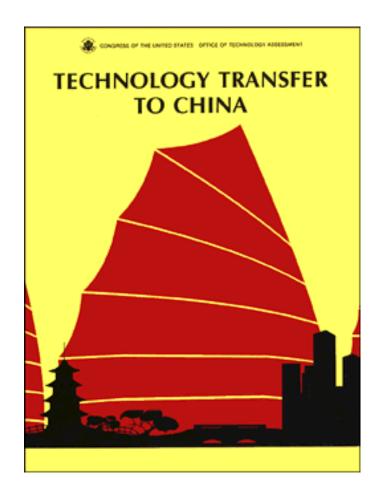
Technology Transfer to China July 1987

NTIS order #PB86-113008



Recommended Citation:

U.S. Congress, Office of Technology Assessment, Technology Transfer to China OTA-ISC-340 (Washington, DC: U.S. Government Printing Office, July 1987).

Library of Congress Catalog Card Number 87-619823

For sale by the Superintendent of Documents
U.S. Government Printing Office, Washington, DC 20402-9325
(order form on p. 245)

Foreword

Momentous changes continue to occur in China. The high priorities now accorded economic modernization and improved global relationships present a sharp contrast to the years of the Cultural Revolution and earlier. Yet there is great uncertainty over China's future course. China may be a constructive trading and strategic partner, or it may choose a more divergent path. U.S. decisions on technology transfer will be an important determinant of which path is followed and the implications for the world.

This report responds to requests from the House Committee on Energy and Commerce and the Senate Committee on Banking, Housing and Urban Affairs for an assessment of the economic and strategic implications of technology transfer to the People's Republic of China and of Congressional actions that would affect it. In addition, the Senate Select Committee on Intelligence endorsed the study request.

The first phase of this study focused on energy. A Technical Memorandum, *Energy Technology Transfer to China*, was released in September 1985, and proved useful in the Congressional debate on the nuclear cooperation agreement.

This document analyzes the factors in China that affect technology transfer and will be affected by it. The experiences of U.S. and foreign companies in the China market are described. We discuss the evolution of China's economy, polity and foreign policy, and how different expectations suggest different policies for the U.S. Government.

In the course of this assessment, OTA drew on the experience of many organizations and individuals. We appreciate the assistance of the project contractors who prepared much of the background analysis, the U.S. Government agencies and private companies who provided much valuable information, the Chinese institutions which facilitated the visits of our researchers, the project's advisory panel and workshop participants who provided guidance and review, and the many additional reviewers who helped ensure the accuracy and objectivity y of this report.

JOHN H. GIBBONS

Director

International Security and Commerce Program Technology Transfer to China Advisory Panel

Robert Dernberger, Chairman Director, Center fo~Chinese Studies The University of Michigan

A.DoakBarnett

Professor, School for Advanced

International Studies

The Johns Hopkins University

Gareth Chang President

McDonnell Douglas China Inc.

Chauncey Chu

Vice President of Manufacturing

Wang Laboratories, Inc.

Bo Denysyk

Vice President, International Affairs

Global U. S. A., Inc.

Basil K. Fox Bechtel China Inc.

Admiral Thomas Hayward, USN (ret.)

President

Hayward Associates

Richard Holton

Professor, School of Business

Administration

University of California

Morton Kaplan

Professor, Department of Political Science

University of Chicago

Arthur A. Klauser Senior Vice President

Mitsui & Co. (USA) Inc.

Stanley Lubman, Esq.

Heller, Ehrman, White & MacAuliffe

Charles Lucy

Director, International Operations

Corning Glass Works

Bruce Lusignan

Professor of Electrical Engineering

Stanford University

Leo A. Orleans China Consultant Library of Congress

Professor William Parrish

Director, Center for Far Eastern Studies

University of Chicago

Vaclav Smil

Professor of Geography University of Manitoba

Roger Sullivan President

National Council for U.S.-China Trade

NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

OTA Project Staff

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

Peter Sharfman, International Security and Commerce Program Manager

Alan T. Crane, Project Director

Eric O. Basques: U.S. Commercial Experiences, Military Technology Martha Caldwell Harris: U.S. Policy, Multinational and Strategic Issues Richard Peter Suttmeier: China's Context, Trends, and Foreign Policy

Contributors

Craig Allen Matthew J. Bryza Joanne Seder Alan Shaw Franklin Zweig Administrative Staff

Jannie Coles Cecile Parker Jackie Robinson

In Memorium

Dottie Richroath

Contractors

Thomas Fingar
William A. Fischer
Paul Folta
Thomas W. Robinson
Denis Simon
Kathryn Van Wyk
China Business Development Group
Global Associates, Ltd.
Midwest China Center
Rock Creek Research, Inc.
Science Applications International Corp.

Workshop on China's Future Course, July 28-29, 1986

Parris Chang Professor of Political Science Pennsylvania State University

John Davie Economic Analyst Central Intelligence Agency

David Denny Assistant Director of Research National Council for U.S.-China Trade

Professor June Teufel Dreyer Director of East Asian Programs Graduate School of International Studies University of Miami, Coral Gables

Michael Field Central Intelligence Agency

Thomas Fingar U.S. Department of State

Harry Harding Senior Fellow The Brookings Institution

Ambassador Arthur W. Hummel (ret.) Consultant

Albert Keidel President Rock Creek Research

Acknowledgments

Government Agencies

The Department of Commerce
The Department of State
The Department of Defense
The Department of Transportation
The Export-Import Bank
The Congressional Research Service
The General Accounting Office

Companies

General Electric
RCA-Astro Electronics
American Motors Corp.
Hewlett Packard
Control Data Corp.
Foxboro Co.
McDonnell Douglas Corp.
The many companies which responded to the OTA survey.

Martin Lasater Director, Asian Studies Center The Heritage Foundation

Bruce Lusignan Professor of Electrical Engineering Stanford University

Ramon Myers Curator/Scholar, East Asian Collection Hoover Institution

Douglas H. Paal Director of Asian Affairs National Security Council

Melvin Searles
Deputy Assistant Secretary for East Asia and the Pacific
U.S. Department of Commerce

James Stoll Defense Intelligence Agency

Jeffrey R. Taylor Chief Economist, China Branch Center for International Research U.S. Bureau of the Census

Lt. Col. Eden Y. Woon, USAF Office of Joint Chiefs of Staff U.S. Department of Defense

Institutes

The Committee on Scholarly Communication with the Peoples' Republic of China
The National Council on U.S.-China Trade
The East-West Center
The American Society of Mechanical Engineers

Embassies and Foreign Governments

The People's Republic of China Japan Federal Republic of Germany France United Kingdom