Incidental Paper

Seminar on Command, Control, Communications, and Intelligence

Guest Presentations, Spring 1988:
Rae M. Hufstutler, Richard L. Thomburgh, James R. Locher, III, Robert T. Herres, John F. McLaughlin,
Jerry O. Tuttle, Earl F. Lockwood, Robert C. Kingston,
Frank J. Breth, Ruth M. Davis

Program on Information
Resources Policy

Harvard University
Center for Information Policy Research
Cambridge, Massachusetts
An incidental paper of the Program on Information Resources Policy

**Seminar on Command, Control, Communications, and Intelligence**

**Spring 1988**

**Guest Presentations by:**
Rae M. Huffstutler, Richard L. Thorburngh, James R. Locher, Ill, Robert T. Herres, John F. McLaughlin, Jerry C. Tuttle, Earl F. Lockwood, Robert C. Kingston, Frank J. Brath, Ruth M. Davis

**I-89-1. March 1989**

Project Director:

John F. McLaughlin

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  U.S. General Accounting Office
  United States Postal Rate Commission
  United Telecommunications, Inc.
  US West
Acknowledgments

For their willingness to travel to Cambridge to share their experience with our students at the Kennedy School of Government we are deeply grateful to Rae M. Huffstutler, Richard L. Thornburgh, James R. Locher, III, Robert T. Heres, Jerry O. Tuttle, Earl F. Lockwood, Robert C. Kingston, Frank J. Breth, and Ruth M. Davis.

The collaboration of The MITRE Corporation made this publication possible. Robert Everett's initial interest in the seminar and John Jacobs' continuing participation from its inception to the present provided encouragement at critical times and constant intellectual stimulation. John Jacobs and Charles Zraket arranged for editorial and production support from MITRE's Publications and Graphics Department and Word Processing Center.

We also wish to thank Stephen Sutton for his logistical and intellectual support.

The responsibility for any sins of omission or commission nonetheless remains entirely ours.

John F. McLaughlin
Anthony G. Oettinger
Introduction

The papers in this volume are lightly edited transcripts of presentations and discussions ordered in the sequence in which they took place. The informality of oral exposition interrupted by questions or comments has been preserved. Only pauses and repetitions have been eliminated and tripping sentences have been smoothed. Substance has, as far as possible, been left unaltered. All guests made their presentations in open forum, forewarned that neither classified nor proprietary matters are appropriate in a university classroom.

While the speakers for this year's seminar addressed a variety of topics, two themes predominated. The first of these was the reorganization of the U.S. Department of Defense in accordance with the Goldwater-Nichols Defense Reorganization Act of 1986. The second theme was the role of Special Operations Forces and Low Intensity Conflict (SOF/LIC) in defense planning and organization.

During the 1988 seminars we were joined on a regular basis by James Croke of The MITRE Corporation and Professor Frank Snyder of the U.S. Naval War College.
Proceedings of the Harvard Seminar on Intelligence, Command, and Control

John F. Kennedy School of Government
Harvard University

Anthony G. Oettinger, Professor of Information Resources Policy, and John F. McLaughlin, Executive Director of the Program on Information Resources Policy, have had a continuing interest in the ways in which institutions draw on systems of people, policies, and technologies to gather and use information for survival and growth. Since 1980 their graduate seminar on intelligence, command, and control has explored this topic with a series of guest speakers from military organizations, civil government, and businesses. While the guest speakers tend to be practitioners of the decision-making process, some are theoreticians who attempt to see patterns in the chaos of day-to-day crises. Taken as a whole, the eight-volume series chronicles the recent history of this field.

The following descriptions of previous volumes identify the speakers' roles at the time of their presentations.

*Guest Presentations, Spring 1987* [192 pages; May 1988/Incidental Paper: I-88-1]

Speakers explored the information requirements of national, military, and business organizations at a time of technological and organizational change in the military and civilian worlds. The reorganization of the U.S. Department of Defense in accordance with the Goldwater-Nichols Defense Reorganization Act of 1986 was the occasion for analysis and re-evaluation.

Archie D. Barrett, professional staff, House Armed Services Committee, formerly military staff assistant to the Executive Secretary of the Defense Organization Study: "Defense Reorganization: A View from the House."

Robert L. DeGross, provost, Defense Intelligence College: "Teaching Intelligence."

Fred R. Demech, Jr., captain, U.S. Navy, formerly executive director, the President's Foreign Intelligence Advisory Board: "Making Intelligence Better."


James R. Locher, III, professional staff, Subcommittee on Projection Forces and Regional Defense, Senate Committee on Armed Services: "Defense Reorganization: A View from the Senate."

George C. Lodge, professor, Harvard Graduate School of Business Administration, formerly director of information, U.S. Department of Labor and Assistant Secretary of Labor for International Affairs: "Ideology and National Competitiveness."

Eugene B. Lotochinski, vice president, market development, Northern Telecom Inc.: "The Information Management Marketplace."


Michael J. Zak, vice president, marketing, Concord Communications, Inc.: "Coming of Age in C3I."
Guest Presentations, Spring 1986. [168 pages; February 1987/Incidental Paper: I-87-1]
The speakers this year addressed a variety of topics, with two predominant themes. The first was the
manner in which organizations—military, diplomatic, business—obtain and use intelligence. The second
theme was how organizations protect information from the growing threat of electronic interception.

Robert Conley, formerly Deputy Assistant Secretary for Advanced Technology and Analysis and
Acting Assistant Secretary for Electronic Systems and Information Technology, Department of the
Treasury: "Data Security in the Information Age."

Harold Daniels, Deputy Director for Information Security at the National Security Agency, formerly
Assistant Deputy Director for Communications Security: "The Role of the National Security Agency
in Command, Control and Communications."

John Grimes, Director of National Security Telecommunications and Director of Defense Programs
(C3) of the National Security Council: "Information Technologies and Multinational Corporations."

Bobby R. Inman, president and chief executive officer, Microelectronics and Computer Technology
Corporation, formerly Director of the Office of Naval Intelligence, Director of the National Security
Agency, and Deputy Director of Central Intelligence: "Technological Innovation and the Cost of
Change."

Richard J. Levine, editorial director, data base publishing, Dow Jones & Company: "Data Base
Publishing for Business Intelligence."

Mark Lowenthal, acting director, Office of Strategic Forces Analysis, Bureau of Intelligence and
Research, Department of State: "The Quest for 'Good' Intelligence."

Clarence E. McKnight, Director for Command, Control, and Communications Systems,
Organization of the Joint Chiefs of Staff, formerly Commanding General, U.S. Army
Communications Command: "C3I Systems at the Joint Level."

Lionel Olmer, formerly Under Secretary for International Trade, U.S. Department of Commerce,
heading the International Trade Administration; currently member of Paul, Weiss, Rifkind, Wharton
& Garrison, an international law firm: "Intelligence Techniques for the American Business
Community."

These presentations examined the link between defense organization and the efficacy of command, control,
communications and intelligence, within the context of current debate over reorganization of the Joint
Chiefs of Staff.

Archie D. Barrett, professional staff, House Armed Services Committee, formerly military staff
assistant to the Executive Secretary of the Defense Organization Study: "Politics and the Military—
The Climate for Reform."

Richard D. DeLauer, president, Orion Group Limited, formerly Under Secretary of Defense for
Research and Engineering: "A Consultant's View."

Lincoln Fauer, formerly Director of the National Security Agency and Chief, Central Security
Service, Fort Meade, Maryland: "The Role of Intelligence Within C3I."

Robert Hilton, consultant specializing in national and international security affairs and political risk analysis; formerly Vice Director for Operations, Joint Chiefs of Staff: "Roles of the Joint Chiefs of Staff in Crisis Management."

Samuel P. Huntington, director, Center for International Affairs, Harvard University, formerly Coordinator of Security Planning for the National Security Council: "Centralization of Authority in Defense Organizations."

Donald Latham, Assistant Secretary of Defense, C3I: "A View from Inside OSD."


**Guest Presentations, Spring 1984.** [125 pages; February 1985/Incidental Paper: I-85-2] These presentations explored the roles of communication, information, and warning systems in peacekeeping, crisis management, and economic security.

Richard S. Beal, until his death in 1984, Special Assistant to the President for National Security Affairs and Senior Director for Crisis Management Systems and Planning: "Decision Making, Crisis Management, Information and Technology."

Stuart E. Branch, Deputy Assistant Secretary for Communications in the Department of State and member, National Communications System and U.S. Communications Security Board of the National Security Council: "C3I and Crisis Management."

Leo Cherne, executive director, Research Institute of America: "Television News and the National Interest."

Hubert L. Kertz, formerly president and managing director, American Bell International, Inc., with Anthony G. Oettinger: "With AT&T in Iran."

David McManis, National Intelligence Officer for Warning and Director, National Warning Staff: "Warning as a Peacekeeping Mechanism."


James W. Stansberry, formerly Commander of the Air Force Electronic Systems Division: "Cost-Effective Rearmament."

(The seminar was not held during 1983.)

Guest Presentations, Spring 1982. [181 pages; December 1982/Incidental Paper: I-82-3]
This series of C3I sessions emphasized national security issues, exploring policy and planning as well as procurement and implementation perspectives. Guests discussed not only the impact within the defense community of rapidly expanding technology but also the public consequences—national and international—of intelligence gathering and use.

Richard D. DeLauer, Under Secretary of Defense for Research and Engineering: "The View from the Hot Seat."

Hillman Dickinson, Director for Command, Control and Communications Systems, Joint Chiefs of Staff: "Planning for Defense-Wide Command and Control."

Gerald P. Dinneen, corporate vice president, Science and Technology, Honeywell, Inc., formerly Assistant Secretary of Defense for Communications, Command, and Control, and Intelligence: "C3 Priorities."

Richard H. Ellis, formerly commander in chief, Strategic Air Command: "Strategic Connectivity."


Thomas H. McMullen, deputy commander, Tactical Air Command: "A Tactical Commander's View of C3I."

William G. Miller, associate dean and professor of international politics, Fletcher School of Law and Diplomacy, Tufts University: "Foreign Affairs, Diplomacy and Intelligence."


The perspective in this volume encompasses the Congress, combatant commands, defense contractors, and technological innovators. As part of an ongoing open forum on C3I, the sessions brought together the intersecting vantage points of industrial suppliers and innovators, government funders and decision makers, and principals in military intelligence.

William O. Baker, formerly chairman, Bell Laboratories, Inc.: "The Convergence of C3I Techniques and Technology."


Richard D. DeLauer, executive vice president, TRW, Inc.: "A Major Contractor's View of C3I."

B.R. Inman, Deputy Director of Central Intelligence: "Issues in Intelligence."

James M. Osborne, formerly senior vice president, E-Systems, Inc.: "Meeting Military Needs for Intelligence Systems."
David C. Richardson, vice admiral, U.S. Navy (ret.); consultant, Defense Intelligence Review Panel, the Defense Science Board, and other panels: "The Uses of Intelligence."

Charles Rose, U.S. representative; chairman, Policy Group on Information and Computers: "Congress and C3I."

Charles W. Snodgrass, vice president, Financial Planning and Management, Electronic Data Systems Corp., formerly assistant secretary of the Air Force for financial management: "Funding C3I."

These first presentations in the series described C3I principally from the perspective of national policymaking in the executive branch.

William E. Colby, counsel, Reid & Priest, formerly Director of Central Intelligence: "The Developing Perspective of Intelligence."

B.R. Inman, director, National Security Agency and chief, Central Security Service: "Managing Intelligence for Effective Use."

William Odom, military assistant to the President's assistant for National Security Affairs: "C3I and Telecommunications at the Policy Level."

Lionel Olmer, Director of International Programs, Motorola, Inc; formerly acting executive secretary, President's Foreign Intelligence Advisory Board: "Watchdogging Intelligence."

Lee Paschall, consultant, formerly director, Defense Communications Agency and manager, National Communications System: "C3I and the National Military Command System."

Robert A. Rosenberg, policy assistant to the President for National Security Affairs, National Security Council Staff: "The Influence of Policy Making on C3I."

Raymond Tate, formerly Deputy Assistant Secretary of the Navy and Deputy Director of the National Security Agency: "Worldwide C3I and Telecommunications."

A.K. Wolgast, manager, Planning and Analysis Dept., EXXON International: "Oil Crisis Management."

To acquire the volumes in this series, please use the order form at the end of this volume or, for additional information, call or write to the Program on Information Resources Policy, Order Department, 200 Aiken Lab, Harvard University, Cambridge, MA 02138. (617) 495-4114. Cable: PIRP Cambridge; Telex: 888 737 PIRP UD; Fax: 617-495-3338
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**Glossary**

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<td>AA</td>
<td>anti-aircraft</td>
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<tr>
<td>AID</td>
<td>Agency for International Development</td>
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<td>AOR</td>
<td>area of responsibility</td>
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<tr>
<td>APC</td>
<td>armored personnel carrier</td>
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<td>ARVN</td>
<td>Army of the Republic of Vietnam</td>
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<tr>
<td>ASAT</td>
<td>anti-satellite weapon</td>
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<tr>
<td>ATB</td>
<td>advanced technology bomber</td>
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<tr>
<td>AWACS</td>
<td>Airborne Warning and Control System</td>
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<tr>
<td>BUD</td>
<td>Basic Underwater Demolitions</td>
</tr>
<tr>
<td>CIA</td>
<td>Central Intelligence Agency</td>
</tr>
<tr>
<td>CINC</td>
<td>commander in chief (of a unified or specified command)</td>
</tr>
<tr>
<td>CINCCENT</td>
<td>Commander in Chief, U.S. Central Command</td>
</tr>
<tr>
<td>CINCLANT</td>
<td>Commander in Chief, Atlantic Command</td>
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<tr>
<td>CINCLANTFLT</td>
<td>Commander in Chief, U.S. Atlantic Fleet</td>
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<td>CINCPAC</td>
<td>Commander in Chief, U.S. Pacific Command</td>
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<tr>
<td>CINCSOC</td>
<td>Commander in Chief, U.S. Special Operations Command</td>
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<tr>
<td>CINCSOUTH</td>
<td>Commander in Chief, U.S. Southern Command</td>
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<td>CNN</td>
<td>Cable News Network</td>
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<td>COMINT</td>
<td>communications intelligence</td>
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<td>COMSEC</td>
<td>communications security</td>
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<td>CONUS</td>
<td>continental United States</td>
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<td>CORDS</td>
<td>Civil Operations and Revolutionary Development Support</td>
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<td>DAMA</td>
<td>demand assignment multiple access</td>
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<td>DARPA</td>
<td>Defense Advanced Research Projects Agency</td>
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<td>DCI</td>
<td>Director of Central Intelligence</td>
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<td>DEA</td>
<td>Drug Enforcement Agency</td>
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<td>DIA</td>
<td>Defense Intelligence Agency</td>
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<td>DOD</td>
<td>Department of Defense</td>
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<td>DSCS</td>
<td>Defense Satellite Communication System</td>
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<tr>
<td>ECCM</td>
<td>electronic counter-countermeasures</td>
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<tr>
<td>ECM</td>
<td>electronic countermeasures</td>
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<tr>
<td>EHF</td>
<td>extremely high frequency</td>
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<td>EPA</td>
<td>Environmental Protection Agency</td>
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<td>EUCOM</td>
<td>European Command</td>
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<td>EW</td>
<td>electronic warfare</td>
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<td>FLTSAT</td>
<td>fleet satellite</td>
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<td>GATT</td>
<td>General Agreement on Tariffs and Trade</td>
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<td>HF</td>
<td>high frequency</td>
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<td>HFAJ</td>
<td>high frequency antijam</td>
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<td>HUMINT</td>
<td>human intelligence</td>
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<td>I&amp;W</td>
<td>indications and warning</td>
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<td>ICBM</td>
<td>intercontinental ballistic missile</td>
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<td>ICS</td>
<td>intelligence community staff</td>
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<td>INF</td>
<td>Intermediate Nuclear Forces</td>
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<td>JCS</td>
<td>Joint Chiefs of Staff</td>
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<td>JCSE</td>
<td>Joint Communications Support Element</td>
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<td>JTF</td>
<td>joint task force</td>
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<td>LEASAT</td>
<td>leased satellite</td>
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<td>LIC</td>
<td>low intensity conflict</td>
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<td>MAGTF</td>
<td>Marine Air-Ground Task Force</td>
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<td>MCEB</td>
<td>Military Communications and Electronics Board</td>
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<td>NATO</td>
<td>North Atlantic Treaty Organization</td>
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<td>NAV</td>
<td>navigation</td>
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<td>NCO</td>
<td>noncommissioned officer</td>
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<td>NORAD</td>
<td>North American Aerospace Defense Command</td>
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<td>NRC</td>
<td>Nuclear Regulatory Commission</td>
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<td>NSA</td>
<td>National Security Agency</td>
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<td>Abbreviation</td>
<td>Definition</td>
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<tr>
<td>NSC</td>
<td>National Security Council</td>
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<td>NTM</td>
<td>national technical means</td>
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<td>OSD</td>
<td>Office of the Secretary of Defense</td>
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<td>OSS</td>
<td>Office of Strategic Services</td>
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<td>OTPE</td>
<td>operational propulsion examination</td>
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<td>PACFLEET</td>
<td>U.S. Pacific Fleet</td>
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<td>PACOM</td>
<td>U.S. Pacific Command</td>
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<td>POLMIL</td>
<td>political/military educated and oriented</td>
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<td>POM</td>
<td>Program Objective Memorandum</td>
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<td>REDCOM</td>
<td>U.S. Readiness Command</td>
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<td>REFTRA</td>
<td>refresher training</td>
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<td>RF</td>
<td>radio frequency</td>
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<tr>
<td>SACEUR</td>
<td>Supreme Allied Commander, Europe</td>
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<td>SACSA</td>
<td>Special Assistant for Counter-insurgency and Special Activities</td>
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<td>SALT</td>
<td>Strategic Arms Limitation Treaty</td>
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<tr>
<td>SAM</td>
<td>surface-to-air missile</td>
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<td>SAS</td>
<td>Special Air Service (United Kingdom)</td>
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<td>SATCOM</td>
<td>satellite communications</td>
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<td>SDI</td>
<td>Strategic Defense Initiative</td>
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<tr>
<td>SDIO</td>
<td>Strategic Defense Initiative Office</td>
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<tr>
<td>SDV</td>
<td>SEAL delivery vehicle</td>
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<tr>
<td>SEAL</td>
<td>Sea-Air-Land team member (U.S. Navy)</td>
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<tr>
<td>SF</td>
<td>special forces</td>
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<tr>
<td>SHF</td>
<td>super high frequency</td>
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<td>SIGINT</td>
<td>signals intelligence</td>
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<td>SLBM</td>
<td>submarine-launched ballistic missile</td>
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<td>SOCOM</td>
<td>Special Operations Command</td>
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<td>SOF</td>
<td>Special Operations Forces</td>
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<td>SOG</td>
<td>Special Operations Group</td>
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<td>SOPAG</td>
<td>Special Operations Policy Advisory Group</td>
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<td>SORTS</td>
<td>status of resources and training systems</td>
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<td>Spetsnaz</td>
<td>Soviet special operations forces</td>
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<td>SPRAA</td>
<td>Strategic Plans and Resource Analysis Agency</td>
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<td>START</td>
<td>Strategic Arms Reduction Talks</td>
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<td>STU</td>
<td>secure telephone unit</td>
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<td>TAC</td>
<td>Tactical Air Command</td>
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<td>TENCAP</td>
<td>tactical exploitation of national capabilities</td>
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<td>TRADOC</td>
<td>U.S. Training and Doctrine Command</td>
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<td>UHF</td>
<td>ultra high frequency</td>
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<td>USOOCOM</td>
<td>U.S. Special Operations Command</td>
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<td>VHF</td>
<td>very high frequency</td>
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1982 Guest Presentations I-82-3
1981 Guest Presentations I-81-9
1980 Guest Presentations I-80-6

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