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IN REPLY REFER TO: DTIC-R (FOIA 2020-65)

MAR 2 7 2020

This is in response to your email dated March 8, 2020, received in this office March 9, 2020, requesting information under the Freedom of Information Act (FOIA) (enclosure 1). Under Department of Defense rules implementing the FOIA, published at 32 CFR 286, your request was categorized as "other".

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Sincerely,

3 Enclosures

Michael Hamilton
FOIA Program Manager

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Accession Number	Title	Report Classification	Report Date	Distribution Codes	Corporate Author	Personal Authors	Page Count	Report Numbers	Monitor Series	Distribution Statement	Descriptive Note
ADC055034	The Soviet Response to the Strategic Defense Initiative. A Report Based on Workshop Proceedings,	S	1/1/1991	E - 04	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Gliksman, Alex	110	null	OTA	Distribution authorized to DoD only; Critical Technology; 8 Nov 95. Other requests shall be referred to United States Congress, Office of Technology Assessmmenat, Washington, DC 20520-8025.	null
ADC958052	Verification Technologies: Measures for Monitoring Compliance with the START Treaty.	S	7/1/1990	C - 02	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	265	null	null	Distribution authorized to U.S. Gov't., Agencies and their contractors; Proprietary Information; Specific Authority, 13 Jun 91. Other requests shall be referred to: Office of Technology Assessment, Attn: U.S. Congress, 600 Pennsylvania Avenue, S.E., Washington, DC 20510-8025. NOFORN.	Rept. no. 1.
ADC054997	New Technology for NATO: Implementing Follow-On Forces Attack. Volume 2. Classified Appendices	S	6/1/1987	E - 04	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	178	null	OTA	Distribution authorized to DoD only; Critical Technology; 8 Nov 1995. Other requests shall be referred to United States Congress, Office of Technology Assessment, Washington, DC 20510-8025. NOFORN.	null
ADC054893	Strategic Anti-Submarine Warfare (III). Classified Annex to MX Missile Basing,	S	9/1/1981	E - 14	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Postol, Theodore; Messing, Marc	370	null	XD	Distribution authorized to DoD only. Other requests shall be referred to the Office of Technology Assessment, Washington, DC 20510-8025. NOFORN.	null

ADC054999	Multiple Protective Shelters. Classified Annex to 'MX Missile Basing'.	S	1/1/1991	E - 04	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	86	null	OTA	Distribution authorizedd to DoD only; Critical Technology; 8 Nov 95. Other requests shall be referred to United States Congress, Office of Technology Assessment, Washington, DC 20510-8025.	Final rept.
ADC055035	Technologies for NATO's Follow-on Forces Attack Concept. A Special Report of OTA's Assessment on Improving NATO's Defense Response.	S	2/1/1986	E - 04	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	229	null	OTA	Distribution authorized to DoD only; Critical Technology; 8 Nov 95. Other requests shall be referred to United States Congress, Office of Technology Assessment, Washington, DC 20510-8025.	null
ADC055004	Verification Technologies: Measures for Monitoring Compliance with the START Treaty.	S	2/1/1991	E - 04	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	266	null	OTA	Distribution authorized to DoD only; Critical Technology; 8 Nov 95. Other requests shall be referred to Office of Technology Assessment, United States Congress, Washington, DC 20510-8025.	null
ADC054814	The Soviet Threat to MX, April 1879.	S	3/25/1981	C - 09	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	47	null	OTA	Controlling Office: Office of Technology Assessment, Washington, DC.	Final rept.
ADC054790	Monitoring Limits on Sea-Launched Cruise Missiles.	S	9/1/1992	E - 14	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	121	null	XD	Distribution authorized to DoD Components only; Other requests shall be referred to Office of Technology Assessment, Washington, DC 20510-8025. NOFORN, WNINTEL.	null
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Accession Number	Title	Report Classification	Report Date	Distribution Codes	Corporate Author	Personal Authors	Page Count	Report Numbers	Monitor Series	Distribution Statement	Descriptive Note
ADA336482	Environmental Technology: Analysis of Selected Federal R&D Programs.	U	7/1/1995	C - 12	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	66	OTA-ITC-155	XD	Distribution: DTIC Users Only.	null
ADA336850	Impacts of Antibiotic-Resistant Bacteria	U	9/1/1995	C - 12	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	195	OTA-H-629	XD	Distribution: DTIC Users Only.	null
ADA337447	Biologically Based Technologies for Pest Control	U	9/1/1995	C - 12	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	206	OTA-ENV-636	XD	Distribution: DTIC Users Only.	null
ADA336503	The Fusion Energy Program: The Role of TPX and Alternate Concepts	U	2/1/1995	C - 12	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	96	OTA-BP-ETI-141	XD	Distribution: DTIC Users Only.	null
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Accession Number	Title	Report Classification	Report Date	Distribution Codes	Corporate Author	Personal Authors	Page Count	Report Numbers	Monitor Series	Distribution Statement	Descriptive Note	Abstract
ADA337145	Current Status of Federal Involvement in U.S. Aquaculture	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	61	OTA-BP-ENV-170	XD	null	null	Aquaculture has a long history of supplying protein and other products around the world, but a short history of commercial production in the United States. Until the 195Os, aquatic species were produced mainly to supply fish restocking programs, to provide baitfish and sportfish for fee fishing operations, and for direct family consumption; little reached commercial markets. Although trout had been produced for food since the turn of the century, only with the advent of the catfish culture industry did commercial aquaculture gain visibility as a market force.' Hundreds of different aquatic species are produced in the United States, including various animal and plant ornamentals, species for environmental remediation, industrial and pharmaceutical feedstocks, and products for biomedical research. Although as many as 30 are commonly cited aquacultural species, fewer than 10 species make up most of U.S. aquacultured food production: catfish, trout, crawfish, salmon, hybrid striped bass, tilapia, and various molluscs.
ADA336986	Innovation and Commercialization of Emerging Technologies	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	104	OTA-BP-ITC-165	XD	null	null	Technological innovation is essential to the future well-being of the United States. The ability of the nation to sustain economic growth, increase its standard of living, and improve human health and the environment depends, in many ways, on its success in developing and commercializing new products, processes, and services. The growing capabilities of competitors in Europe, Asia, and elsewhere around the world increasingly challenge the ability of U.S. firms to convert the nation's science and technology base into a competitive advantage. Such concerns have prompted much debate about the proper role of government in encouraging innovation and the commercialization of new technologies. To date, however, the debate has been hampered by an incomplete understanding of the ways in which firms develop and market new products, processes, and services and the barriers they must overcome in the process.
ADA269029	Defense Conversion Redirecting R and D	U	5/1/1993	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	243	null	OTA	Approved for public release; distribution is unlimited.	null	Defense conversion means finding productive civilian uses for the resources and people formerly devoted to the Nation's defense. Channeling the savings from reduced defense R and D to civilian R and D is, of course, only one option for using the peace dividend. There are many others, including deficit reduction. This Report examines opportunities to advance civilian technologies and improve U.S. industrial competitiveness internationally by redirecting research and development from defense to dual-use or civilian purposes. The Report has two parts. Part One analyzes how R and D institutions currently pursuing defense missions could be more responsive and useful to civilian technology development. Defense R and D has historically dominated government R and D, and it will continue to do so even with reduced funding. However, there are opportunities to use a growing portion of the resources and talents of the defense research infrastructure for civilian technology development. The Report focuses particularly on the Department of Energy's (DOE's) three nuclear weapons laboratories, Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratories. These labs are very large, with combined operating budgets of $3.4 billion and more than 24,000 employees. More than other defense- related R and D institutions, these labs are under heavy pressure to devote greater resources to civilian technologies, largely through cooperative research and development agreements (CRADAs) with industry. In the short term, DOE needs an improved process for initiating CRADAs in order to be responsive to industry's surprisingly large demand for shared R and D with the defense labs
ADA533310	Launch Options for the Future	U	1/1/1988	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	107	null	OTA	Approved for public release; distribution is unlimited.	Special rept.	Adequate, reliable space transportation is the key to this Nation's future in space. Over the next several years, Congress must make critical decisions regarding the direction and funding of U.S. space transportation systems. These decisions include improving existing launch systems, designing and procuring new launch systems, and developing advanced technologies. America's constrained budgetary environment and the lack of a national consensus about the future of the U.S. space program make Congress's role in this process more difficult and important than ever. In order to decide which paths to take in space transportation, Congress must first decide what it wants to do in space and what it can afford. A space transportation system designed to meet current needs would be woefully inadequate to support a piloted mission to the planet Mars or to deploy ballistic missile defenses. Accordingly, this special report, which is part of a broader assessment of space transportation requested by the House Committee on Science, Space, and Technology, and the Senate Committee on Commerce, Science, and Transportation, takes the form of a buyer's guide" to space transportation. It describes the range of launch systems that exist now or could be available before 2010 and explores the costs of meeting different demand levels for launching humans and spacecraft to orbit. It also discusses the importance of developing advanced technologies for space transportation."
ADA335832	Arms Control in Space: Workshop Proceedings.	U	5/1/1984	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	64	OTA-BP-ISC-28	XD	null	null	In late 1982 and early 1983, the Subcommittee on Arms Control, Oceans, International Operations, and Environment of the Senate Committee on Foreign Relations held hearings on space weapons and arms control. To explore these issues further in a discussion format not easily achieved in hearings, Sen. Larry Pressler, Chairman of the Subcommittee, asked OTA to conduct a workshop focusing on anti-satellite (ASAT) weapons as one aspect of space arms control. The workshop, held in Washington, D. C., on January 30 and 31, 1984, provided an opportunity for technical, diplomatic, military, and policy-analysis experts to interact, think out loud, and build upon each other's ideas. The workshop was organized into six sessions, although issues involving anti-satellite weapons and arms control are not easily compartmentalized into distinct subject areas. Each session was introduced by a 10- or 15- minute informal oral presentation which set the stage for further discussion. This workshop proceedings volume is organized along the same divisions as the sessions, with some rearrangement.
ADA337367	Flat Panel Displays in Perspective	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	112	OTA-ITC-631	XD	null	null	Flat Panel Displays in Perspective examines the potential benefits of a domestic, high volume, FPD industry for the nation, and evaluates the role of government policies in developing it. The report concludes that such an industry would provide both economic and national security benefits. The extent of these benefits is difficult to determine, however, largely because trends in technology development and industry structure are resulting in more displays at declining prices. The barriers to establishing a high volume FPD industry are formidable, and government tools to address them are limited. However, government funding can play a role by helping to build domestic sources for some displays, such as those used in military systems. An additional finding is that the Department of Defense already uses some foreign displays, but it could take better advantage of FPD sources worldwide.

ADA338636	The Future of Remote Sensing from Space: Civilian Satellite Systems and Applications.	U	7/1/1993	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Williamson, R. A.,Charo, A.,McCue, B.,Wooley, S.	219	null	XD	null	null	Since the first civilian remote sensing satellite was launched in 1960, the United States has come increasingly to rely on space-based remote sensing to serve a wide variety of needs for data about the atmosphere, land, and oceans (table 1-1). Other nations have followed the U.S. lead. The vantage point of space offers a broadscale view of Earth, with repetitive coverage unaffected by political boundaries Recent advances in sensors, telecommunications, and computers have made possible the development and operation of advanced satellite systems (figure 1-1) that deliver vital information about our planet to Earth-bound users. Many Federal agencies, including the Department of Defense (DoD), use remotely sensed data to carry out their legislatively mandated programs to protect and assist U.S. citizens and to reserve and manage U.S. resources. For routine observation of weather and climate, the National Oceanic and Atmospheric Administration (NOAA) operates two environmental satellite systems. DoD also operates a system of environmental satellites' The scientific satellites and instruments of the National Aeronautics and Space Administration (NASA) probe Earth's environment for scientific research. Future NASA scientific satellites will include NASA's Earth Observing System (EOS), a series of sophisticated, low-orbit satellites to gather global environmental data and assist in assessing global environmental change.
ADA338027	Anti-Satellite Weapons, Countermeasures, and Arms Control	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Karas, T. H.,Callaham, M.,DalBello, R.,Epstein, G.	158	OTA-ISC-281	XD	null	null	At the requests of the House Armed Services Committee and the Senate Foreign Relations Committee, OTA undertook an assessment of the opportunities and risks involved in an accelerated program of research on new ballistic missile defense technologies, including those that might lead to deployment of weapons in space. The resulting report,'Ballistic Missile Defense Technologies', is being published concurrently with this volume. This report on 'Anti-Satellite Weapons, Countermeasures, and Arms Control' discusses additional implications of the same or similar technologies. Closely related to BMD technology, system survivability, and arms control issues are questions about the development and deployment of anti-satellite weapons. Whether or not the United States decides to deploy BMD systems in space, other military uses of space will continue to grow in importance. How can the United States respond to the potential threat to its military capabilities posed now and in the future both by Soviet military satellites and by Soviet anti-satellite weapons (ASAT)? This report examines U.S. options for countering Soviet military satellite capabilities and explores both unilateral and cooperative measures for limiting the ASAT threat. Possible unilateral steps include active and passive countermeasures as well as deterrence; possible cooperative steps include a variety of arms control agreements. The report examines the pros and cons of several illustrative arms control regimes" for space weapons, ranging from lesser to greater limitations than now exist. It suggests that some combinations of unilateral and cooperative measures might provide more military security than either type alone. It should be recognized that the relative roles of anti-satellite weapons, countermeasures, and arms control will be strongly affected by the course followed in the development and deploymen
ADA336888	Improving the Prospects for Future International Peace Operations: Workshop Proceedings	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	147	OTA-BP-ISS-167	OTA	null	null	The years following the collapse of the Soviet Union and the consequent end of the Cold War have seen a rapid expansion in both the number and scope of international peace operations. Most of these endeavors have been carried out under the aegis of the United Nations, although there are some notable exceptions. Many of these operations have been of the traditional peacekeeping type, in which a truce, to which all parties agree, is maintained by the international force whose presence is accepted by all sides (e.g., Cyprus, Multinational Force and Observers in the Sinai). However, there has been an increasing tendency of these operations to go well beyond this traditional mold. In these operations, there may be an inclination for the international force to be caught up in processes that go well beyond maintaining a cease-fire or promoting a peace settlement. Unfortunately, as the scope of these interventions has increased, the United Nations has been unable to keep up with all the demands that they present. Severe setbacks in Somalia and Bosnia have demonstrated glaring weaknesses in its responses. Difficulties have been in part due to a scarcity of resources and a major increase in the number of operations to deal with. But another overriding problem has been an incoherence of organization, planning, doctrine, and policy on the part of the international body.
ADA338029	Adverse Reactions to HIV Vaccines: Medical, Ethical, and Legal Issues.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	201	OTA-BP-H-163	XD	null	null	AIDS researchers are investigating new vaccines that would prevent infection with HIV and reduce the spread of AIDS. Some have argued that product liability concerns have discouraged investment in HIV vaccine research and development. The purpose of this OTA background paper is to describe the current state of development of HIV vaccines, and to discuss what is known about adverse reactions that may occur. The background paper provides an overview of ethical issues that arise in the conduct of HIV vaccine trials. The report also discusses alternatives to the current product liability system to encourage the development of HIV vaccines and to fairly compensate those who are harmed as a result of adverse reactions to the vaccine. This background paper was prepared in response to a request from the Subcommittee on Health of the House Ways and Means Committee. It is eleventh in OTA's series of studies on HIV-related issues.
ADA335694	Health Care Technology and Its Assessment in Eight Countries	U	2/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	378	OTA-BP-H-140	XD	null	null	This background paper is part of a larger study on International Differences in Health Care Technology and Spending, which consists of a series of back- ground papers. International Health Statistics: What the numbers mean for the United States was published in November 1993, and International Comparisons of Administrative Costs in Health Care appeared in September 1994. An additional background paper will report on lessons for the United States from a comparison; of hospital financing and spending in seven countries.
ADA351594	U.S. -Soviet Cooperation in Space	U	7/1/1985	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	114	OTA-TM-STI-27	XD	null	Technical memo.	Space holds a fascination for all of us. For many, it represents a final physical frontier, a place to explore the very essence of knowledge, to experiment with new technology, and to seek new levels of human adaptation and change. As the major spacefaring nation on our planet, the United States has taken special pride in our achievements in space. Discoveries in space science have already added immensely to our fund of knowledge. U.S. scientists have moved quickly to take advantage of new opportunities for learning, and the future of scientific work in space is virtually unlimited. Given the promise of space, an additional issue comes to the fore. How can the United States proceed in space in relation to the other principal spacefaring nation and superpower, the Soviet Union? What is to be gained or lost by working together in space? With regard to science in particular, can the two countries benefit from joint efforts? Can the two countries cooperate as well as compete? Since the beginning of the space age, the two countries have been examining these questions. This study was requested by Senators Matsunaga, Mathias, and Pell as a means to shed light on the subject at the time of the 10th anniversary of the major U.S.- Soviet cooperative endeavor, the Apollo-Soyuz Test Project. OTA is pleased to be able to provide this technical memorandum, outlining the principal issues of the debate, the history of cooperation, and the experience of France, another country involved in space cooperation with the U.S.S.R. Additional OTA documents that may be of interest include Civilian Space Stations and the U. S. Future in Space, Salyut: Soviet Steps Toward Human Presence in Space, and International Cooperation and Competition in Civilian Space Activities. OTA studies in the areas of technology transfer are cited in the text.

ADA336822	EPS Superfund Actions and ATSDR Public Health Data	U	7/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	17	OTA-BP-ENV-156	XD	null	null	This background paper is in response to a letter dated May 3, 1995, from Representative Michael Oxley, Chairman of the Subcommittee on Commerce, Trade and Hazardous Materials, Committee on Commerce. That letter requested that the U.S. Congressional Office of Technology Assessment (OTA) prepare a memorandum for a hearing held by the Subcommittee in May 1995 on the reauthorization of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund. OTA provided the Subcommittee a draft of this report for the hearing. This background paper is the final version of the report. The Subcommittee's request letter asked OTA to determine if, or to what extent, the U.S. Environmental Protection Agency (EPA) has used available information about impacts on public health to set its priorities and to select sites for cleanup from among the approximately 1,300 sites on the National Priorities List (NPL) Superfund sites. Specifically, the Subcommittee asked OTA to examine how EPA has responded to the Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human Services (ATSDR) public health categories in setting cleanup priorities for NPL sites. The Subcommittee also asked OTA to examine how EPA has responded to cases where ATSDR has determined that a completed exposure pathway exists.
ADA336857	The Technological Reshaping of Metropolitan America	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	243	OTA-ETI-643	XD	null	null	The OTA Report examines new policy approaches that would focus on development of innovative strategies for economic revitalization of urban core areas (including central cities and inner suburbs); creation of partnerships between urban cores and industry, state governments, and suburban jurisdictions; and movement toward full pricing of development and infrastructure to reduce or eliminate price subsidies now encouraging dispersed development.
ADA336861	Reducing Earthquake Losses	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	174	OTA-ETI-623	XD	null	null	Earthquakes have caused massive death and destruction, and potentially damaging earthquakes are certain to occur in the future. Although earthquakes are uncontrollable, the losses they cause can be reduced by building structures that resist earthquake damage, matching land use to risk, developing emergency response plans, and other means. Since 1977, the federal government has had a research oriented program to reduce earthquake losses the National Earthquake Hazards Reduction Program (NEHRP). This program has made significant contributions toward improving our understanding of earthquakes and strategies to reduce their impact. Implementing action based on this understanding, however, has been quite difficult. This chapter provides an introduction to earthquakes: a sum mary of the earthquake hazard across the United States, a review of the types of losses earthquakes cause, a discussion of why earthquakes are a congressional concern, and an introduction to mitigation actions taken prior to earthquakes that can reduce losses when they occur. The federal policy response to date, NEHRP is then described and reviewed. Finally, specific policy options for improving federal efforts to reduce future earthquake losses are presented.
ADA336502	Nuclear Safeguards and the International Atomic Energy Agency	U	4/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	153	OTA-ISS-615	XD	null	null	From the dawn of the nuclear age, nuclear power has been recognized as a 'dual-use' technology. The same nuclear reactions that give bombs the destructive force of many thousands of tons of high explosive can, when harnessed in a controlled fashion, produce energy for peaceful purposes. The challenge for the international nuclear nonproliferation regime-the collection of policies, treaties, and institutions intended to stem the spread of nuclear weapons-is to prevent nuclear proliferation while at the same time permitting nuclear energy's peaceful applications to be realized. One of the key institutions involved in meeting these two objectives is the International Atomic Energy Agency (IAEA), an international organization created in 1957 as a direct outgrowth of president Eisenhower's 'Atoms for Peace' program. The IAEA Statute, which creates the legal framework for the agency, charges it to 'accelerate and enlarge the contribution of atomic energy to peace, health, and prosperity throughout the world.' At the same time, it gives the agency the authority to enter into so-called safeguards agreements with individual nations or groups of nations to ensure that nuclear materials, equipment, or facilities are not used to produce nuclear weapons. The IAEA's mission and its safeguards responsibilities were extended with the enactment in 1970 of the Treaty on the Non-Proliferation of Nuclear Weapons (also known as the Non-Proliferation Treaty, or NPT). The Treaty requires non-nuclear-weapon states that are parties to the accord to enter into safeguards agreements with the IAEA covering all nuclear materials on their territory (e.g., uranium and plutonium, whether in forms directly usable for weapons or forms that require additional processing before becoming usable in weapons).
ADA336896	Wireless Technologies and the National Information Infrastructure	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	291	OTA-ITC-622	XD	null	null	Over the next five to 10 years, wireless technologies will dramatically reshape the communications and information infrastructure of the United States. New radio-based systems now being developed will use advanced digital technologies to bring a wide array of services to both residential and business users, including ubiquitous mobile telephone and data services and many new forms of video programming. Existing wireless systems, including radio and television broadcasting, cellular telephony, and various satellite and data networks, will also convert to digital technology. This will allow them to improve the quality of their services, expand the number of users they can serve, and offer new information and entertainment applications. Before the benefits of these wireless systems can be realized, however, technical, regulatory, and economic uncertainties must be resolved. This report examines the role wireless communication technologies will play in the evolving National Information Infrastructure (NII), examines the challenges facing policy-makers and regulators as wireless becomes a more integral part of the telecommunications and information infrastructure, and identifies some of the longer term implications of the widespread use of wireless systems and services.
ADA337377	The Effectiveness of AIDS Prevention Efforts	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	43	OTA-BP-H-172	XD	null	null	OTA first addressed the question, How Effective Is AIDS Education? (91) in 1988. At that time, we concluded that knowledge about the effectiveness of particular programs and of specific elements of programs has been slow to accumulate. " The Sub-committee on Health and the Environment of the House of Representatives Committee on Commerce asked OTA to take a fresh look at the question, and this background paper is the result. In 1995, there still is a need for additional research and for development and use of more carefully-refined research methods.
ADA337556	Selected Technology Issues in U.S. Aquaculture.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	86	OTA-BP-ENV-171	XD	null	null	Aquaculture has a long history of supplying protein and other products around the world, but a short history of commercial production in the United States (box 1-i). Until the 195Os, aquatic species were produced mainly to supply fish restocking programs, to provide baitfish and sportfish for fee fishing operations, and for direct family consumption; little reached commercial markets. Although trout had been produced for food since the turn of the century, only with the advent of the catfish culture industry did commercial aquaculture gain visibility as a market force. Hundreds of different aquatic species are produced in the United States, including various animal and plant ornamentals, species for environmental remediation, industrial and pharmaceutical feedstocks, and products for biomedical research. Although as many as 30 are commonly cited aquacultural species, fewer than 10 species make up most of U.S. aquacultured food production: catfish, trout, crawfish, salmon, hybrid striped bass, tilapia, and various mollusks (table 1 - l).
ADA337627	The Lower Tiers of the Space Transportation Industrial Base	U	8/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	32	OTA-BP-ISS-161	XD	null	null	Current national space transportation policy, when it considers industry related questions, is principally directed at, and influenced by, the industry's large prime contractors. Yet the industry is comprised of a much wider variety of firms. The U.S. space transportation industry includes large and small providers of subsystems, components, and materials in areas such as propulsion, avionics, guidance, and structures. For each dollar spent on the procurement of space transportation systems and services, roughly half flows down to second and lower tier supplier firms. This background paper, prepared by the Office of Technology Assessment (OTA) for the House Committee on Science, examines the current status and future prospects of these critical, but often ignored, lower tiers. It is the second product of OTA's assessment of the U.S. space transportation technology and industrial base. It also represents the final OTA report on space technology policy.

ADA336898	Global Communications: Opportunities for Trade and Aid	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	184	OTA-ITC-642	XD	null	null	Global Communications: Opportunities for Trade and Aid examines the question of how telecommunication related aid policies might be designed to support both United States trade and foreign aid goals. Communication and information technologies are particularly well suited in this regard. These technologies are of critical importance in today's knowledge based global economy. Not only do they provide the networked infrastructure on which global businesses will increasingly take place; they also constitute one of the fastest growing sectors of world trade and investment. There is already mounting evidence and a growing appreciation of the positive role that information and communication technologies can play in supporting economic development. By targeting poor and underserved areas, telecommunication based aid programs have the potential to enhance U.S. trade opportunities in developing countries, and promote competition and telecommunications regulatory reform, while at the same time providing for the communities and people most in need. To lay the groundwork for developing an effective telecommunications related aid strategy, the report examines the likely scenarios for the deployment of communication and information technologies in support of global trade; identifies the policy issues, market failures, and regulatory barriers that need to be overcome; and identifies and analyzes telecommunications-related foreign aid strategies that the federal government might pursue to address these problems.
ADA337558	Telecommunications Technology and Native Americans: Opportunities and Challenges	U	8/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	132	OTA-ITC-621	XD	null	null	'Telecommunications Technology and Native Americans: Opportunities and Challenges' examines the potential of telecommunications to improve the socioeconomic conditions of Native Americans - American Indians, Alaska Natives, and Native Hawaiians - living in rural, remote areas, and to help them maintain their cultures and exercise control over their lives and destinies. The report discusses the opportunities for Native Americans to use telecommunications (including computer networking, videoconferencing, multimedia, digital and wireless technologies, and the like) in the realms of culture, education, health care, economic development, and governance. It also explores the challenges and barriers to realizing these opportunities, notably the need to improve the technology infrastructure (and access to it), technical training, leadership, strategic partnerships, and telecommunications planning on Indian reservations and in Alaska Native villages and Native Hawaiian communities. Prepared at the request of the Senate Committee on Indian Affairs, this is the first federal government report on Native American telecommunications. It provides a framework for technology planning and policy actions by Congress and relevant federal agencies, as well as by Native leaders and governments. Native Americans were involved throughout the study. OTA made site visits to six states and consulted with Native leaders and technology experts in about two dozen other states. Computer networking was used extensively for research and outreach, and OTA developed the Native American Resource Page for this study, a World Wide Web home page accessible via OTA Online (http://www.ota.gov/nativea.html).
ADA335846	Teachers and Technology: Making the Connection.	U	4/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	302	OTA-EHR-616	XD	null	null	In the United States, the public school system is designed-ideally-to produce effective, thoughtful citizens who will become valuable contributors to society. In the race to make sure our students are well prepared to handle the world they walk into when they walk out of schools, the nation has tried to enlist as teaching resources the most relevant technological innovations of our time- whether television or telecommunications, calculators or computers. But in the process of equipping our students to learn with technology, a valuable-perhaps the most valuable-part of the education equation has been virtually overlooked: the teachers. Despite over a decade of investment in educational hardware and software, relatively few of the nation's 2.8 million teachers use technology in their teaching. What are some of the reasons teachers do not use technology? What happens when they do use technology? What factors influence technology integration in schools? What roles do schools, districts, states, the private sector, and the federal government play in helping teachers with new technologies? OTA's in-depth examination of these questions was initiated at the request of the Senate Committee on Labor and Human Resources, and endorsed by the House Committee on Education and Labor (now the House Committee on Economic and Educational Opportunities) and a member of the Senate Appropriations Committee. As this report will show, helping schools to make the connection between teachers and technology may be one of the most important steps to making the most of past, present, and future investments in educational technology and in our children's future. Throughout this study, the advisory panel, workshop participants, and many others played key roles in defining major issues, providing information, and contributing a broad range of perspectives that helped shape this report.
ADA336940	Information Technologies for the Control of Money Laundering	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	161	OTA-ITC-630	XD	null	null	The key to control of international crime may depend on cutting off the flow of illegal profits to criminal organizations. It is estimated that $300 billion of dirty money may be laundered each year, its origin and ownership obscured as it passes through financial institutions and across national boundaries in an effort to hide and protect it from law enforcement authorities. Criminal organizations, like legitimate businesses, enjoy a swift and nearly risk free conduit for moving money between countries wire transfer systems. Illicit wire transfers are easily hidden among the 700,000 mostly legitimate wire transfers that occur daily in the United States, moving well over $2 trillion. OTA was asked by the Permanent Subcommittee on Investigations of the Senate Committee on Governmental Affairs to assess the proposed use of techniques derived from artificial intelligence research to monitor wire transfer traffic and recognize suspicious transfers. Fully automated computer screening of wire transfers was found to be virtually impossible for technical reasons. However, OTA analysts developed and evaluated a number of alternative configurations of technology that, combined with certain legal and institutional innovations, could greatly enhance the capability of law enforcement agencies to detect and prosecute money launders seeking to exploit U.S. financial institutions and wire transfer systems. Although all of these proposed configurations entail some economic and social costs, including possible diminution of financial privacy, strategies are suggested for minimizing these costs while enhancing the potential usefulness of information technology in control of money laundering.
ADA351854	Helping America Compete: The Role of Federal Scientific & Technical Information.	U	7/1/1990	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	76	null	XD	null	null	The United States must make better use of its scientific and technical information (STI) resources, if it wishes to be competitive in world markets and maintain its leadership. STI is an essential ingredient of the innovation process from education and research to product development and manufacturing. It is a major product of the $65 billion per year the U.S. Government spends on research and development (R&D); researchers need ready access to STI if they are to stay at the cutting edge. Many issues of our time-health, energy, transportation, and climate change-require STI to understand the nature and complexities of the problem and to identify and assess possible solutions. STI is important not only to scientists and engineers but to political, business, and other leaders who must make decisions related to science and technology, and to the citizens who must live with the consequences of these decisions.
ADA337564	Effectiveness and Costs of Osteoporosis Screening and Hormone Replacement Therapy, Volume I: Cost-Effectiveness Analysis	U	8/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	69	OTA-BP-H-160	XD	null	null	This background paper assesses the costs and effectiveness of screening women for bone density once, at the time of menopause (age 50) or alternatively at age 65, and placing those with low bone density on long-term hormonal replacement therapy (HRT).

ADA338120	U.S. - Russian Cooperation in Space.	U	4/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	138	OTA-ISS-618,ISBN-0-	XD	null	null	The recent broad political rapprochement between the United States and the nations of the Former Soviet Union (FSU) has transformed the environment for cooperation on space projects, and led to cooperative programs in space with Russia and other FSU states that would have been unimaginable just a few years ago. Chief among these are the high-profile human spaceflight cooperative activities involving the Space Shuttle-Space Station Mir dockings and the International Space Station. This report surveys the potential benefits and drawbacks of expanded cooperation with Russia and other nations of the FSU in space activities, and examines the impacts of closer cooperation on U.S. industry and U.S. national security concerns. Such cooperation has begun to yield scientific, technological, political, and economic benefits to the United States. However, the political and economic risks of cooperating with the Russians are higher than with the United States' traditional partners in space. Cooperation in robotic space science and earth remote sensing is proceeding well, within the stringent limits of current Russian (and U.S.) space budgets. Including Russia in the International Space Station program provides technical and political benefits to the space station partners, but placing the Russian contribution in the critical path to completion also poses programmatic and political risks. The report notes that much of the motivation for the expansion of cooperation with Russia lies beyond programmatic considerations.
ADA336692	Distributed Interactive Simulation of Combat.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	83	OTA-BP-ISS-151	XD	null	null	Distributed interactive simulation (DIS) is the linking of aircraft, tank, and other military simulators in diverse locations so that the crew of one simulator can see," operate with, "shoot" at, or be "destroyed" by the other vehicles being simulated. Command structures can also be simulated. This allows forces to practice and train in situations too costly or risky to practice with real weapons. The simulators are technological descendants of the Link Trainer, the famous flight simulator introduced in 1929. Modem vehicle simulators use electronic digital computers to calculate how instrument indications, visual displays, and sounds should change in response to a user's handling of controls. A prominent trend, over the last decade, has been the increase in the detail and apparent realism with which increasingly affordable computing power can generate and display a scene that a helicopter pilot might see through his canopy or a tank crewman might see through his periscope. The linking of the simulators' computers into a network, using the technologies and standard communications procedures used in the Internet, as well as others, allows each simulator crew to practice teamwork with other crews
ADA336655	Challenges for U.S. Agricultural Research Policy.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	92	OTA-ENV-639	XD	null	null	Agricultural productivity has increased markedly in recent years-more rapidly, in fact, than productivity in the overall U.S. economy. Many attribute a large part of this growth to public sector agricultural research, which is carried out primarily by land grant universities and the U.S. Department of Agriculture's research agencies. Despite this success, however, new budget constraints, scientific advances, and public demands for environmental safety are presenting the agricultural research system with the greatest challenges it has faced since its inception, more than a century ago. Questions have been raised about whether the old research institutions are still useful, and about how they should adapt to accommodate the new realities of the 1990s. In discussions leading up to the 1995 farm bill, agricultural research policy has been put squarely on the negotiating table. Policymakers have been particularly interested in how well the agricultural system has responded to legislative directives in the past farm bill that called for a clarification of the purposes of agricultural research and extension, a national competitive research initiative, a sustainable agricultural research program, and research efforts to create new agricultural crops and new uses for agricultural commodities. This report responds to a bipartisan request from the Senate Committee on Agriculture, Nutrition, and Forestry to determine the progress the research system has made in meeting the objectives set forth in these new areas, and to provide guidance on the management of agricultural research. In doing so, the report focuses on new ways to finance, organize, and manage agricultural research to prepare the system for the challenges of the next century.
ADA335779	U.S.-Russian Cooperation in Space.	U	4/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	138	OTA-ISS-618	XD	null	null	The recent broad political rapprochement between the United States and the nations of the Former Soviet Union (FSU) has transformed the environment for cooperation on space projects, and led to cooperative programs in space with Russia and other FSU states that would have been unimaginable just a few years ago. Chief among these are the high-profile human spaceflight cooperative activities involving the Space Shuttle-Space Station Mir dockings and the International Space Station. This report surveys the potential benefits and drawbacks of expanded cooperation with Russia and other nations of the FSU in space activities, and examines the impacts of closer cooperation on U.S. industry and U.S. national security concerns. Such cooperation has begun to yield scientific, technological, political, and economic benefits to the United States. However, the political and economic risks of cooperating with the Russians are higher than with the United States' traditional partners in space. Cooperation in robotic space science and earth remote sensing is proceeding well, within the stringent limits of current Russian (and U.S.) space budgets. Including Russia in the International Space Station program provides technical and political benefits to the space station partners, but placing the Russian contribution in the critical path to completion also poses programmatic and political risks.
ADA955267	An Assessment of Information Systems Capabilities Required to Support U.S. Materials Policy Decisions.	U	12/1/1976	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC*	null	265	null	null	null	null	
ADA336983	Coverage of Laser Technology by Health Insurers.	U	8/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	42	OTA-BP-H-159	XD	null	null	New medical technologies hold both the promise of significant health benefits and the prospect of additional health care spending. Private health insurance companies-through which most health care is paid for-shoulder a considerable responsibility in deciding which new technologies will be covered by insurance, and when in the cycle of development the time arrives to approve coverage. In general, insurance coverage is denied for technologies that are considered unproved or experimental. Despite the obvious importance of these decisions, relatively little systematic information is available about the procedures that insurers go through and the criteria they use to weigh the evidence. This background paper presents some empirical information on how insurers consider payment for new medical devices. It describes the survey results of medical directors affiliated with private health insurers about their coverage decisions using, as examples, three applications of lasers: laser angioplasty for opening narrowed or blocked coronary arteries; laser discectomy for treating herniated intervertebral discs; and photodynamic therapy (using a light-sensitive dye) for bladder cancer.
ADA336732	State of the States on Brownfields: Programs for Cleanup and Reuse of Contaminated Sites	U	6/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	32	null	XD	null	null	Brownfields consist of land and/or buildings that are abandoned or underutilized where expansion or redevelopment is complicated, in part, because of the threat of known or potential contamination. Federal and state laws governing the treatment of these sites may require remediation (cleanup) of property before redevelopment and can contribute to uncertain liability for property owners or users. As a result of these and other factors, redevelopment and reuse of these sites can be hindered. Redevelopment of brownfield sites is a particular problem in many central cities and inner suburbs of U.S. metropolitan areas that need to create jobs and attract commercial and industrial development. Because of this, a number of states and cities have developed programs to facilitate assessment, cleanup, and redevelopment of brownfields.

ADA336015	Reducing the Costs of Collecting Meteorological Data: A Workshop Summary.	U	6/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	20	OTA-BP-ISS-152	XD	null	null	Information about the Earth obtained from satellite systems assists the National Weather Service (NWS) of the National Oceanic and Atmospheric Administration (NOAA) in conducting its legislatively mandated programs to provide weather and flood forecasts and warnings for the American public, improve public safety, and provide weather information for conunerce and science. NOAA's National Environmental Data and Information Service (NESDIS) operates two meteorological satellite systems-the geostationary operational environmental satellite (GOES) system and the low Earth orbit (LEO) polar-orbiting operational environmental satellite (POES) system in support of the meteorological data needs of the NWS. The Department of Defense's (DOD's) Defense Meteorological Satellite Program (DMSP) provides similar meteorological data to support the surveillance, war-fighting, and peacekeeping operations of U.S. military forces. Under normal operating conditions, each system consists of two satellites in orbit and the associated satellite control and data receiving stations, data archives, and data distribution networks. Appendix A summarizes the technical characteristics of these systems and outlines their planned development and launch schedules.
ADA336767	Environmental Monitoring for Nuclear Safeguards	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	49	OTA-BP-ISS-168	OTA	Approved for public release; distribution is unlimited.	null	Environmental monitoring is a potentially powerful supplement to current safeguards techniques intended to prevent the spread of nuclear weapons. Prior to the 1991 Persian Gulf War, the International Atomic Energy Agency (IAEA) administered safeguards primarily on the nuclear materials associated with known commercial or research facilities. Accounting for this material would provide notice were a proliferator to divert any to obtain the necessary nuclear fissile material for nuclear weapons. Events in Iraq revealed after that war have demonstrated that such a safeguards approach addresses only part of the problem. Probably more important to halting proliferation is ensuring that countries do not violate their non-proliferation agreements by constructing covert facilities for nuclear material production. Environmental monitoring, which tests for the presence of materials that are likely to be emitted by such activities, can help inspectors detect undeclared activities at safeguarded sites and may be able to detect covert facilities at undeclared sites.
ADA337073	Issue Update on Information Security and Privacy in Network Environments	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	150	OTA-BP-ITC-147	OTA	null	null	Controversies, problems, and proposed solutions related to information security and privacy are becoming increasingly prominent among government, business, academia, and the general public. At the same time, use of information networks for business has continued to expand, and ventures to bring electronic commerce and electronic cash" into homes and offices are materializing rapidly. Government agencies have continued to expand both the scale and scope of their network connectivities; information technologies and networks are featured prominently in plans to make government more efficient, effective, and responsive. Until recently, topics such as intrusion countermeasures for computer networks or the merits of particular encryption techniques were mostly of interest to specialists. However, in the past few years, stories about controversial federal encryption standards, 'password sniffing' and un-authorized intrusions on the Internet, the pursuit and capture of a notorious computer 'cracker,' and export controls on computer programs that perform encryption have become front-page news.
ADA337395	Fish Passage Technologies: Protection at Hydropower Facilities	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	174	OTA-ENV-641	XD	null	null	The focus of this report is technologies for fish passage around hydropower generation facilities and protection against entrainment and turbine mortality. Emphasis is given to Federal Energy Regulatory Commission (FERC)-licensed hydropower projects where fish protection is a subject of controversy and congressional interest due to the Federal Power Act (FPA) and the Electric Consumers Protection Act (ECPA). Thus institutional issues related to FERC-relicensing are also discussed. (Major points of controversy are high-lighted in box 1.1)
ADA344953	Building Future Security: Strategies for Restructuring the Defense Technology and Industrial Base.	U	6/1/1992	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	167	null	XD	null	null	The transformation of the global security environment is causing sweeping changes in the U.S. defense technology and industrial base (DTIB). The collapse of the Soviet military threat, which drove U.S. defense planning and spending for 40 years, combined with the urgency of domestic problems and the spiraling budget deficit, have generated pressures to reduce the defense budget by a third to a half over the next decade. Yet the Persian Gulf War illustrated the continuing need for an effective U.S. military establishment, supported by a smaller but still robust DTIB. Cuts in funding for defense research, development, production, and maintenance could impair the ability of the base to meet future national security needs unless the cuts are accompanied by changes in how the base is structured. As a result, the Nation needs to develop a comprehensive strategy for managing the downsizing of the DTIB while preserving the core capabilities essential for the development, production, and maintenance of major weapons and defense equipment. The broad outline of such a strategy was examined in an earlier OTA report, Redesigning Defense (See box 1-A.), and in three background papers. The previous report described some desirable characteristics of the future DTIB, which are listed in table 1-1. This report elaborates on the findings of the earlier OTA publications and examines in greater detail the specific policy choices involved in restructuring the DTIB over the next decade.
ADA336268	Taggants in Explosives	U	4/1/1980	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	269	null	OTA	null	null	At the request of the Senate Committee on Governmental Affairs, the Office of Technology Assessment has undertaken an analysis of the proposal to mandate, the use of taggants in explosive materials manufactured for commercial use. A taggant" is a material that might be added to explosives and gunpowders at the time of manufacture, as an eventual aid to law enforcement. This study assesses the existing taggant technology in order to assist Congress in its decision whether to adopt legislation which would require taggants in explosives and gunpowders.
ADA337830	Directed Energy Missile Defense in Space	U	4/1/1984	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	93	OTA-BP-ISC-26	OTA	null	null	This Background Paper describes and assesses current concepts for directed-energy ballistic missile defense in space. Its purpose is to provide Members of Congress, their staffs, and the public with a readable introduction to the so-called 'Star Wars'technologies that some suggest might form the basis of a future nationwide defense against Soviet nuclear ballistic missiles. Since these technologies are a relatively new focus for U.S. missile defense efforts, little information about them has been readily available outside the expert community. Directed-energy or 'beam' weapons comprise chemical lasers, excimer and free electron lasers, nuclear bomb-powered x-ray lasers, neutral and charged particle beams, kinetic energy weapons, and microwave weapons. In addition to describing these devices, this Background Paper assesses he prospects for fashioning from such weapons robust and reliable wartime defense system resistant to Soviet countermeasures. The assessment distinguishes the prospects for perfect or ear-perfect protection of U.S. cities and population from the prospects that technology will achieve a modest, less-than-perfect level of performance that will nonetheless be seen by some experts as having strategic value. Though the focus is technical, the Paper also discusses, but oes not assess in detail, the strategic and arms control implications of a major U.S. move to develop and deploy ballistic missile defense (BMD).
ADA337722	Ballistic Missile Defense Technologies	U	9/1/1985	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Johns, Lionel S.,Sahrfman, Peter,Callaham, Michael,DalBello, Richard,Epstein, Gerald,Fainbery, Anthony,Rochlin, Robert	327	OTA-ISC-254	OTA	null	null	President Reagan's speech of March 23, 1983, renewed a national debate that had been intense in the late 1960s but much subdued since 1972. Wouldn't the United States be more secure attempting to defend its national territory against ballistic missiles while the Soviet Union did the same? Or would it be more secure attempting to keep such defenses largely banned by agreement with the Soviet Union? missile defense technologies. This research program was called the 'Strategic Defense Initiative' (SDI).

ADA210409	Holding the Edge: Maintaining the Defense Technology Base	U	4/1/1989	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	196	OTA-ISC-420	OTA	Approved for public release; distribution is unlimited.	International securit	Technological superiority has been a cornerstone of U.S. security and industry since World War II. That cornerstone is not crumbling, but over the past decade it has weathered significantly. Foreign companies have made deep inroads into high-technology markets that had been more or less the exclusive domain of U.S. industry. In addition to causing economic problems, this has fostered dependence on foreign sources for defense equipment at a time when the technology in defense systems comes increasingly from the civilian sector. At the same time, the Department of Defense reports that Soviet defense technology is catching up with ours, and sophisticated Western military equipment is routinely sold to third world nations. The first report provided a broad view of the defense technology base and the concerns regarding its health. This report develops some ideas introduced in the first report. It examines the management of DoD technology base programs and laboratories. It also analyzes the process through which technology is introduced into defense systems, in order to understand why it takes so long and what might be done to speed the process up. This report examines the exploitation of civilian commercial sector technology for defense needs. It concentrates on the dual questions of expediting military access to civilian technology and keeping the necessary base of technology alive and well in the United States.
ADA339263	Export Controls and Nonproliferation Policy	U	5/1/1994	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	97	null	OTA	null	null	The United States, in cooperation with other nations, controls the export of goods, technology, and software that have civilian applications but could also be used to make weapons of mass destruction or missiles to deliver them. Requiring licenses for the export of such dual-use items will continue to be one useful tool in U.S. nonproliferation policy. Although unlikely to stop a determined proliferant in the long run, export controls increase the cost and the difficulty of producing these weapons, and they may buy important time during which policymakers may bring other nonproliferation tools to bear. According to the OTA report Export Controls and Nonproliferation Policy, the difficult task for both Congress and the executive branch is to design an export control system that serves U.S. security interests but also takes due account of economic interests and fairness to regulated exporters. The task is made more difficult by the problems inherent in trying to estimate both the benefits and the costs of export controls.
ADA337404	The Effectiveness of Research and Experimentation Tax Credits.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	71	null	XD	null	null	In 1981 Congress enacted the research and experimentation (R&E) tax credit, as a means to encourage firms to conduct additional research and development. Congress has never made the R&E tax credit a permanent feature of the tax code; instead, it has extended and modified the policy on numerous occasions, twice after allowing it to expire. The credit once again expired in June 1995, putting Congress back in the position of deciding whether to extend the credit and, if so, for how long and with what terms. In principle, the R&E tax credit addresses an important public policy goal: stimulating private sector R&D spending, and thereby encouraging advancements in scientific and technological knowledge. As economists have long noted, R&D spending is prone to market failure due to the frequently high returns to society from R&D and the associated difficulty firms often face in appropriating the benefits of their research. Many analysts agree that the R&E tax credit is, in principle, a sensible policy instrument for encouraging the private sector to supply a more socially optimal level of R&D investment. In practice, however, the R&E tax credit often has been criticized for being indefinite in duration and unwieldy in form, for excluding certain types of R&D-performing firms, and for possibly subsidizing reseaith that would take place regardless of the credit. Existing studies of the R&E tax credit are informative in many respects but, as this report demonstrates, are dated, less than comprehensive, or otherwise unsatisfactory.
ADA335693	Anti-Satellite Weapons, Countermeasures, and Arms Control	U	9/1/1985	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	155	null	XD	null	null	
ADA336675	International Partnerships in Large Science Projects.	U	7/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	140	null	XD	null	null	Over the past several decades, the federal government has supported a wide range of research projects in science and technology. Federal support has been crucial to many of the most important research and development (R&D) achievements in defense, space, energy, environmental, and other science and technology programs. Recently, however, federal budget deficits and concerns about the effectiveness of research efforts have intensified pressures on government R&D spending, making it difficult to sustain many ongoing efforts and limiting opportunities for new ventures. These pressures, coupled with the increasingly international character of science and technology R&D activities, have focused greater attention on bilateral and multilateral collaborative arrangements, particularly for large-scale, long-term projects in areas such as particle physics, energy and environmental science, and space. The United States has pursued international collaborative projects in R&D to raise the likelihood of scientific success for particularly complex endeavors, to take greater advantage of international scientific expertise and facilities, to address science and technology issues that have global implications, to extend national scientific capabilities, and especially for very large science projects, to share costs and risks with other nations. International collaboration, however, poses special challenges, such as establishing R&D priorities within and across different scientific disciplines, developing funding and planning mechanisms that ensure the long-term stability of projects, and maintaining U.S. economic and national security interests.
ADA339517	SDI (Strategic Defense Initiative) Technology, Survivability and Software.	U	5/1/1988	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	291	OTA-ISC-353	OTA	null	null	This report 'reviews the status of the various SDI technologies and system components. It analyzes the feasibility of producing dependable software of the complexity that advanced BMD systems would require. Finally, it summarizes what is now known--and unknown--about the probable survivability of such systems against concerted enemy attacks of various kinds.'
ADA336931	Nuclear Wastes in the Arctic: An Analysis of Arctic and Other Regional Impacts from Soviet Nuclear Contamination	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	248	OTA-ENV-632	XD	null	null	This report examines the environmental and human health impacts from wastes dumped into the Arctic and North Pacific regions, from nuclear contaminants discharged into these environments, and from radioactive releases from both past and future nuclear activities in the region. The report presents what is known and unknown about this waste and contamination and how it may affect public health. Because so many factors are involved and science cannot provide absolute answers to many questions, this study emphasizes the need for care, caution, awareness, and prudence. It also stresses the need for a stable and enduring institutional framework and international cooperation for long term observation and monitoring.
ADA337555	Renewing Our Energy Future	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	278	OTA-ETI-614,ISBN-0-	XD	null	null	Various forms of renewable energy could become important contributors to the U.S. energy system early in the next century. If that happens, the United States will enjoy major economic, environmental, and national security benefits. However, expediting progress will require expanding research, development, and commercialization programs. If budget constraints mandate cuts in programs for renewable energy, some progress can still be made if efforts are focused on the most productive areas. This study evaluates the potential for cost-effective renewable energy in the coming decades and the actions that have to be taken to achieve the potential. Some applications, especially wind and bioenergy, are already competitive with conventional technologies. Others, such as photovoltaics, have great promise, but will require significant research and development to achieve cost-competitiveness. Implementing renewable energy will be also require attention to a variety of factors that inhibit potential users. This study was requested by the House Committee on Science and its Subcommittee on Energy and Environment; Senator Charles E. Grassley; two Subcommittees of the House Committee on Agriculture Department Operations, Nutrition and Foreign Agriculture and Resource Conservation, Research and Forestry; and the House Subcommittee on Energy and Environment of the Committee on Appropriations. OTA appreciates the invaluable advice and assistance of the many people who contributed to this project, including the advisory panel, contractors. and reviewers.

ADA338967	Proliferation and the Former Soviet Union	U	9/23/1994	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	101	OTA-ISS-605	BMDO	null	This report, the fifth publication from OTA's assessment on the proliferation of weapons of mass destruction, examines the whole range of consequences for proliferation of the Soviet Union's breakup. One effect may be the erosion of international nonproliferation treaty regimes. In spite of the continuing desire of most of the newly independent states of the former Soviet Union to support nonproliferation goals, these states face severe internal challenges; social and economic disruption are rampant and the degree of central governmental control over activities nominally within their jurisdictions is often questionable. Of particular concern are economic hardship and low morale among many individuals with access to vital weapon information or sensitive facilities, a situation aggravated by as yet inadequate national systems to account for and secure nuclear materials, to control exports, and to police borders. Given the severity of the problems facing Russia and the other newly independent states, the United States and other Western powers may have only marginal ability to influence the overall course of events there. This study describes how U.S. assistance may reduce specific proliferation risks in the former Soviet Union. The consequences of failure to stem these risks provide a strong incentive for the United States to help the newly independent states address them.
ADA337518	Cleaning Up Contaminated Wood-Treating Sites	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Johnson, Peter,Reyes, German	46	OTA-BP-ENV-164	XD	null	N 1994 THE Office of Technology Assessment (OTA) was asked to evaluate technical alternatives to incineration for cleaning up the Texarkana Wood Preserving Company Superfund site, in Texarkana, Texas. The 25-acre site, a former wood-treating facility in Bowie County, Texas, became an U.S. Environmental Protection Agency (EPA) Superfund site in 1986 (27). Wood products had been treated there with preservative chemicals over many decades. These activities left behind chemical preservatives as contaminates in soil, sludge, sediment, and groundwater. Using information available i the late 1980s, the EPA selected incineration in a 1990 record of decision (ROD) to clean up soil, sludge, and sediments contaminated with wastes from wood-treating activities at Texarkana. However, public opposition has prevented incineration from being used at this site. Recently EPA funds that had been allocated to building and operating an incinerator were returned, and today the only work at the site is ongoing environmental monitoring and interim analyses. OTA was asked to find and evaluate possible alternatives to incineration that might be more acceptable to residents who live nearby. This report identifies technologies available for organic hazardous waste cleanup at wood-treating sites throughout the country. OTA has identified a range of such technologies that have been selected in the past and could be applied to other sites in the future. OTA has not recommended specific technologies for the Texarkana Wood Preserving Company site. The applicability of a technology to a particular Superfund site has to be based on many site-specific factors.
ADA274601	Defense Conversion - Redirecting R and D. Summary	U	5/1/1993	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	47	null	XD	Approved for public release; distribution is unlimited.	Defense conversion means finding productive civilian uses for the resources and people formerly devoted to the Nation's defense. Channeling the savings from reduced defense R and D to civilian R and D is, of course, only one option for using the peace dividend. There are many others, including deficit reduction. This Report examines opportunities to advance civilian technologies and improve U.S. industrial competitiveness internationally by redirecting research and development from defense to dual-use or civilian purposes.
ADA337665	Screening and Testing Chemicals in Commerce	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	129	null	OTA	null	This background paper comes from a workshop held by OTA in April 1995. OTA invited experts from industry, academia, and government who are involved with toxicity testing and screening chemicals. The individual chapters of this report were written by participants in the workshop. Each chapter discusses a specific type of testing or screening method. Every chapter has been reviewed by at least two outside reviewers for accuracy and completeness. After revisions, the final versions are produced here.
ADA337384	Gauging Control Technology and Regulatory Impacts in Occupational Safety and Health: An Appraisal of OSHAs Analytic Approach	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	108	OTA-ENV-635	XD	null	This study is broadly concerned with the processes and methods that the Occupational Safety and Health Administration (OSHA) employs to examine control technology options and to estimate compliance costs and other regulatory impacts in support of its major regulatory actions. This report responds to Congress's interest in better understanding the nature and soundness of the analytical procedures OSHA conducts in these substantive areas.
ADA344759	Global Arms Trade: Commerce in Advanced Military Technology and Weapons,	U	6/1/1991	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Keller, W. W.,LaPorte, T. M.	190	null	OTA	null	The recent war in the Persian Gulf has once again focused attention on the proliferation of advanced weapons and the international arms indusuy. Although Iraq had little or no defense industrial capability, it was able to obtain a vast arsenal of modern weapons from the Soviet Union, Western Europe, China, Eastern Europe, and a variety of arms producers in the developing world. Today, the international arms market is a buyers' market in which modern tanks, fighter aircraft, submarines, missiles, and other weapons are available to any nation that can afford them. Increasingly, sales of major weapons also include the transfer of the underlying technologies necessary for local production, resulting in widespread proliferation of modern weapons and the means to produce-and even develop them. The end of the Cold War has brought profoundly decreased demand for weapons by the United States, the Soviet Union, and most European governments. In the United States, and elsewhere, some defense companies are seeking to increase their international sales as part of a strategy to adjust to the new realities of lower procurement budgets and less domestic demand for their products. But because of worldwide overcapacity in defense production, competition is fierce and sales arrangements are complex, increasingly bypassing government- to-government agreements.
ADA336870	Occupational Training for Young People in the United Kingdom.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	50	OTA-BP-EHR-175	XD	null	As has the United States and other countries, the United Kingdom (U.K.) has been concerned about youth unemployment, skill shortages, and national competitiveness in international markets. Further, low skill levels among youth are believed to be slowing the adoption of more effective kinds of work organizations. Since the mid-i 970's, the British government has introduced a number of programs for young people, many of which are designed to help ease the transition from school to work, some of which involve youth in work-based learning. This background paper discusses three types of initiatives, comprising eight major programs introduced in the U.K. over the last 30 years: 1. Implementation of youth training programs (Youth Opportunities Program, New Training Initiative, Youth Training Scheme, Youth Training Program, Youth Credits, Modem Apprenticeships); 2. Efforts to increase the vocational content of what is taught in the classroom (the Technical and Vocational Education Initiative); and 3. Establishment of a national system of vocational qualifications (National Vocational Qualifications) to simplify the jungle' of vocational qualifications that had existed in Britain for over a century.
ADA335704	Agriculture, Trade, and Environment: Achieving Complementary Policies	U	5/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	250	OTA-ENV-617	XD	null	Times have changed. No where is that more evident than in U.S. agriculture. Increasing global integration, expanding world agricultural markets, and broadening environmental priorities both at home and abroad are defining new policy challenges for the United States. This report provides information that can help align agricultural legislation with emerging needs and trends. Current policies do not ameliorate conflicts between agriculture production and environmental quality, between trade and the environment, and between agriculture and competitive trade.

ADA336082	The National Space Transportation Policy: Issues for Congress.	U	5/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	118	OTA-ISS-620	XD	null	null	In responding to the political and military challenges of the Cold War, and the urge to explore and exploit outer space, the United States developed a capable fleet of space transportation systems for carrying cargo and people into space, and for ensuring a credible strategic nuclear deterrent. These systems are owned and managed by the National Aeronautics and Space Administration, the Department of Defense, and private industry. In recent years, increasing federal budget constraints, commercial competition from foreign launch firms, and a desire to continue an ambitious space program have created pressures within the United States to reduce the costs of access to space. Significantly lower space transportation costs would make the U.S. space industry more commercially competitive, foster the expansion and creation of new space markets, and ensure access to space for government payloads and manned missions. This report, prepared for the House Committee on Science, is the first in a broad assessment of the health and future prospects of the U.S. space transportation technology and industrial base. The report focuses on the Clinton Administration's National Space Transportation Policy, which was released last fall. It examines administration policy in light of the implementation plans prepared by NASA, DOD, and the Transportation and Commerce Departments. As the report notes, the new policy brings a welcome measure of order to the sometimes chaotic structure of U.S. space transportation activities. The policy also emphasizes the important contribution private industry can make to the direction and development of U.S. space transportation capabilities. However, an analysis of the policy and implementation plans also raises some issues that might be of interest to Congress as it debates space transportation legislation, oversight, and funding.
ADA336937	Learning to Work: Making the Transition From School to Work	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	116	OTA-EHR-637	XD	null	null	Over the past decade, public attention has been drawn to the difficulties that many young adults are having in finding their way in the changing economy and earning a decent living. A broad movement is emerging across the country to better connect school with career opportunities and further education to help these young adults succeed. In 1994 Congress responded by passing the School to Work Opportunities Act (STWOA), which assists states and localities in establishing comprehensive school to work transition systems. Soon after the school to work legislation was passed by Congress, OTA was asked by the Senate Committee on Labor and Human Resources and the House Committee on Education and Labor to assess the potential and problems of work based learning as a component of school to work. As the report shows, work based learning has considerable promise but will be difficult to implement. Work based learning can potentially help students see the relevance of their academic studies later in life, allow students to explore career options, and help them develop needed occupational skills. But the implementation of good work based learning programs will require considerable effort on the part of schools and participating businesses. Whether many businesses can be recruited to participate remains to be seen.
ADA337390	Foreign Eligibility for U.S. Technology Funding.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	23	OTA-BP-ITC-154	OTA	null	null	The presence of foreign-based multinational firms in the United States has transformed many sectors of the U.S. economy-automobiles and chemicals come readily to mind. In the past decade, foreign direct investment in the United States increased by 280 percent to reach $445 billion in 1993. Foreign-based multinational firms bring technology and capital to a range of industries, and employ hundreds of thousands of workers in the United States. For these reasons, the United States welcomes foreign investors, affording them the same rights and protections as U.S.-based companies. But in some foreign countries, U.S. firms have not received comparable treatment. U.S. companies have faced considerable barriers to direct investment, their intellectual property rights have not been adequately protected, and they have not enjoyed comparable access to technology development programs funded by foreign governments. These concerns prompted U.S. Congress to pass legislation governing the eligibility of foreign-based firms to participate in U.S. government technology programs, for example, the Advanced Technology Program and several technology programs funded under the Energy Policy Act of 1992. This paper addresses the question: What eligibility conditions should affiliates of foreign firms be required to meet before receiving financial assistance from the U.S. government? This is a follow-on product to OTA's assessment of Multinational Firms and the U.S. Technology Base. That assessment was requested by the Senate Committee on Commerce, Science, and Transportation and the Senate Committee on Banking, Housing, and Urban Affairs.
ADA251692	After the Cold War: Living with Lower Defense Spending	U	2/1/1992	A - 01,23	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Sheley, Elizabeth	242	OTA-ITE-524,ISBN-0-	XD	Approved for public release; distribution is unlimited. Document partially illegible.	null	
ADA336477	Environmental Policy Tools: A User's Guide.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	225	OTA-ENV-634	XD	null	null	The search for 'smarter' ways to prevent or control pollution has generated heated debate on almost every conceivable topic related to setting goals, improving institutional arrangements, and choosing the most effective means for achieving those goals. This last issue choosing the means or policy instruments to meet environmental goals can be a surprisingly complex task for decision makers, given the need to balance other competing concerns. The environmental policy toolbox contains many and varied instruments but lacks a clear set of instructions for their use. This OTA report fills that need. The 'guide' is organized into three major sections: (1) The Environmental Policy Toolbox: a discussion of 12 major policy tools, their frequency of use, and key strengths and weaknesses. (2) The Criteria for Comparing Tools: our evaluation of how effective these instruments are in achieving the values and interests or criteria decision makers are likely to weigh. (3) Choosing Tools: a series of questions for matching a tool or tools to a specific problem. Choosing tools that satisfy several, much less all, of these criteria for a specific problem is the challenge. Unfortunately, no perfect policy tool exists to meet everyone's expectations for every problem.
ADA338840	Nuclear Safeguards and the International Atomic Energy Agency	U	1/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	161	OTA-ISS-615	OTA	Approved for public release; distribution is unlimited.	null	The International Atomic Energy Agency (IAEA) plays a central role in preventing the spread of nuclear weapons. Through its system of nuclear safeguards, the IAEA is responsible for ensuring that signatories of the Nuclear Nonproliferation Treaty (NPT) do not use their nuclear materials, equipment, or facilities for weapon purposes. IAEA safeguards, however, have significant limitations, as described in the Office of Technology Assessment report Nuclear safeguards and the International Atomic Energy Agency. Some of these limitations were highlighted in the aftermath of the 1991 Persian Gulf War, when it was revealed that Iraq had mounted an extensive, covert nuclear weapon program in addition to, and partly in proximity to, open nuclear research activities that were under IAEA safeguards. The following year, IAEA investigations revealed that the North Korean government was hiding information on the extent of its nuclear material production. The Iraqi and North Korean cases showed that states could and did violate their Nonproliferation Treaty commitments, actions that many had previously considered an abstract and distant threat. They also showed that the IAEA's traditional mission of detecting the misuse of safeguarded nuclear materials addressed only part and probably not the most important part of the proliferation problem. To avoid similar problems in the future, the IAEA has to ensure that states do not have covert nuclear facilities, a mission that in the past the agency did not have the political support, the resources, nor the information to conduct. IAEA safeguards make it very difficult for states to use civil nuclear facilities for weapon purposes without detection. However, they cannot prevent states from acquiring the technology needed to produce nuclear materials, or from stockpiling this material within civil programs, and then withdrawing from or violating safeguards to produce weapons.

ADA336802	Assessing the Potential for Civil-Military Integration: Selected Case Studies.	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	73	OTA-BP-ISS-158	OTA	null	null	The Office of Technology Assessment, at the request of the Congress, has conducted a series of assessments of the Nation's ability to provide for its future national security technology and industrial needs. In the most recent report, Assessing the potential for Civil- Military Integration, OTA examined the potential for making greater use of common technologies, processes, labor, equipment, material, and/or facilities to meet both defense and commercial needs. This effort, often termed civil-military integration or CMI, is believed by many observers to be an essential element of a successful U.S. national security strategy. OTA's assessment found that greater CMI is possible, and confirmed the potential for cost savings and increased technology transfer as the result of increased integration. The assessment noted that CMI appears essential if defense is to take advantage of many rapidly developing commercial technologies.
ADA338803	Proliferation of Weapons of Mass Destruction: Assessing and Risks	U	10/1/1993	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	130	OTA-ISC-559	OTA	Approved for public release; distribution is unlimited.	null	Since the end of the Cold War, the proliferation of weapons of mass destruction has become much more prominent in U.S. national security and foreign policy planning. Revelations about Iraqi, North Korean, South African, and Israeli nuclear weapon programs, the possibility of a nuclear arms race in South Asia, and the multidimensional conflicts in the Middle East all point to the immediacy of this problem. Adding a dangerous new twist is the dissolution of the Soviet Union, a superpower armed with nuclear, chemical, and biological weapons whose successor states are wracked by economic crises and political instability. At least three main factors underlie this renewed emphasis on proliferation. First, the reduced military threat from the former Soviet Union has increased the relative importance of lesser powers, especially if armed with weapons of mass destruction. Second, certain international political and technological trends are increasing the threat to international security from proliferation. Third, new opportunities are opening for enhancing the current international regimes designed to stem proliferation. Since at least as far back as the l96Os, when it sponsored the Non-Proliferation Treaty (NPT), the United States has recognized that proliferation is a global problem and combating it requires high levels of international cooperation. This country has also exerted unilateral influence, successfully in several cases, to discourage proliferation; it will no doubt continue to do so. Nevertheless, placing priority on nonproliferation will require the further development and enforcement of international norms and behavior supporting that objective. International conditions today offer significant opportunities for such cooperation.
ADA336766	Targeting Environmental Priorities in Agriculture: Reforming Program Strategies	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	79	OTA-ENV-640	XD	null	null	Budget stress, political change, and heightened global competition are forcing a reexamination of conservation and environmental programs for U.S. agriculture. Questions about reauthorizing the Conservation Reserve Program typify the tradeoffs. Currently, that effort is the major solution to environmental problems related to agriculture. But what lands truly merit long-term retirement for environmental purposes at high cost to taxpayers and export markets? Are less expensive approaches available that save budget expense, allow continued production, and ameliorate other priority environmental problems? This report responds to a bipartisan request from the Senate Agriculture, Nutrition, and Forestry Committee about these issues.
ADA336770	Impact of Health Reform on Rural Areas: Lessons From the States	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	32	null	XD	null	null	This paper examines the issues that arise in the context of two different categories of reforms: (1) The effects of insurance market reforms-measures intended to make the market more equitable, or to make health care more affordable to those without insurance. These reforms may sometimes have different impacts in rural than in urban areas. (2) The effects of reforms aimed at the health care delivery system. Many delivery system reforms are intended either to encourage or restrain the managed care market and the way the delivery system is responding to this market. Many of the issues in this category are secondary effects of managed care (e. g., effects on provider viability).
ADA375231	Technologies Underlying Weapons of Mass Destruction	U	12/1/1993	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Herdman, Roger C.	265	OTA-BP-ISC-115	BP-ISC-115,OTA	Approved for public release; distribution is unlimited.	null	This background paper explores the technical pathways by which states might acquire nuclear, chemical, and biological weapons and the systems to deliver them. It also assesses the level of effort, commitment, and resources required to mount such developments. The paper is a companion to the OTA report Proliferation of Weapons of Mass Destruction: Assessing the Risks", which describes what nuclear, chemical, and biological weapons can do and how they might be used. That report also analyzes the consequences of the spread of such weapons for the United States and the world, surveys the array of policy tools that can be used to combat proliferation, and identifies tradeoffs and choices that confront policy makers. A forthcoming report will analyze specific sets of nonproliferation policy options in detail.
ADA337748	Nuclear Proliferation and Safeguards	U	6/1/1977	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	260	null	XD	null	null	This study has been undertaken in response to a request from the Senate Committee on Government Operations (now the Committee on Governmental Affairs) to help provide Congress with the capability to 'independently evaluate the policymaking activities of our Government and other nations and be prepared to take legislative actions' with regard to nuclear proliferation and safeguards.
ADA336049	A History of the Department of Defense Federally Funded Research and Development Centers.	U	6/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	77	OTA-BP-ISS-157	XD	null	null	Between the onset of World War II and 1991, more than 70 centers were created that came to be known collectively as Department of Defense (DoD) Federally Funded Research and Development Centers (FFRDCs). The maximum in existence at any one time was 43, in 1972. An ongoing sequence of DoD reviews has affirmed a continuing need for some FFRDCs. Other FFRDCs have been either discontinued because they were no longer required or, far more commonly, decertified as FFRDCs and allowed to continue, whether on a not-for-profit basis or not, without the FFRDC mantle. Currently, there are 10 DoD FFRDCs. These can be categorized as study and analysis centers, systems engineering and integration centers, and laboratories. DoD study and analysis FFRDCs have had a special role in combat modeling and simulation. Their history over the past 50 years is the focus of this background paper, which forms part of the Office of Technology Assessment (OTA) study of defense modeling and simulation. To provide perspective, some information on other DoD FFRDCs is included.
ADA426145	Holding the Edge: Maintaining the Defense Technology Base. Summary	U	4/1/1989	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	Shaw, Alan; Keller, William W.; Epstein, Gerald L.; Gavrin, Laurie E.; Condon, Christine	45	null	OTA	Approved for public release; distribution is unlimited.	Summary rept.	Technological superiority has been a cornerstone of U.S. security and industry since World War II. That cornerstone is not crumbling, but over the past decade it has weathered significantly. Foreign companies have made deep inroads into high-technology markets that had been more or less the exclusive domain of U.S. industry. In addition to causing economic problems, this has fostered dependence on foreign sources for defense equipment at a time when the technology in defense systems comes increasingly from the civilian sector. At the same time, the Department of Defense reports that Soviet defense technology is catching up with ours, and sophisticated Western military equipment is routinely sold to third world nations. These trends, and others, have prompted the Senate Committee on Armed Services to ask what needs to be done to maintain the base of high technology on which U.S. national security depends. This report, the second of the Office of Technology Assessments's (OTA) Maintaining the Defense Technology Base," looks into that question in some depth. An earlier report, "The Defense Technology Base: Introduction and Overview" (OTA-ISC-374, March 1988), provided a broad view of the defense technology base and the concerns regarding its health. This report develops some of the ideas introduced in the first report. It examines the management of DoD technology base programs and laboratories. It also analyzes the process through which technology is introduced into defense systems to understand why it takes so long and what might be done to speed up the process. Finally, the report examines the exploitation of civilian commercial sector technology for defense needs. It concentrates on the dual questions of expediting military access to civilian technology and keeping the necessary base of technology alive and well in the United States. Volume 2 of this report contains extensive appendices and will be published in the summer of 1989.

ADA336912	Technology and Policy for Suppressing Grain Dust Explosions in Storage Facilities	U	9/1/1995	A - 01	OFFICE OF TECHNOLOGY ASSESSMENT WASHINGTON DC	null	70	OTA-EP-ENV-177	XD	null	null	To ensure workplace safety, grain handling facilities engage in a variety of activities to control the accumulation of grain dust, such as good housekeeping practices, pneumatic systems, and liquid additives. The application of liquid substances, either water or oil, to grain is an effective but controversial method of dust suppression. The Committee heard conflicting testimony from scientists on the effectiveness and cost of liquid additives from how effective they were for dust suppression to how detrimental these technologies were to end use characteristics of the grain. In addition, the Committee was made aware of an ongoing federal criminal investigation about the alleged use of water systems to increase the value of grain by increasing its weight. This report responds to the bipartisan request of the House Committee on Agriculture to assess these alternative technologies with regard to their effectiveness in suppressing grain dust, the benefits and costs of each technology, and the costs of banning the use of water as a dust suppressant. Although water can be very effective in suppressing grain dust the potential for abuse to increase the weight of grain, its moisture content, or its value is great. The most effective method of preventing the illegal application of water on grain is to remove the economic incentives from the addition of moisture. As long as the weight of grain sold can be increased, without decreasing the sale price, farmers and grain handlers will have a strong incentive to add water by any of several means. Changing marketing practices to remove the economic incentive to gain from the addition of water would be the most effective way to solve this problem.
Highest Possible Sensitivity of Information is CONTROLLED UNCLASSIFIED INFORMATION												