would clearly involve acceptance of a much more severe restriction on the number and scope of any reports which were undertaken. It should have no effect whatever on the quality of the work.

IV CONCLUSIONS AND RECOMMENDATIONS

Your delegation's main conclusion is that the Congress is well served by the Office of Technology Assessment, that the principles underlying this organisation can be developed and applied without undue difficulty within the parliamentary system, that the operation can be conducted effectively on a smaller scale employing resources proportional to our national wealth and requirements, and that the Parliamentary and Scientific Committee provides a natural base on which an organisation of this kind can be built up. We are also of the opinion that the Parliamentary and Scientific Committee itself is likely to become increasingly irrelevant to the needs of Parliament, unless it is prepared to enlarge the scope and increase the relevance and authority of its in-house scientific advice to Parliament and Parliamentarians.

We recommend that:

(i) The Treasury should be asked to support a request from the House of Commons Commission to fund, on a guaranteed 5 year term, a budget of some £200 - £250,000 p.a. (3.85% of the current Science Budget) for the account of the Parliamentary and Scientific Committee to be controlled by a committee upon which both Houses and the Director of the new organisation should be represented. Funding thus constituted would maintain the political independence of the Parliamentary and Scientific Committee which has been cherished since its inception 47 years ago. It would also continue to be supported by subscriptions from its own members.

(ii) Consideration should be given as early as possible to the choice of a director for the new organisation as soon as new funding has been approved.

(iii) The existing secretariat should be retained to administer the general and broader functions of the Parliamentary and Scientific Committee.

(iv) The establishment of "Westminster Fellows" should be encouraged to associate the young scientific and technological community with the new organisation through participation, support and short-term appointments. Further, the Royal Society and other learned bodies should be invited to give their views and, in particular, the possibility of providing scholarships and grants for the funding of "Westminster Fellows".

We consider that official support should be secured and that the following steps should be taken:

(i) Well supported Early Day Motions or Motions should be tabled in both Houses, expressing strongly the view that an Office of Technology Assessment type organisation should be set up at Westminster, followed by a full day's debate in both Houses on the Scope, requirements and financing of such an organisation and mechanism whereby it could be appropriately and effectively integrated into the Westminster system.

(ii) A delegation from the Parliamentary and Scientific Committee should call on the Prime Minister, The Chancellor, The Secretary of State for Trade and Industry and The Secretary of State for Education and Science to seek their support for this development, particularly if legislation of any kind is thought to be necessary.

(iii) The full support of the Leaders of the main opposition parties should be sought to ensure that the non-partisan character of the Westminster mode of the Office of Technology Assessment model is established from the outset.

(iv) At an early date The Steering Committee of the Parliamentary and Scientific Committee should be consulted about the STG proposals, be given a clear analysis of approaches made under paragraph (ii) and (iii) hereof and be invited to give their views.

(v) The Parliamentary and Scientific Committee should arrange a press conference before the end of the present session at which the findings of the committee and recommendations arising from the report can be announced.

APPENDIX I

- (1) The Science and Technology Group is a sub-committee of the PARLIAMENTARY AND SCIENTIFIC COMMITTEE.
- (2) The objectives of the STG are as follows:
 - (2.1) To provide Members of Parliament with authoritative scientific information from time to time in connection with debates.
 - (2.2) To bring to the notice of Members of Parliament and Government Departments the results of scientific research and technological development which bear upon questions of current public interest.
 - (2.3) To arrange for suitable action through Parliamentary channels whenever necessary to ensure that proper regard is had for the scientific point of view.
 - (2.4) To examine all legislation likely to effect the above and take such action as may be suitable.
 - (2.5) To watch the financing of scientific and technological research, education and development.
 - (2.6) To provide its members and other approved subscribers with a regular summary of scientific matters dealt with in Parliament.
- (3) The current membership of the group is made up as follows:

Chairman: Sir Gerard Vaughan, M.P.

Vice Chairman: Dr. John Bleby, J.P.

Dr. M. Clark, M.P.

Lord Gregson

Michael Leonard, Esq.

Sir Ian Lloyd, M.P.

Lord Lloyd of Kilgerran

Sir David Phillips, F.R.S.

Lord Sherfield, G.C.B., G.C.M.G.

Mrs. René Short, M.P.

Dr. P.T. Warren

Professor Sir John Kingman, C.B.E., F.R.S.

Sir John Osbourne, M.P.

Lord Shackleton, O.B.E.

Professor E.W.J. Mitchell, C.B.E.

APPENDIX I continued

(4) Achievements to date - A series of meetings have been held covering a wide range of Scientific matters and papers have been issued on several topics:

- (1) Aids Virus.
- (2) Animal Experiments in Laboratories.
- (3) Chernobyl U.S.S.R. Nuclear Reactor and its Impact.

In preparation:

- (4) Brain Drain.
- (5) Human Embryo Research.
- (6) Career Prospects in Scientific Engineering.

Energy and Materials Program

U.S. Natural Gas Availability Advisory Panel

William Vogely, *Chair*
Department of Mineral Economics
Pennsylvania State University

Marc Cooper
Research Consultant
Consumer Energy Council of America

Lloyd Elkins
Petroleum Consultant

Ed Erickson
Professor
Department of Economics and Business
North Carolina State University

Daniel Grubb
Vice President, Gas Supply
Natural Gas Pipeline Co.

John Haun
Professor of Geology
Colorado School of Mines

Donald Kash
Director
Science and Public Policy Program
University of Oklahoma

Harry C. Kent
Director
Potential Gas Agency
Colorado School of Mines

Lawrence Moss
Energy/Environmental Design and
Policy Analysis

Roy E. Roadifer
Chief Geologist
Mobil Oil Corp.

Benjamin Schlesinger
Principal
Energy and Environment Division
Booz, Allen & Hamilton, Inc.

John C. Sharer
Assistant Director
Unconventional Natural Gas
Gas Research Institute

John Weyant
Deputy Director
Energy Modeling Forum
Stanford University

Ex Officio:

John Schanz
Senior Specialist in Energy Research
Policy
Congressional Research Service
Library of Congress

New Electric Power Technologies: Problems and Prospects for the 1990s Advisory Panel

George Seidel, *Chair*
Chairman, Department of Physics
Brown University

Edward Blum
Vice President
Investment Banking Division
Merrill Lynch Capital Markets

Byron R. Brown
Consultant Manager
Engineering Service Division
Engineering Department
E. I. du Pont de Nemours & Co.

Bill D. Carnahan
General Manager
City of Fort Collins Light & Power

Mark Cooper
Research Director
Consumer Energy Council of America

Brian E. Curry
Director, Capacity Planning
Northeast Utilities

Janice G. Hamrin
Executive Director
Independent Energy Producers

William B. Harrison
Senior Vice President
Southern Co. Services, Inc.

Eric Leber
Director of Energy Research
American Public Power Association

Paul Maycock
President
Photovoltaic Energy Systems

Charles McCarthy
Vice President
Advanced Engineering
Southern California Edison

Serge Gratch
Director, Vehicle and Powertrain
Component Research Lab
Ford Motor Co.

Kenneth L. Klierer
Associate Director for Physical
Research
Argonne National Laboratory

Tom Moss
Dean, Graduate Studies
Case-Western University

James Mueller
Department of Materials Science and
Engineering
University of Washington

William Nix
Department of Materials Science and
Engineering
Stanford University

Rudolph Pariser
Director, Polymer Science
Central Research & Development
Department
E.I. du Pont de Nemours & Co., Inc.

William Slichter
Executive Director, Research
Materials Science Engineering Division
AT&T Bell Laboratories

Morris Steinberg
Vice President, Science
Lockheed Corp.

J.E. Werner
Director of Technology Transfer and
Ventures
Bethlehem Steel Corp.

Workshop: Fine Ceramics

Dennis Ready, *Chair*
Chairman
Ceramics Engineering Department
Ohio State University

Charles Amann
Head, Engine Research Department
GM Research Laboratories

Robert Katz
Chief, Ceramics Research Division
Army Materials and Mechanics
Research Center

William R. Prindle
Director of Materials Research
Corning Glass Works

Roy Rice
Director of Materials Research
W.R. Grace & Co.

David Richerson
Supervisor, Advanced Materials
Garrett Turbine Engine Co.

Workshop: Composites

Robert Kaiser
Consultant
Argos Associates, Inc.

Seymour Newman
Senior Staff Scientist
Plastics Development and Applications
Ford Motor Co.

Ben Wilcox
Assistant Director
Materials Science Division
Defense Advanced Research Projects
Agency

Carl Zweben
Advanced Technology Manager
Space Systems Division
General Electric Co.

Appendix II

Anne F. Mead
Commissioner
New York State Public
Service Commission

Alan Miller
Associate
World Resources Institute

Bruce W. Morrison
Vice President
Westinghouse Electric Corp.

Richard Nelson
Professor
Economics Department
Yale University

Fred Schweppe
Professor
Electrical Engineering Department
Massachusetts Institute of Technology

Jon Veigel
President
North Carolina Alternative Energy Corp.

Workshop: Regulatory Issues
Affecting Developing Electric
Generating Technologies

Sam Brown
Senior Vice President
Virginia Electric Power Co.

John E. Bryson
Executive Vice President
Southern California Edison Co.

George Knapp
Attorney
Nixon, Hargrove, Devans & Doyle

Therrell Murphy, Jr.
Vice President and Treasurer
Southern Company Services, Inc.

David Owens
Director, Rate Regulation Department
Edison Electric Institute

Elizabeth Ross
Attorney
Birch, Horton, Bittner, Pestinger and
Anderson

Richard Schuler
Associate Professor
Department of Economics
Cornell University

Andrew Varley
Commissioner
Iowa Commerce Commission

Jon Wellinghoff
Consumer Advocate
Office of the Attorney General
State of Nevada

Western Surface Mine Reclamation

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Vice Chancellor for Research &
Graduate Dean
The Graduate College
University of Illinois at Chicago

George Davis
Senior Hydrogeologist
S. S. Papadopoulos & Associates

Robert Flagg
Manager
Technical and Research Services
Mining and Reclamation Council of
America

Tim Gallagher
Assistant Administrator
Energy Division
Montana Department of Natural
Resources and Conservation

L. Thomas Galloway, Esq.
Galloway & Greenberg

Sheridan Glen
Assistant Vice President
Arch Mineral Corp.

Nick Golder
Consultant

Pat Holderness
Commissioner
Routt County, Colorado

Carolyn Johnson
Staff Geologist
Natural Resources Defense Council

Frank Kottlowski
Director
New Mexico Bureau of Mines and
Mineral Resources

George Land
Director, Technology Assessment
AMAX Coal Co.

Cyrus McKell
Vice President, Research
Native Plants, Inc.

Lyle Randen
Administrator, Land Quality Division
Wyoming Department of
Environmental Quality

Patrick Sweeney
Regional Director
Western Organization of
Resource Councils

Lauri M. Zell
Director, Government Affairs
Mining and Reclamation
Council of America

Ex Officio:
Marlene Berg
Division of Ecological Services
Fish and Wildlife Service
U.S. Department of the Interior

Dan Kimball
Environmental Protection Specialist
Air and Water Quality Division
National Park Service

Al Kloin
Administrator, Western Technical Center
Office of Surface Mining
U.S. Department of the Interior

High-Technology Ceramics and
Polymer Composites Advisory Board

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Executive Vice President
The Rockefeller University

Robert Buffenbarger
Chairman, Bargaining Committee
G.E. Aircraft Engine Group
International Association of Machinists

Joel Clark
Associate Professor of Materials
Systems
Director of Materials Systems
Laboratory
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Samuel Goldberg
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INCO-US Inc.

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LTV Corp.

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Director, Technology Laboratories for
Advanced Composites
Department of Aeronautics
Massachusetts Institute of Technology

Arthur F. McLean
Manager, Ceramics Research

Joseph Panzarino
Director, Research and Development
Advanced Ceramics
Norton Co.

Norman L. Peterson
Group Leader and Senior Scientist
Materials Science and Technology
Argonne National Laboratories

Dennis W. Readey
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Ceramics Engineering Department,
Ohio State University

B. Walter Rosen
President
Materials Science Corp.

Amy L. Walton
Member, Technical Staff
Jet Propulsion Laboratory

Alvin S. Weinstein
Professor
Department of Engineering and Public
Policy
Carnegie Mellon University

Dick Wilkins
Staff Specialist
Structures and Design Department
Fort Worth Division
General Dynamics Corp.

Workshop: Materials R&D

Arden L. Bement, Jr.
Vice President, Technical Services
TRW Inc.

H. Kent Bowen
Professor
Ceramic and Electrical Engineering
Massachusetts Institute of Technology

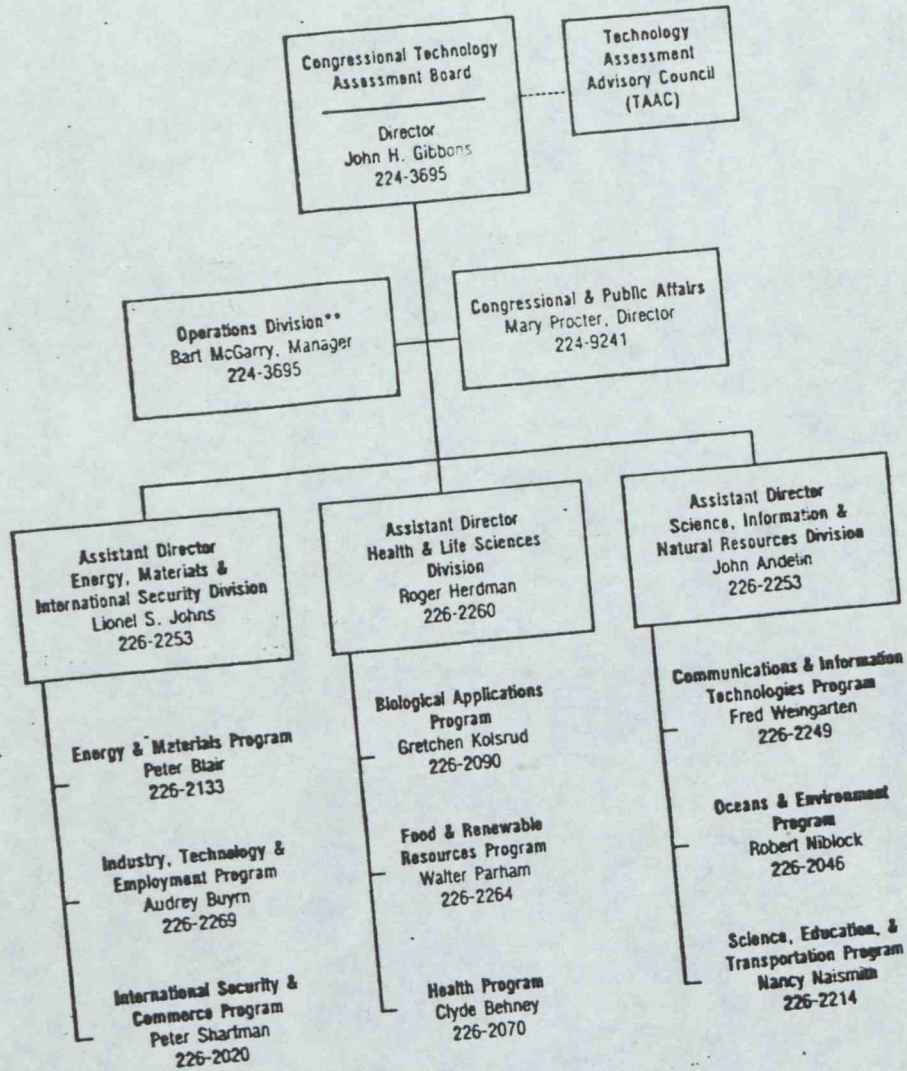
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Vice President, Research
Sandia National Laboratories

Morris Cohen
Professor
Department of Materials, Science, and
Engineering
Massachusetts Institute of Technology

George Dieter
Dean of Engineering
University of Maryland

Dean Eastman
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OTA* ORGANIZATION CHART



*Located at 600 Pennsylvania Ave., S.E., Washington, DC.

- Publication requests—224-8996.
- Personnel locator—224-8713.

**Operations Division consists of the following units: Administrative Services, Budget and Finance Office, Information Center, Personnel Office, and Publishing Office.

Section III.—Work in Progress

More than 46 projects were in progress during fiscal year 1985, including 6 new studies.

This section lists the titles of assessments underway or in press, as of September 30, 1985. For a full description of these projects, please refer to the current "Assessment Activities," OTA-PC-105. This booklet may be obtained from OTA by calling OTA's Publication Request Line (202) 224-8996.

Energy, Materials, and International Security Division

Technology and the American economic transition

Energy and Materials Program

Western surface mine reclamation

High-technology ceramics and polymer composites

Industry, Technology, and Employment Program

Technology and structural unemployment: reemploying displaced adults

International competition in the service industries

International Security and Commerce Program

Technology transfer to China

Alternatives for improving NATO's defense response

Health and Life Sciences Division

Food and Renewable Resources Program

Technology, public policy, and the changing structure of American agriculture

Technologies to maintain biological diversity

Integrated renewable resources management for U.S. insular areas

Low resource agriculture in developing countries

Health Program

Evaluation of agent orange protocol (mandated study)

Status of biomedical research and related technology for tropical diseases

Medicare's Prospective Payment System: strategies for evaluating cost, quality, and medical technology

Technology and Indian health care: effectiveness, access, and efficiency

Physician payment and medical technology under the Medicare Program

Technologies for detecting heritable mutations

Biological Applications Program

Alternatives to animal use in research, testing, and education

Reproductive health hazards in the workplace

Life-sustaining technologies and the elderly

Disorders causing dementia

Science, Information, and Natural Resources Division

Communication and Information Technologies Program

Automation and America's offices

Federal Government information technology: congressional oversight and civil liberties

Intellectual property rights in an age of electronics and information

New communications technology: implications for privacy and security

Oceans and Environment Program

Wastes in the marine environment: their management and disposal

Technologies to control illegal drug traffic

Science, Education, and Transportation Program

Hazardous materials transportation: technology issues



10 DOWNING STREET

CF

—
Yesterday you found the file about
scientific advice for MPs — it
was cross-referenced under SKEETE.

Could you please find it again, and
copy the letter reporting on the PM's
meeting with SKEETE to Cathy Cunningham
in John Fairbairn's Office.

Thanks

done
ES

Sm
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