

Ballistic Missile Defense Technologies

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Foreword

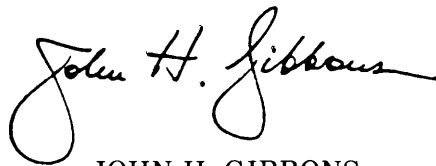
President Reagan's Strategic Defense Initiative has kindled a national debate over the roles of strategic offensive nuclear weapons, ballistic missile defenses, and arms control in U.S. national security policy. It has also underscored the important ramifications of U.S. military space policy.

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. Debate over the relevant political, military, and technical issues has been hotly contested by participants with widely varying assumptions and points of view. OTA has not attempted to resolve the debate, but rather to try to clarify the issues and enhance the level of discourse.

This report examines both the "why" and the "what" of ballistic missile defenses. Why would we want ballistic missile defense weapons if we could have them? Would the advantages of deploying them outweigh the disadvantages? What technologies are under investigation for BMD applications? How might those applications serve our strategic goals? These policy and technology questions interact with one another in complex ways: what seems technologically possible conditions perceptions of policy options, while policy choices shape technological pursuits.

Closely related to BMD technology 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, the other military uses of space will continue to be of national importance. How might the United States deal with the potential threat of current and future Soviet anti-satellite weapons to U.S. military space activities? After consultation with the staffs of the requesting committees, OTA decided to prepare a companion report, *Anti-Satellite Weapons, Countermeasures, and Arms Control*. The relative role each of those elements (the weapons, the countermeasures, and arms control) plays will be strongly affected by the course followed in the development and deployment of space-based BMD systems.

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JOHN H. GIBBONS
Director

Advisory Panel on New Ballistic Missile Defense Technologies

Guyford Steve, Chairman
President, Universities Research Associates

Solomon Buchsbaum
Executive Vice President
AT&T Bell Labs

Ashton Carter
Kennedy School of Government
Harvard University

Robert Clem
Director of Systems Sciences
Sandia National Laboratories

Sidney D. Drell
Deputy Director
Stanford Linear Accelerator Center

Daniel J. Fink
President
D. J. Fink Associates, Inc.

Richard Garwin
IBM Fellow
Thomas J. Watson Research Center

Noel Gayler, Admiral, USN (Ret.)
American Committee on East-West Accord

Colin Gray
President
National Institute for Public Policy

George Jeffs
President
North American Space Operations,
Rockwell International

General David Jones, USAF (Ret.)
Former Chairman
Joint Chiefs of Staff

Robert S. McNamara
Former President of the World Bank

Michael M. May
Associate Director-at-Large
Lawrence Livermore National Laboratory

H. Alan Pike
Program Manager, Space Stations
Lockheed Missiles & Space Co.

Frederick Seitz
President Emeritus
The Rockefeller University

Robert Selden
Associate Director for Theoretical and
Computational Physics
Los Alamos National Laboratory

Marshall D. Shulman
Director
Harriman Institute for Advanced Study of
the Soviet Union
Columbia University

Ambassador Gerard C. Smith
President
Consultants International Group, Inc.

Sayre Stevens
Vice President
System Planning Corp.

Maj. General John Toomay, USAF (Ret.)
Consultant

Seymour Zeiberg
Vice President
Research and Engineering Operations
Martin Marietta Aerospace

NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The views expressed in this OTA report, however, are the sole responsibility of the Office of Technology Assessment. Participation on the Advisory Panel does not imply endorsement of the report.

OTA Project Staff on New Ballistic Missile Defense Technologies

Lionel S. Johns, *Assistant Director, OTA*
Energy, Materials, and International Security Division

Peter Sharfman, *International Security and Commerce Program Manager*

Thomas H. Karas, *Project Director*

Michael Callahan

Richard DalBello

Gerald Epstein

Anthony Fainberg¹

Robert Rochlin²

Alan Shaw

Contractors

Fredrick Drugan

William Green

Brian McCue

Administrative Staff

Jannie Coles

Dorothy Richroath

Jackie Robinson

¹Since February 1985.

²On detail from U.S. Arms Control and Disarmament Agency,

Workshop on Soviet Military Doctrine and BMD (December 1984)

Raymond Garthoff
The Brookings Institution

Daniel Goure
Science Applications International Corp.

David Holloway
Center for International Security and
Arms Control
Stanford University

Stephen Meyer
Center for International Studies
Massachusetts Institute of Technology

Harriet Fast Scott

Edward Warner
The RAND Corp.

Participating Members of Advisory Panel

Marshall D. Shulman
Sayre Stevens
H. Guyford Stever