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REASSESSING THE OFFICE OF TECHNOLOGY ASSESSMENT

INTRODUCTION

It is time to assess the Office of Technology Assessment. The controversy triggered by OTA reviews of several key Reagan defense proposals indicates that OTA not only may be influenced by political considerations but, more serious, may have compromised U.S. national security. Concern about OTA's balance and fairness has mounted so high that Senator Orrin Hatch, the Utah Republican, has asked the Senate Ethics Committee to review OTA operations.

OTA was established in 1972, as a congressional agency to provide legislators with timely analyses of scientific and technological developments. While it has earned a measure of respect and acceptance on Capitol Hill, a residual suspicion about OTA's reliability was fueled by the events surrounding an April 1984 Background Paper by OTA consultant Dr. Ashton Carter, entitled "Directed Energy Missile Defense in Space." This study is extremely critical of the Reagan Administration's Strategic Defense Initiative (the so-called Star Wars program [SDI]). The Department of Defense formally asked OTA to withdraw the document, citing its "numerous errors" and "false conclusions." Military experts in the media, on Capitol Hill, and in the executive branch similarly have criticized sharply the OTA paper.

In the study, for example, at least one OTA program division placed the political goal of discrediting SDI ahead of balanced and objective analysis. In so doing, OTA staffers, in the name of Congress, compromised national security by releasing highly classified information. At the same time, security procedures in the executive branch were too lax.

A responsible OTA serves legitimate congressional needs by providing timely, valuable, and reasonably objective analyses of

complex and pressing issues. Changes in operating procedures, however, are necessary to ensure adequate safeguards and oversight as well as balanced and objective analysis of questions under review. This would help OTA avoid embroilment in future controversies.

The individual advisory panels for each study must be granted consultative and review powers and must be allowed to review and comment on all analyses marked for publication. These panels, moreover, must be permitted to consult with the agency providing OTA with its information. In light of such access to information, the panels should be granted a line-veto on any part of the OTA analysis considered biased or inaccurate. The panels also must be allowed to supplement the study with an appendix containing the agency's comments. Tighter security procedures should be initiated to prevent further disclosures. Finally, continued scrutiny by Congress is necessary to assure that OTA does not exceed its mandate.

WHAT OTA DOES

History

The Office of Technology Assessment is a nonpartisan "analytical support agency" of Congress. Founded in October 1972 by Public Law 92-484, its purpose is "to provide early indications of the probable beneficial and adverse impacts of the applications of technology and to develop other coordinate information which may assist the Congress."¹

OTA is a child of the space race and the consumer and environmental movements of the 1960s. The shock of Sputnik and the exposés of environmental and consumer activists made Congress fear that technology was "out of control" and potentially as dangerous as it was beneficial. In the early 1960s, neither the House nor the Senate possessed the resources to evaluate independently the technical claims of industry, consumer groups, and government agencies. Thus, Congressmen "typically uneasily accepted agency presentations 'on faith.'"²

The House of Representatives in 1963 established its Subcommittee on Science, Research, and Development. This subcommittee in 1966 recommended the formation of a congressional assessment arm, the Technology Assessment Board, which would stand guard against undesirable side effects of technological change. The proposed Board evolved into H.R.10243, introduced in February 1972, which called for creation of an Office of Technology Assessment. Ten months later, OTA was born.

¹ Public Law 92-484, 92nd Congress, H.R.10243, Section 3(c).

² Lewis Gray, "On 'Complete' OTA Reports," Technology Forecasting and Social Change, December 1982, p. 303.

OTA satisfied virtually no one in its early years. Representative Marjorie Holt (R-MD) resigned from its Technology Assessment Board in 1977, complaining that Senator Edward Kennedy (D-MA) dominated the Office.³ Leftists called the Office a rubber stamp for the White House, saying it lacked the courage to investigate controversial matters.⁴ During the term of its first Director, Emilio Q. Daddario, legislators complained that OTA cranked out too many short analyses. Under its second Director, Russell W. Peterson, other Congressmen accused it of concentrating on long-range studies and neglecting committee needs. In the late 1970s, however, reforms and staff shake-ups revitalized OTA; under Director John H. Gibbons, the Office slowly won acceptance on Capitol Hill.

Congress controls the Office through the Technology Assessment Board (TAB), which sets OTA's operating procedures. Composed of twelve legislators evenly divided by chamber and party, TAB is led by a Chairman and Vice-Chairman elected to the Board at the beginning of each Congress (the two positions are alternately held by Senators and Representatives).⁵

Every six years Congress appoints an administrator of OTA, the Director, who sits on the TAB but does not vote. Director John H. Gibbons took office in 1979. He supervises three Assistant Directors; one for each of OTA's three program divisions--Energy, Materials, and International Security; Health and Life Sciences; and Science Information and Natural Resources. Each Assistant Director, in turn, administers three programs, making a total of nine program areas. These program areas provide staffing for program teams assigned to conduct OTA analyses.

OTA has a permanent staff of about 145, including around 100 scientists, engineers, physicians, and attorneys. An additional 50 to 60 temporary staff, both professional and clerical, work on specific OTA projects. OTA's budget has increased from \$12.14 million in FY 1982 to \$14.84 in FY 1984, a 20 percent increase in two years.⁶ OTA was allocated \$15.55 million for FY 1985.

The twelve-member Technology Assessment Advisory Council (TAAC) assists the Director and the TAB, and is comprised of ten

³ Congressional Quarterly Weekly Report, June 18, 1977, p. 1202.

⁴ Bulletin of the Atomic Scientists, February 1978, p. 20.

⁵ The current Chairman is Representative Morris Udall (D-AZ), and the Vice-Chairman, Senator Ted Stevens (R-AK). Their positions will reverse in the 99th Congress. The Board's other members are Senators Edward M. Kennedy (D-MA), Ernest F. Hollings (D-SC), Claiborne Pell (D-RI), Orrin Hatch (R-UT) and Charles McC. Mathias (R-MD); and Congressmen George E. Brown (D-CA), John D. Dingell (D-MI), Larry Winn (R-KS), Clarence E. Miller (R-OH) and Cooper Evans (R-IA). Senators are appointed to the Board by the President Pro Tempore of the Senate; Representatives by the Speaker of the House. The TAB meets an average of four times a year.

⁶ Fiscal Year 1985 Justification of Estimates, Office of Technology Assessment, December 15, 1983, pp. 13, 17.

public members, the Comptroller General, and the Director of the Congressional Research Service. Members of the TAAC serve staggered four-year terms and may be reelected once. In recent years, the Council has met twice annually, but has agreed to meet three times a year in the future.

OTA Activities and Procedures

The OTA completes 15 to 20 reports (also called assessments) per year. These "are the principal documentation of formal assessment projects" and must be approved by the TAB prior to release to the public and Congress. They take from one to two years to complete, are 200 to 300 pages long, and cost an average of \$500,000. Accompanying each report is a Report Summary.

In addition, there are Background Papers, which supplement the formal assessments or discuss questions not of immediate policy interest; they need not be approved by the TAB or the Advisory Council before publication. (The recent OTA study of ballistic missile defense was a Background Paper, and as such, was not approved by the TAB.) Unofficial study documents, usually those by outside consultants on contract to OTA, are sometimes published at the request of Congressmen as OTA Working Papers or Technical Memoranda.⁷ OTA staffers also testify before congressional committees on various topics and brief Congressmen and their aides.

OTA reports may be requested by (1) the TAB, (2) the Director (in consultation with the TAB), or (3) a congressional committee.⁸ The TAB decides whether OTA may proceed with the requested assessment. Although the words "assessment activities" in the OTA Act (Sec. 3(d)) would seem to include all OTA analyses, in practice "assessment activities" are interpreted by the Director and the Board to mean only full-scale reports. Therefore, in practice, any member of Congress may request an OTA Background Paper, workshop, briefing, or any analysis or presentation--anything, that is, but a formal report. OTA's Director may spend up to \$30,000, without Board approval, to evaluate an issue or a prospective analysis.⁹

OTA staffers maintain close ties with congressional and committee staffs, seek to determine the needs of Congress, and suggest ideas for assessments. If a congressional or committee office decides it needs a study suggested by OTA, it "requests"

⁷ Fred Wood, "The Status of Technology Assessment: A View from the Congressional Office of Technology Assessment," Technological Forecasting and Social Change, December 1982, pp. 211-219.

⁸ Public Law 92-484, Section 3(d).

⁹ "Policy on the Director's Responsibilities," Resolution of the Technology Assessment Board, September 12, 1979.

that OTA undertake the analysis.¹⁰ According to a Senate aide, OTA does not "just sit around and wait for the phone to ring;" it is continually "lobbying" legislators to persuade them to request analyses.

OTA assessments proceed through 15 stages: consultation with committee staffs, proposal preparation, TAB approval, staffing, planning, convening an advisory panel, ensuring public participation, data collection, contracting, report writing, revision, Director and TAB approval of the report, publishing, follow-up, and closeout.

Proposals are reviewed by an OTA project screening committee, which considers congressional interest in the proposed study area, anticipated use of the completed assessment, staffing and contracting requirements, parties with significant interests in the questions to be analyzed (stakeholders), and the possible composition of the project's advisory panel.

The TAB has set criteria for approval of OTA project proposals including: whether the proposed assessment will study a current or likely national issue with significant policy options; whether the technology under question will have a marked, imminent, and possibly irreversible impact; whether the proposed study is within OTA's budgetary and methodological means; and whether OTA can make a unique and relevant contribution to knowledge of the topic.¹¹ The TAB rarely questions OTA proposals at length; Board meetings average less than an hour, and the Board usually approves by acclamation the Director's requests for assessments. The difficult task of securing a consensus on the proposed report is usually handled before Board meetings in conferences between OTA staffers and aides of the Senators and Representatives serving on the TAB.¹²

Each assessment, after approval, is assigned to a project team from OTA's permanent staff. Teams typically include a full-time project director, a senior analyst, and a research assistant. The project's advisory panel is supposed to ensure the report's objectivity and authoritativeness. All major assessments employ advisory panels, which typically consist of 12 to 20 scientists, engineers, and experts including representatives from labor, industry, and consumer groups and are supposed to represent a wide and balanced range of backgrounds, perspectives, and interests. Advisory panels usually meet three times to critique the work in progress and the final report. OTA analyses also may employ workshops, which generally meet only once, to address specific problems or questions posed by the larger study.

¹⁰ Interview with Mary Proctor, Director of Congressional and Public Affairs of the Office of Technology Assessment, August 9, 1984.

¹¹ Wood, op. cit.

¹² Ibid.

Workshops need not be adjuncts to larger studies, however. In January 1984, at the request of Senator Larry Pressler (R-SD), OTA conducted a workshop on "Arms Control in Space," and in May published the proceedings under that title.¹³

Large portions of OTA assessments are routinely contracted out to experts in industry and academia. Contractors may be selected through formal competitions, informal solicitation, and sometimes through sole source procurement.

The project team writes and revises the reports. External reviewers of OTA reports include the advisory panel and representatives of concerned government agencies, private stakeholders, and independent experts; as many as 75 to 100 outside reviewers may critique a report. Internal reviewers generally include program and division managers. Criticisms are considered and included at the discretion of the project team.

The final draft of the report is sent to the Director for approval, along with a memo explaining the study's history, panelists, contractors, major criticisms offered by reviewers, and OTA's responses to those criticisms. If approved, it is then sent with the explanatory memo to the TAB for final approval. TAB review normally takes about two weeks. Finished reports, summaries, and supplementary materials are then made available to Congress, the press, and the public.

"DIRECTED ENERGY MISSILE DEFENSE IN SPACE"

Origins of This Background Paper

Under Dr. Peter Sharfman, its Program Director, OTA's International Security and Commerce Program has become increasingly interested in the controversies surrounding nuclear weapons and strategy. In 1979 his office completed a report, "The Effects of Nuclear War," which provided much of the technical information

¹³ The list of participants for the OTA Workshop indicates little effort by OTA to draw together a truly balanced group of perspectives on space-related issues. The Chairman, McGeorge Bundy, has stated that "The Star Wars speech is one of the most irresponsible and destructive utterances that a President has made in the nuclear age"--hardly the model for an objective Chairman; the other 24 participants were heavily weighted toward critics or skeptics of strategic defense. At least nine of the non-OTA staff participants have been publicly critical of the SDI, and the three OTA staff can hardly be called sympathetic. In fact, only one clear sympathizer with strategic defense was among the participants. While the topic of the session was on arms control and space, in fact, SDI is integrally related to this issue; see, for example, Robert Foelber and Brian Green, "Space Weapons, The Key to Assured Survival," Heritage Backgrounder No. 327, February 2, 1984.

for Freeze, written by Senators Edward Kennedy and Mark Hatfield.¹⁴ In publishing Sharfman's report "MX Missile Basing" in June 1981, OTA for the first time investigated a question of defense policy. Assessments on strategic command, communication, control, and intelligence (C³I), and on ballistic missile defense are now underway.¹⁵

As congressional interest in strategic defense waxed in spring 1983, OTA anticipated a formal request to assess the issues relating to ballistic missile defense. It commissioned former employee Dr. Ashton Carter to study the plausibility of a space-based strategic defense. Now a researcher at Massachusetts Institute of Technology, Carter has been associated with the Union of Concerned Scientists (he co-chaired a forum on space defense for UCS last April), an organization energetically opposed to the strategic defense program and to many, if not most, national defense measures.

In November 1983, when Carter's work was about half completed, Senators Paul Tsongas (D-MA) and Larry Pressler (R-SD) of the Senate Foreign Relations Committee requested that his findings be published as an OTA Background Paper prior to their committee's hearings on this topic in April 1984. At roughly this time, Carter also coedited a book for the Brookings Institution, published as Ballistic Missile Defense in January 1984. Carter's introduction and lengthy chapter in this work drew heavily upon his research for OTA and on previous OTA assessments.¹⁶ On March 22, 1984, the TAB formally directed OTA to prepare an assessment on ballistic missile defense, to be published in the summer of 1985.

Research Procedures

Sharfman and Carter had access to very sensitive information in the Departments of Energy and Defense. Both had high security clearances (Q-Sigma, which allowed them to attend briefings on the designs of specific nuclear weapons)--higher than those of any Congressman's personal aides and higher than all but a handful of the clearances granted to committee staff members. Carter visited Lawrence Livermore National Laboratories for three days in October 1983, and there was briefed on the progress of the "Excalibur" X-ray laser system.

Yet Carter's paper underwent only an informal security clearance procedure before publication. Congressional staffs and

¹⁴ Edward M. Kennedy and Mark Hatfield, Freeze! How You Can Help Prevent Nuclear War (New York: Bantam Books, 1982).

¹⁵ Transcript of Proceedings, Technology Assessment Board (Washington, D.C.: Miller Reporting Co., March 22, 1984), p. 29.

¹⁶ Ashton B. Carter and David N. Schwartz, Ballistic Missile Defense (Washington, D.C.: Brookings Institution, 1984).

committees customarily acknowledge the receipt of classified material in a letter to the appropriate executive branch agency. Before publishing a document based on sensitive information, the committee staff usually submits a draft copy to the executive agency and asks that all classified material be marked so it can be removed before publication.

The case of this OTA report was different. In March 1984, Carter arranged a meeting between himself, Sharfman, and a high-ranking official of the U.S. Army's Ballistic Missile Defense Program Office in Crystal City, Virginia. At their meeting, Sharfman gave the official a copy of Carter's study and asked his opinion of the paper's accuracy and of the sensitivity of the material it contained. The Army official, in turn, submitted this copy to a subordinate (his security manager), who, several days later, returned it with comments to Sharfman and Carter's Army contact.

At a second meeting, on April 10, that contact returned the draft to Sharfman and Carter, advising them that it contained sensitive material under the jurisdiction of the Department of Energy and the Department of Defense's Strategic Defense Initiative office. The second meeting was informal. Sharfman did not ask the Ballistic Missile Defense Program Office to "clear" Carter's paper, and the paper was not granted a security clearance prior to publication by anyone in the Department of Defense or in the Department of Energy. Sharfman and Carter never asked the Strategic Defense Initiative office for a clearance and apparently never consulted the Department of Energy.

Carter's paper emerged from its "declassification process" on the weekend of April 22. Senators Pressler and Tsongas scheduled a hearing of the Foreign Relations Committee for the following Wednesday, April 25. On Monday, April 23, OTA sent the Background Paper to the members of the TAB (the Board customarily sees such documents at least three days before release). The next day, Pressler released the paper.¹⁷ The TAB never formally reviewed or approved this document, and because it cost \$29,700 (\$300 less than the maximum discretionary spending authority granted to the Director), the TAB did not have to approve funding for it.¹⁸ Background Papers are rarely cited by OTA in testimony before Congress, but at the following day's hearing Director Gibbons read large sections of Carter's paper. Gibbons appeared to concur with its verdict that a successful ballistic missile defense based on directed energy weapons was "so remote that it should not serve as the basis of public expectation or national policy."¹⁹

¹⁷ Transcript of Proceedings, Technology Assessment Board (Washington, D.C.: Miller Reporting Co., June 21, 1984), p. 35.

¹⁸ Interview with Lionel Johns (OTA Assistant Director), August 9, 1984.

¹⁹ Statement of Dr. John H. Gibbons to the Senate Committee on Foreign Relations, April 25, 1984, p. 11.

Predictably, Carter's Background Paper was immediately misinterpreted to be OTA's official judgment on the feasibility of ballistic missile defense. In his April 24 press conference, Senator Pressler cited it as proof that "there is little or no hope that exotic beam weaponry will, in the future, eliminate the threat of nuclear weapons."²⁰ Astronomer Carl Sagan later suggested that those wishing to know more about "Star Wars" could "dig into the guts of the issue" by reading either a Union of Concerned Scientists' study "or the recent report by the U.S. Congress Office of Technology Assessment."²¹

A number of other commentators also mistakenly believed that the Carter analysis was an authoritative "official" conclusion. For example, an Aspen Institute Conference in West Berlin, held discussions which "centered around a recently published OTA Report that rejects any real possibility of a defense which could prevent mortal damage to the U.S."²² Similarly ex-Congressman John Anderson, in a New York Times op-ed cited the OTA Carter paper in justifying the conclusion that no type of strategic defense could work.²³ It is clear, in other words, that Carter's paper was taken by many observers, and was used by others, as opposition to the Reagan Strategic Defense Initiative.

Research Issues

Criticisms of "Directed Energy Missile Defense in Space" focus on three areas: possible breaches of security; "sloppy management" of the study; and errors or omissions by Carter that vitiate the study's conclusions.

1) Security

There are reasonable grounds to conclude that the OTA background paper compromised national security by revealing information relating to the national defense. For example, a scientist at the Livermore Laboratories, which is involved in SDI advanced technology research, wrote to Senator Ted Stevens that Carter's paper, "in several instances revealed concepts or analyses which have never been published in open literature and which have been protected or classified by the persons whom Carter interviewed." He added that "the right of Congress to receive full background information is not identical to the propriety of OTA's publishing possibly classified material without full administrative review." Regarding the paper's author, he concluded that, "I consider this report to represent at best unethical behavior by Dr. Carter."

²⁰ "Reagan's Proposal is Faulted in an Analysis for Congress," The Washington Post, April 25, 1984, p. A12.

²¹ Interview with Carl Sagan in Common Cause Magazine, May/June 1984, p. 25.

²² Daniel Hamilton, "Western Security Policy and Arms Control," report on a meeting at the Aspen Institute, Berlin, 1984.

²³ "Debate Space Weapons," The New York Times, August 28, 1984, p. A19.

A Defense Investigative Service inquiry, requested by Undersecretary of Defense Fred C. Ikle, found that the Army's Ballistic Missile Defense Program Office had given Sharfman and Carter advice, but that no one at the Pentagon was "deliberately culpable" in this matter. The Department of Energy, concerned about the disclosure of information about the "Excalibur" X-ray laser system, also reportedly has inquired about the Pentagon's handling of the matter.

Carter's paper angered several key Senators, led by Senator James McClure (R-ID), who sent a letter to FBI Director William Webster requesting an investigation of OTA. No such investigation was undertaken, and the FBI informed Senator Hatch that it cannot undertake one without a request from either the TAB or one of the executive branch agencies involved.²⁴ The Defense Department is reportedly reluctant to make such a request, for in the inevitable debate that would follow such a challenge to OTA, the Pentagon would be compelled to establish its case by specifying publicly which sections of Carter's paper contained sensitive material, and would also have to admit that the security procedures of its own offices were less coordinated than they should have been. OTA and the Pentagon are now drafting a standardized security clearance procedure that all future OTA documents using sensitive Pentagon material will have to undergo before publication.

2) "Sloppy Management"

Critics of "Directed Energy Missile Defense in Space" claim that Carter never should have been hired to write the study because his views are unsympathetic to strategic defense. One member of OTA's Technology Assessment Advisory Council claimed that the Office should have understood the controversial nature of the topic and taken precautions against slanting the paper's conclusions. After publication of the Background Paper, the Council expressed its dissatisfaction with the study to Director Gibbons and admonished him to ensure that OTA published no similarly flawed studies in the future.

3) Errors and Omissions

Carter's paper has been criticized severely on technical grounds. At least three groups of experts--the Defense Technologies Study Team of the SDI Office, Dr. Robert Jastrow (in a

²⁴ The FBI's letter to Senator Hatch did state that "the willful disclosure of classified or classifiable information by someone knowing that it is or could be classified, to parties without the necessary security clearance to receive it, could be a violation which falls within the investigative jurisdiction of the FBI." However, the FBI contended that the fact that the material had been released at the request of U.S. Senators rendered the question of a security violation moot.

letter coauthored with William A. Nierenberg and Frederick Seitz), and Los Alamos Laboratories--have detailed exhaustively its shortcomings.²⁵

On the basis of these criticisms, Deputy Secretary of Defense William H. Taft, IV, wrote OTA on June 4, requesting that Gibbons withdraw the study. In response, Gibbons asked three "independent experts" to review Carter's paper and the Defense Department critiques of it. These "independent" reviewers all are unsympathetic to strategic defense. Reviewer Charles Townes of the University of California at Berkeley, for instance, publicly opposes the Strategic Defense Initiative.²⁶ The remaining two are Lieutenant General Glenn Kent (USAF-Retired) and former Undersecretary of Defense William J. Perry. Predictably, these reviewers commended Carter's study and told Gibbons in telephone interviews that he should not withdraw the Background Paper.²⁷

OTA claims to have learned a lesson from the storm that followed publication of Carter's study. Its Director of Congressional and Public Affairs asserted that the Office intends to be doubly careful in assessing controversial issues in a fair manner.²⁸ Gibbons has promised the TAB a "careful retrospective view" of the recent controversy, and has expressed his hope that OTA and the Defense Department will continue to work together amicably.²⁹

Yet a similar tempest is brewing over OTA's formal assessment of ballistic missile defense (now underway and due to be completed in mid-1985). The study's advisory panel not only includes Ashton Carter but is loaded with critics of strategic defense. The project's manager, Thomas Karas, recently authored a book that concluded "Space laser weapons will not protect us from the threat of nuclear war."³⁰ Senator Ted Stevens (R-AK) has expressed concern that by delving into such highly-charged partisan issues Gibbons might be "setting the stage for the destruction" of OTA.³¹

This was followed by Senator Hatch's request that the Senate Ethics Committee review the Background Paper matter. As a TAB

²⁵ "Directed Energy Missile Defense in Space, with Comments," Defense Technology Study Team, Strategic Defense Initiative Office, July 1984, with rebuttal by Los Alamos Laboratories; letter by Jastrow, Nierenberg, Seitz to Senator John Warner, June 11, 1984.

²⁶ The New York Times, April 11, 1983, p. 14.

²⁷ Letter from John H. Gibbons to the members of the Technology Assessment Board, July 13, 1984.

²⁸ Interview with Mary Proctor, op. cit.

²⁹ Transcript of Proceedings, op. cit., June 21, 1984, pp. 39, 42, 45.

³⁰ Thomas Karas, The New High Ground: Strategies and Weapons of Space-Age War (New York: Simon and Schuster, 1983), p. 200.

³¹ Transcript of Proceedings, op. cit., March 22, 1984, p. 25.

member, Hatch wrote that he was "concerned that an OTA staff member, Peter Sharfman, and an OTA consultant, Ashton Carter, may have divulged classified materials...." Hatch requested that the Committee begin an investigation to determine whether any violations of law, the Senate Code of Official Conduct, or congressional rules and regulations had occurred. The Committee is considering the Hatch request.

IMPROVING OTA

OTA performs an important function for Congress. In an increasingly complex age, Congress needs the means to conduct analyses independent of those produced by industry, lobbies, and the executive branch.

The quality control procedures of OTA, as a whole, seem as careful and complete as those of its sister congressional research agencies, the General Accounting Office and the Congressional Budget Office.³² Problems remain, however, particularly in ensuring the balance and objectivity of Background Papers and other analyses not requested or reviewed by the TAB. Enough questions have been raised about OTA's procedures and possible biases, therefore, to warrant a thorough congressional review of OTA. The Ethics Committee should respond to Hatch's letter by agreeing to review whether classified data was wrongly made public. In addition, the Senate Subcommittees and Committees that have jurisdiction over OTA should hold oversight hearings on its procedures. Finally, the OTA congressional supervisory body (the TAB) should tighten its own review procedures and keep a much closer watch on OTA's activities.

Revisions of OTA procedures should:

1) Require that OTA not release any publication without formal TAB approval. This would revise the interpretation of the words "assessment activities" in the OTA Act to mean all analyses intended for publication, instead of its present designation of formal reports only.

2) Reduce the Director's "discretionary fund" from \$30,000 to \$20,000; this would give the TAB more power to ensure that OTA analyses meet specific congressional needs.

3) Give the Technology Assessment Advisory Council substantive consultative and review powers. The TAAC should review and

³² OTA may be moving toward a more balanced approach to SDI in the appointment of the advisory panel for its long-term examination of strategic defense. While there continue to be a number of prominent critics of SDI, there are also several individuals who are sympathetic to the concept. Unfortunately, opponents of SDI outweigh sympathizers by about a four to one ratio--hardly balanced.

comment upon all assessments (formal reports) prior to publication.

4) Give the individual advisory panels for each report the power to veto reports in part or whole if the analysis contained therein is deemed biased or inaccurate. Provide specifically for additional or dissenting comments by panel members.

5) Require OTA to solicit comments from the agency in question and include these as appendices to the final published analyses, in cases of assessments or Background Papers which rely on information provided by an executive agency (such as "Directed Energy Missile Defense in Space"). The GAO uses such a procedure.

6) Set tighter procedures for the use of classified information in OTA assessments. Only one OTA program division--International Security--uses such material, and OTA is currently working with the Department of Defense to draft such procedures. This agreement could serve as a model for similar arrangements with the other executive branch agencies from which the International Security Program Division receives sensitive information. Executive branch agencies should review their procedures independently to ensure against inadvertent leakage, or approval of leakage, of classified information.

7) Increase the role of the congressional members of the OTA in the process of deciding on topics to be investigated and approving the release of reports. All members, or at least a designated executive committee of congressional members, should have to approve issuance of any OTA publication. Such a committee also should have to review formally the appointments of advisory panels as well as report reviewers. The congressional members should nominate a number of members to all such review and advisory panels.

8) Formalize OTA contracting procedures. The congressional members should have the right to demand that, in cases of clear and obvious controversy, the subcontracting itself include more than one viewpoint.

9) Increase the size of the Advisory Board for the Strategic Defense Initiative assessment paper to assure a balanced membership.

10) Issue a statement clarifying the nonofficial status of the Carter SDI background paper so that it no longer can be cited as an official OTA analysis.

CONCLUSION

It is doubtful that the founders of the Office of Technology Assessment intended it to spend its resources and political

capital completing studies as controversial as Ashton Carter's "Directed Energy Missile Defense in Space." It is also difficult to believe that the flaws in Carter's study and its disclosure of highly sensitive information are the result of naiveté and misunderstandings on the part of the OTA. The evidence that some OTA staffers oppose the Administration's Strategic Defense Initiative seems clear and compelling.

Congressional opinion is an important check on OTA. The Office is well aware that it exists by the good graces of Congress and can be abolished if Congress perceives that OTA no longer serves legislators' needs. A thorough review of the Strategic Defense Initiative background papers is needed, as well as revision of OTA procedures to assure that OTA staff cannot use the imprimatur of the Congress and the dollars of the public to advance a personal political agenda. Continued scrutiny of the Office by Congressmen and by concerned citizens' groups is necessary, and along with judicious reform of OTA procedures, it may be sufficient to prevent future controversy.

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