

Incidental Paper

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

Guest Presentations, Spring 1992:

Frank B. Horton, Roscoe M. Cougill,
James J. Hearn, John M. McConnell,
Richard L. Haver, Albert R. Lubarsky,
Richard J. Kerr, Richard C. Macke

**Program on Information
Resources Policy**

Harvard University
Center for Information Policy Research
Cambridge, Massachusetts

An incidental paper of the Program on Information
Resources Policy

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and Control**

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We also wish to thank Martha Maurer for her logistical efforts on behalf of the seminar.

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

Will M. Jenkins
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 smoothed. Substance has, as far as possible, been left unaltered. All guests made their presentations in an open forum, forewarned that neither classified nor proprietary matters are appropriate in a university classroom.

Much of the 1992 seminar series took place against the backdrop of the Gulf War and the fiscal realities forcing organizational changes in the post-cold war world. Much of the emphasis focused on evolving threats to U.S. national security as Congress and National Command Authorities struggled to redefine America's global geopolitical interests and the organizational changes needed to meet them. Several speakers emphasized the stakes for new and advanced technologies in this national debate. The military services were represented by four uniformed officers who highlighted a central theme for future warfare — military operations in the future will unquestionably be joint operations. Each emphasized the vital link that effective command and control and interoperability of forces will have in the success or failure of future armed conflict.

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, has 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 his 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 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 1991. [208 pages; February 1993/Incidental Paper: I-93-1]

This year's seminar series stressed the role of intelligence in organizations. A number of speakers addressed the challenges confronting the U.S. intelligence apparatus in the Post-Cold War political environment.

Lt. Col. C. Kenneth Allard, USA, Special Assistant to the Under Secretary of Defense (Acquisition): "Thinking About Command and Control."

Duane P. Andrews, Assistant Secretary of Defense (C³I): "Restructuring the World of C³I."

John H. Cushman, Sr., Lt. Gen. USA (retired): "Desert Shield/Desert Storm and the Future of Force Projection."

Carnes Lord, Assistant to the Vice President for National Security Affairs: "Bureaucratic Problems in Formulating National Strategy."

Eugene B. Lotochinski, Vice President, Marketing, Northern Telecom World Trade: "Global Communications Capabilities for the Banking Industry."

David Y. McManis, National Security Agency/CSS representative to DOD: "Technology, Intelligence and Command."

John M. Ruddy, Vice President, The MITRE Corporation: "Military Use of Satellite Communications."

Paul R. Schwartz, Major General, USA: "Coalition Command and Control in Desert Shield/Desert Storm."

Charles L. Stiles, President, Technology and Planning Assoc. Inc.: "The U.S. Sinai Support Mission."

Joseph S. Toma, Chief, Special Action Division, Joint Staff J6-A: "C³: A View from Inside the Joint Staff."

Guest Presentations, Spring 1990 [146 pages; December 1991/Incidental Paper: I-91-3]

This year's seminar series stressed the role of intelligence in organizations. A number of speakers addressed the challenges confronting the U.S. intelligence apparatus in the Post-Cold War political environment.

Lt. Gen. James Cassity, Jr., USAF, Director, Command, Control & Communications (J-6), Joint Chiefs of Staff: "Restructuring Military Policy to Reflect Worldwide Political Changes."

Kenneth M. Duberstein, President and CEO of The Duberstein Group, formerly Chief of Staff to President Reagan: "The White House Information Process."

Thomas K. Latimer, Staff Director, House Permanent Committee on Intelligence, U.S. House of Representatives: "The Congressional Intelligence Committees."

James W. Lucas, Dean, School of Professional Studies, Defense Intelligence College: "The Information Needs of Presidents."

Gordon Negus, Executive Director, Defense Intelligence Agency: "Intelligence in Support of U.S. Foreign Policy."

Vice Admiral W.O. Studeman, Director, National Security Agency: "The Philosophy of Intelligence."

Major Gen. C. Norman Wood, Assistant Chief of Staff/Intelligence, U.S. Air Force: "The Policy Aspect of Intelligence."

Col. Joseph Zadarecky, II, Chief, Tactical Command and Control Division, Directorate of Operations, HQ U.S. Air Force: "The Role of the Air Force in U.S. Counternarcotics Policy."

Guest Presentations, Spring 1989 [132 pages; August 1990/Incidental Paper: I-90-3]

This year's presentations included continuing assessments of the Defense Reorganization Act of 1986, a look at the impact of new technologies on C³I planning and perspectives on intelligence, command and control activities in some civilian domains.

James M. Fox, Assistant Director in Charge, New York City, Federal Bureau of Investigation: "Crisis Management at the FBI."

Robert T. Herres, General, USAF, and Vice Chairman, Joint Chiefs of Staff: "The Role of the Joint Chiefs After the 1986 Defense Reorganization Act."

Stuart E. Johnson, Director, Strategic Concepts Development Center, INSS, National Defense University: "Command and Control Education and Research."

John F. Magee, Chairman of the Board, Arthur D. Little, Incorporated: "Some Business Analogies to C³I."

David Y. McManis, Director, Operations Security Organization, National Security Agency: "National Security and the 'Democratization' of Information."

John T. Myers, Lieutenant General, USA, and Director, Defense Communications Agency: "Future Directions for Defense Communications."

Charles A. Zraket, President and CEO, The MITRE Corporation: "Four Vital Issues in C³I."

Guest Presentations, Spring 1988 [176 pages; March 1989/Incidental Paper: I-89-1]

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

Frank J. Breth, Brigadier General, USMC, Director of C4I² Department/Director of Intelligence: "Getting in Front of C4I² Problems."

Ruth M. Davis, President, Pymatuning Group, formerly an Assistant Secretary of Energy and Deputy Under Secretary of Defense: "Putting C³I Development in a Strategic and Operational Context."

Robert T. Herres, General, USAF, and Vice Chairman, Joint Chiefs of Staff: "Strengthening the Chairman of the Joint Chiefs of Staff."

Rae M. Huffstutler, Deputy Director for Administration, formerly Director, National Photographic Interpretation Center, Central Intelligence Agency: "Intelligence Sources and Their Applications."

Robert C. Kingston, General, USA, (ret.), formerly Commander-in-Chief, United States Central Command: "The Special Operations Command: Structure and Responsibilities."

James R. Locher, III, Professional Staff Member, Senate Committee on Armed Forces: "Special Operations and Low Intensity Conflict: A Congressional Perspective."

Earl F. Lockwood, President and Chief Executive Officer, Betac Corporation: "The Evolution of Special Operations Forces."

John F. McLaughlin, Executive Director, Program on Information Resources Policy, Harvard University: "The Rise in Low Intensity Conflict: A Theory."

Richard L. Thornburgh, Director, Institute of Politics, Kennedy School of Government, Harvard University, formerly Governor of Pennsylvania: "Three Mile Island: A Case Study in C³I for Crisis Management."

Jerry O. Tuttle, Vice Admiral, USN, and Director, Command, control and Communications Organization of the Joint Chiefs of Staff (J-6): "Tailoring C³I Systems to Military Users."

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."

Greg Foster, senior fellow, Institute for National Strategic Studies, National Defense University: "The National Defense University's Command and Control Program."

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."

Rodney B. McDaniel, executive secretary, National Security Council: "C³I: A National Security Council Perspective."

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."

Guest Presentations, Spring 1985 [180 pages; April 1986/Incidental Paper: I-86-1]

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

Robert T. Herres, Commander in Chief, unified U.S. Space Command, Aerospace Defense Command, and North American Aerospace Defense Command, and Commander of the Air Force Space Command: "A CINC's View of Defense Organization."

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."

Richard G. Stilwell, chairman, Department of Defense Security Review Commission; formerly Deputy Under Secretary of Defense for Policy: "Structure and Mechanisms for Command and Control."

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."

Robert A. Rosenberg, Vice Commander in Chief for the North American Aerospace Defense Command and Assistant Vice Commander for the U.S. Air Force Space Command: "Strategic Defense: A Challenge for C3I."

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

W. Scott Thompson, director of programs for the American Security Council Foundation and president, Strategic Research Associates: "U.S. - U.S.S.R. Information Competition."

(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."

R. Thomas Marsh, commander, Air Force Systems Command: "Air Force C3I Systems."

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."

Richard G. Stilwell, Deputy Under Secretary of Defense for Policy: "Policy and National Command."

Guest Presentations, Spring 1981 [214 pages; December 1981/Incidental Paper: I-81-9]

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."

John H. Cushman, lieutenant general, U.S. Army, (ret.), management consultant, : "C3I and the Commander: Responsibility and Accountability."

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."

Guest Presentations, Spring 1980 [183 pages; December 1980/Incidental Paper: I-80-6]
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, Morotola, 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."

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Glossary

ACC	Air Component Commander (also USAF's new Air Combat Command)	CINC	Commander in Chief
		CINCCENT	Commander in Chief, Central Command
ACDA	Arms Control and Disarmament Agency	CINCEUR	Commander in Chief, Europe
ACM	Association for Computing Machinery	CINCLANT	Commander in Chief, Atlantic
ADNET	antidrug network	CINCNORAD	Commander in Chief of the North American Aerospace Defense Command
ADP	automated data processing	CINCPAC	Commander in Chief, Pacific
AFB	Air Force base	CINCSAC	Commander in Chief, Strategic Air Command
AFMIC	Armed Forces Medical Intelligence Center	CJCS	Chairman of the Joint Chiefs of Staff
AFOSR	Air Force Office of Scientific Research	CJTF	Commander of the Joint Task Force
AMC	Air Mobility Command	CNN	Cable News Network
AOR	area of responsibility	CODIB	Committee on Data of the U.S. Intelligence Board
ARCCENT	Army component of Central Command	COIC	Combat Operations Intelligence Center
ARVN	Army of the Republic of Vietnam	COMINT	communications intelligence
ATCCS	Army Tactical Command and Control System	COMMEX	communications exercise
ATO	air tasking order	COMSEC	communications security
AWACS	Airborne Warning and Control System	CONUS	continental United States
BDA	bomb damage assessment (also battle damage assessment)	COTS	commercial off-the-shelf
C ³ I	command, control, communications, and intelligence	CSCE	Conference on Security and Cooperation in Europe
C ³ IC	Command, Control, Coordination, and Integration Center	CTIS	Command Tactical Information System
CBRN	Caribbean Basin Radar Network	DAB	Defense Acquisition Board
CECOM	Communications-Electronics Command	DAMA	demand assigned multiple access
CENTCOM	Central Command	DCA	Defense Communications Agency
CFE	conventional forces in Europe	DCI	Director of Central Intelligence
CIA	Central Intelligence Agency	DCS	Defense Communications System
CIM	corporate information management	DDI	Deputy Director of Intelligence, CIA

DDN	Defense Data Network	FEBA	forward edge of battle
DEA	Drug Enforcement Agency	FEMA	Federal Emergency Management Agency
DEFCON	defense condition		
DES	Data Encryption Standard	FSO	Foreign Service Officer
DI	Director of Intelligence	GATT	General Agreement on Tariffs and Trade
DIA	Defense Intelligence Agency	GDIP	General Defense Intelligence Program
DIAC	Defense Intelligence Analysis Center		
DIRID	directional infrared intrusion detection	GIDEP	Government-Industry Data Exchange Program
		GMF	ground mobile forces
DISA	Defense Information Systems Agency	GPALS	Global Protection Against Limited Strikes
DMI	Director of Military Intelligence	GPS	global positioning system
DMR	Defense Management Review	GSA	General Services Administration
DNI	Director of Naval Intelligence		
DO	Director of Operations	HAC	House Appropriations Committee
DOD	Department of Defense		
DPG	Defense Program Group	HFDF	High Frequency Direction Finder
DPRB	Defense Policy Review Board	HPSCI	House Permanent Select Committee on Intelligence
DSCS	Defense Satellite Communication System		
		HUMINT	Human Intelligence
DSN	Defense Switched Network	IC	intelligence community
DS&T	Director of Science and Technology	ICBM	intercontinental ballistic missile
		IDEX	Imagery Digital Exploitation
DST	defense space talk	IFF	identification friend or foe
EACIC	Echelon Above Corps Intelligence Center	IMINT	Imagery Intelligence
EAM	emergency action message	INCA	Intelligence Communications
EDS	electronic data systems	INF	intermediate nuclear force
EHF	extremely high frequency	INMARSAT	International Marine Satellite
ELINT	electronic intelligence	INTELSAT	International Telecommunications Satellite
EMP	electromagnetic pulse		
EPIC	El Paso Intelligence Center	ISDN	Integrated Services Digital Network
ESM	electronic support measure	IR	infrared
EUCOM	European Command	IRM	information resource management
EW	electronic warfare		
FBI	Federal Bureau of Investigation	ITO	Integrated Tasking Order
FCC	Federal Communications Commission	JAC	Joint Analysis Center

JAIC	Joint Air Intelligence Center	MTI	moving target indicator
JCEOI	Joint Communications Electronics Operating Instructions	NASA	National Aeronautics and Space Administration
JCS	Joint Chiefs of Staff	NATO	North Atlantic Treaty Organization
JFACC	Joint Forces Air Component Commander	NAVLANTCOM	Navy Atlantic Command
JIC	Joint Intelligence Center	NAVSTAR	Navigational Satellite Timing and Ranging
JINTACCS	Joint Intelligence Tactical Command and Control System	NCA	National Command Authorities
Joint STARS	Joint Surveillance Target Attack Radar System	NEACP	National Emergency Airborne Command Post
JOTS	Joint Operational Tactical System	NFIB	National Foreign Intelligence Board
JROC	Joint Requirements Oversight Council	NFIC	National Foreign Intelligence Council
JSTPS	Joint Strategic Target Planning Staff	NFIP	National Foreign Intelligence Program
JTF	joint task force	NFOIO	Navy Field Operational Intelligence Office
JTIDS	Joint Tactical Information Distribution System	NIE	National Intelligence Estimates
JVIDS	Joint Visual Information Display System	NIST	National Institute of Standards and Technology
JWICS	Joint Worldwide Intelligence Communications System	NMCC	National Military Command Center
LAN	local area network	NMJIC	National Military Joint Intelligence Center
LANTCOM	U.S. Atlantic Command	NORAD	North American Aerospace Defense Command
LEA	law enforcement agency	NORMAL	National Organization for Reform of Marijuana Laws
LORAN	location, ranging, and navigation	NSA	National Security Agency
MAC	Military Airlift Command	NSC	National Security Council
MAJCOM	Major Command	NSPG	National Security Planning Group
MARS	Military Affiliate Radio System	NTCS-A	Navy Tactical Command System Afloat
MATS	measurement of time and space	NWGS	Navy wargaming system
MCEB	Military Communications-Electronics Board	O&M	operations and management
MEF	Marine Expeditionary Force	OMB	Office of Management and Budget
MIB	Military Intelligence Board	OPCON	operational control
MSARC	Military System Acquisition Review Councils		
MTCCS	Marine Tactical Command and Control System		

OPSEC	Operation Security	SIF	Selective Identification Feature
OSD	Office of the Secretary of Defense	SIGINT	Signal Intelligence
OSIS	Ocean Surveillance Information Systems	SINCGARS	single channel ground and air radio system
PAC	political action committees	SIOP	single integrated operational plan
PACOM	Pacific Command	SOUTHCOM	Southern Command
PBX	private branch exchange	SSCI	Senate Select Committee on Intelligence
PDF	Panamanian Defense Force	START	Strategic Arms Reduction Talks
PEM	Program Element Monitor	STRATCOM	Strategic Command
PERT	program evaluation and review techniques	STRATJIC	Strategic Joint Intelligence Center
PFIAB	President's Foreign Intelligence Advisory Board	STU	secure telephone unit
PGM	precision guided munitions	STU III	Secure Telephone Unit three
PLO	Palestine Liberation Organization	TAC	Tactical Air Command
PME	professional military education	TACAMO	take charge and move out
POM	program objectives memorandum	TBM	Theater Battle Management
PUC	public utility commission	TEMPEST	Transient Electro-Magnetic Pulse Emanation Standard
RDT&E	research, development, testing, and evaluation	TIARA	Tactical Intelligence and Related Activities
REC	radio-electronic combat	TPFDD	Time Phased Force Deployment Data
RF	radio frequency	TQM	total quality management
ROE	rules of engagement	TRADOC	Training and Doctrine Command
SAC	Strategic Air Command	TRANSCOM	Transportation Command
SAGE	semiautomatic ground environment	TRI-TAC	tri-service tactical communications
SASC	Senate Armed Services Committee	TSSR	Tropo/Satellite Support Radio
SATCOM	satellite communications	TWT	traveling wavetube
SCI	Sensitive Controlled Information; Special Compartmented Information	UCP	unified command plan
SDI	Strategic Defense Initiative	USCENTCOM	U.S. Central Command
SECDEF	Secretary of Defense	WAN	wide area network
SHF	super high frequency	WIMS	work information management system
SIDS	Secondary Imagery Destination System	WIS	WWMCCS Information System
		WWMCCS	Worldwide Military Command and Control System



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