

1034

101
Ar 5/3
D 36/14
980
7

Y4
. Ar 5/3:
D 36/7/
980/pt. 7

DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1980

GOVERNMENT

DOCUMENTS

Storage

14 1979

WELL LIBRARY
KANSAS STATE UNIVERSITY

HEARINGS

BEFORE THE

COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

NINETY-SIXTH CONGRESS


FIRST SESSION

ON

S. 428

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 1980, FOR
PROCUREMENT OF AIRCRAFT, MISSILES, NAVAL VESSELS,
TRACKED COMBAT VEHICLES, TORPEDOES, AND OTHER
WEAPONS, AND RESEARCH, DEVELOPMENT, TEST, AND EVALU-
ATION FOR THE ARMED FORCES, AND TO PRESCRIBE THE
AUTHORIZED PERSONNEL STRENGTH FOR EACH ACTIVE
COMPONENT AND OF THE SELECTED RESERVE OF EACH
RESERVE COMPONENT OF THE ARMED FORCES AND OF CIVIL-
IAN PERSONNEL OF THE DEPARTMENT OF DEFENSE, AND TO
AUTHORIZE THE MILITARY TRAINING STUDENT LOADS, AND
FOR OTHER PURPOSES

KSU LIBRARIES
A 11900 286191 ✓



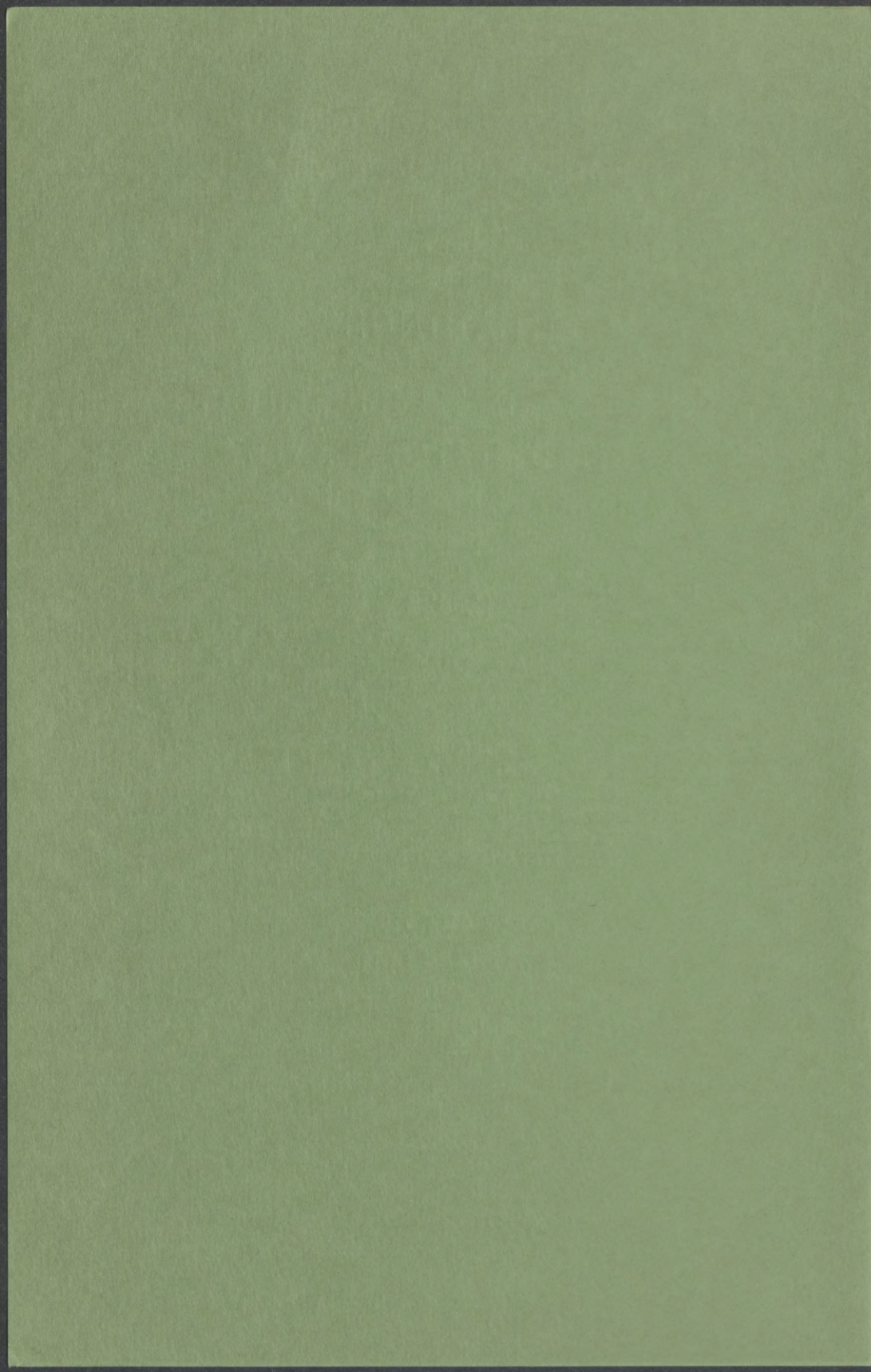
PART 7

WITNESS LIST

AND

INDEX





DEPARTMENT OF DEFENSE AUTHORIZATION FOR APPROPRIATIONS FOR FISCAL YEAR 1980

HEARINGS BEFORE THE COMMITTEE ON ARMED SERVICES UNITED STATES SENATE NINETY-SIXTH CONGRESS

FIRST SESSION

ON

S. 428

TO AUTHORIZE APPROPRIATIONS FOR FISCAL YEAR 1980, FOR
PROCUREMENT OF AIRCRAFT, MISSILES, NAVAL VESSELS,
TRACKED COMBAT VEHICLES, TORPEDOES, AND OTHER
WEAPONS, AND RESEARCH, DEVELOPMENT, TEST, AND EVAL-
UATION FOR THE ARMED FORCES, AND TO PRESCRIBE THE
AUTHORIZED PERSONNEL STRENGTH FOR EACH ACTIVE
DUTY COMPONENT AND OF THE SELECTED RESERVE OF EACH
RESERVE COMPONENT OF THE ARMED FORCES AND OF CIVIL-
IAN PERSONNEL OF THE DEPARTMENT OF DEFENSE, AND TO
AUTHORIZE THE MILITARY TRAINING STUDENT LOADS, AND
FOR OTHER PURPOSES

PART 7

WITNESS LIST

AND

INDEX



Printed for the use of the Committee on Armed Services

U.S. GOVERNMENT PRINTING OFFICE

WASHINGTON : 1979

COMMITTEE ON ARMED SERVICES

JOHN C. STENNIS, Mississippi, *Chairman*

HENRY M. JACKSON, Washington
HOWARD W. CANNON, Nevada
HARRY F. BYRD, Jr., Virginia
SAM NUNN, Georgia
JOHN C. CULVER, Iowa
GARY HART, Colorado
ROBERT MORGAN, North Carolina
J. JAMES EXON, Nebraska
CARL LEVIN, Michigan

JOHN TOWER, Texas
STROM THURMOND, South Carolina
BARRY GOLDWATER, Arizona
JOHN W. WARNER, Virginia
GORDON J. HUMPHREY, New Hampshire
WILLIAM S. COHEN, Maine
ROGER W. JEPSEN, Iowa

FRANCIS J. SULLIVAN, *Staff Director*

JOHN T. TICER, *Chief Clerk*

SUBCOMMITTEE ON GENERAL PROCUREMENT

HARRY F. BYRD, Jr., Virginia, *Chairman*

HENRY M. JACKSON, Washington
HOWARD W. CANNON, Nevada
GARY HART, Colorado
ROBERT MORGAN, North Carolina

BARRY GOLDWATER, Arizona
JOHN TOWER, Texas
STROM THURMOND, South Carolina
ROGER W. JEPSEN, Iowa

SUBCOMMITTEE ON MANPOWER AND PERSONNEL

SAM NUNN, Georgia, *Chairman*

HARRY F. BYRD, Jr., Virginia
JOHN C. CULVER, Iowa
J. JAMES EXON, Nebraska

ROGER W. JEPSEN, Iowa
JOHN W. WARNER, Virginia
WILLIAM S. COHEN, Maine

SUBCOMMITTEE ON RESEARCH AND DEVELOPMENT

JOHN C. CULVER, Iowa, *Chairman*

SAM NUNN, Georgia
ROBERT MORGAN, North Carolina
J. JAMES EXON, Nebraska
CARL LEVIN, Michigan

JOHN W. WARNER, Virginia
BARRY GOLDWATER, Arizona
GORDON J. HUMPHREY, New Hampshire
WILLIAM S. COHEN, Maine

WITNESS LIST AND INDEX

This witness list and index, prepared for use by the Senate Armed Services Committee, lists the witnesses in chronological order, by date; and in alphabetical order. Statements and reports submitted for the hearing record but not printed are listed on page 13 of this index in chronological order and by date submitted. Entries in the index list all subjects presented at the committee hearings, and printed in the six volumes of testimony, as follows:

	Page
Part 1. Authorizations.....	1-411
Defense Posture:	
Secretary of Defense Harold Brown.....	9
General David C. Jones, USAF, Chairman, Joint Chiefs of Staff.....	29
Budget Priorities and Management Issues:	
Duncan, Charles W., Jr., Deputy Secretary of Defense.....	118
Alexander, Hon. Clifford L., Jr., Secretary of the Army.....	124
Clayton, Hon. W. Graham, Jr., Secretary of the Navy.....	125
Stetson, Hon. John C., Secretary of the Air Force.....	127
Strategic Nuclear Posture.....	295
Part 2. Authorizations.....	413-834
Air Force Programs.....	413
Navy-Marine Corps Programs.....	479
Army Programs.....	601
Pacific Area Report.....	703
Atlantic Area Report.....	775
Part 3. Authorizations.....	835-1452
JCS/DIA Threat Assessment.....	835
Army Aviation Combat Aircraft.....	879
Navy/Marine Corps Tactical Aircraft and Missile Programs.....	947
Air Force Tactical Air Programs.....	1057
Aircraft Engines.....	1197
Navy Shipbuilding Program.....	1251
Roland Missile and Army Air Defense Systems.....	1375
M-X Missile Program.....	1401
Part 4. Manpower and Personnel.....	1453-2274
Overseas Troop Deployment for Korea and Related Areas.....	1453
Troop Levels in NATO.....	1499
Land, Air, and Naval Force Structure Plans.....	1535
Military Medical Programs.....	1603
Training, Education and Student Loads.....	1709
Personnel Management in the Military Services.....	1849
Civilian Manpower Requirements.....	1987
Dependents of Military Personnel Overseas.....	2081
Selected Reserve Components Personnel Strengths.....	2117
Manpower Requirements for Mobilization.....	2187
Part 5. General Procurement—Civil Defense.....	2275-2781
Fiscal Year 1980 Procurement Program.....	2275
(Flight Simulators) Appendix.....	2375
Strategic Missile Procurement and Procurement of Air and Missile Defense Systems.....	2465
U.S. Army's Procurement Program for 1980-84.....	2593
Space Shuttle, Military Satellites.....	2641
Soviet Civil Defense.....	2689
Defense Civil Preparedness Agency.....	2723

	Page
Part 6, Research and Development-----	2783-3583
R.D.T. & E. Program, Department of Defense-----	2784
Technology Base—DARPA R.D.T. & E-----	2857
Antisubmarine Warfare Programs-----	2903
Space Surveillance and Defense-----	3007
Tanks, Antitanks and Other Army Programs-----	3041
Fleet Air Defense Programs-----	3105
NATO Standardization Process-----	3211
Strategic Surveillance, Warning and Command and Control-----	3285
Theater Nuclear Forces-----	3405
M-X Missile Program-----	3475

3475	.....
3476	.....
3477	.....
3478	.....
3479	.....
3480	.....
3481	.....
3482	.....
3483	.....
3484	.....
3485	.....
3486	.....
3487	.....
3488	.....
3489	.....
3490	.....
3491	.....
3492	.....
3493	.....
3494	.....
3495	.....
3496	.....
3497	.....
3498	.....
3499	.....
3500	.....
3501	.....
3502	.....
3503	.....
3504	.....
3505	.....
3506	.....
3507	.....
3508	.....
3509	.....
3510	.....
3511	.....
3512	.....
3513	.....
3514	.....
3515	.....
3516	.....
3517	.....
3518	.....
3519	.....
3520	.....
3521	.....
3522	.....
3523	.....
3524	.....
3525	.....
3526	.....
3527	.....
3528	.....
3529	.....
3530	.....
3531	.....
3532	.....
3533	.....
3534	.....
3535	.....
3536	.....
3537	.....
3538	.....
3539	.....
3540	.....
3541	.....
3542	.....
3543	.....
3544	.....
3545	.....
3546	.....
3547	.....
3548	.....
3549	.....
3550	.....
3551	.....
3552	.....
3553	.....
3554	.....
3555	.....
3556	.....
3557	.....
3558	.....
3559	.....
3560	.....
3561	.....
3562	.....
3563	.....
3564	.....
3565	.....
3566	.....
3567	.....
3568	.....
3569	.....
3570	.....
3571	.....
3572	.....
3573	.....
3574	.....
3575	.....
3576	.....
3577	.....
3578	.....
3579	.....
3580	.....
3581	.....
3582	.....
3583	.....

CHRONOLOGICAL LIST OF WITNESSES

PART 1—AUTHORIZATIONS

JANUARY 25, 1979

DEFENSE POSTURE

	Page
Brown, Hon. Harold, Secretary of Defense-----	9
Jones, Gen. David, USAF, Chairman of the Joint Chiefs of Staff-----	29

JANUARY 30, 1979

BUDGET PRIORITIES AND MANAGEMENT ISSUES

Duncan, Charles W., Jr. Deputy Secretary of Defense-----	118
Alexander, Hon. Clifford L., Jr., Secretary of the Army-----	124
Claytor, Hon. W. Graham, Jr., Secretary of the Navy-----	125
Stetson, Hon. John C., Secretary of the Air Force-----	127

FEBRUARY 1, 1979

STRATEGIC NUCLEAR POSTURE

Perry, Hon. William J., Under Secretary of Defense for Research and Engineering-----	298
Ellis, Gen. Richard H., USAF, Commander-in-Chief, Strategic Air Command-----	316
Griffiths, Vice Adm. C. H., Deputy CNO for Submarine Warfare-----	322

PART 2—AUTHORIZATIONS

FEBRUARY 2, 1979

AIR FORCE PROGRAMS

Allen, Gen. Lew, Jr., Chief of Staff, U.S. Air Force, accompanied by Gen. William Lyon, Chief, Air Force Reserves; and Gen. John T. Guice, director, Air National Guard-----	415
--	-----

FEBRUARY 6, 1979

NAVY-MARINE CORPS PROGRAMS

Hayward, Adm. Thomas B., USN, Chief of Naval Operations, accompanied by Gen. Louis H. Wilson, USMC, Commandant, U.S. Marine Corps; Rear Adm. Frederick F. Palmer, USN, Director of Naval Reserve; Brig. Gen. Vincente T. Blaz, USMC, Deputy Chief of Staff for Reserve Affairs, Hq., USMC; Capt. J. E. Arnold, USN, Congressional and Policy Coordination Branch, OCNO; Capt. Richard J. Grunawalt, JAGC, USN, Special Counsel to the CNO, OCNO; and Cmdr. E. J. Dennis, USN, Head, Congressional Coordination Section, OCNO-----	482
Wilson, Gen. Louis H., Commandant, U.S. Marine Corps-----	489
Palmer, Rear Adm. Frederick, USN, Chief of Naval Reserve-----	496
Blaz, Brig. Gen. Vincente, USMC-----	509

FEBRUARY 8, 1979

ARMY PROGRAMS

Rogers, Gen. Bernard W., Chief of Staff, U.S. Army, accompanied by Maj. Gen. Emmett H. Walker, Jr., Director, Army National Guard, and Maj. Gen. Henry Mohr, Chief of Army Reserve-----	Page 603
Walker, Maj. Gen. Emmett H., Jr., Director, Army National Guard, Department of the Army-----	611
Mohr, Maj. Gen. Henry, Chief, Army Reserve, Department of the Army--	614

FEBRUARY 20, 1979

PACIFIC AREA REPORT

Weisner, Adm. Maurice F., USN, Commander in Chief, Pacific-----	706
Vessey, Gen. John W., USA, Commander in Chief, United Nations Command-----	726
Loving, Lt. Gen. George G., Commander, U.S. Forces, Japan-----	730
Schwenk, Lt. Gen. Adolph, Deputy Chief of Staff, Plans and Policies, Headquarters, Marine Corps-----	732

FEBRUARY 22, 1979

ATLANTIC AREA REPORT

Haig, Gen. Alexander, U.S. Army, Commander-in-Chief, U.S. European Command, and Adm. Harry D. Train, II, U.S. Navy, Commander-in-Chief, Atlantic-----	777
Train, Adm. Harry D., II, U.S. Navy, Commander-in-Chief, Atlantic-----	781

PART 3—AUTHORIZATIONS

MARCH 7, 1979

JCS/DIA THREAT ASSESSMENT

Graham, Brig. Gen. Irwin P., Deputy Director, Politico-Military Affairs Division, Plans and Policy Directorate, Organization of the Joint Chiefs of Staff, accompanied by Lt. Col. Michael P. Brinker, OJCS, J-5, Force Planning and Programing Division; Col. John A. Dramesi, USAF, Tactical Forces Division Chief, Office of Director of Plans; Col. Robert R. Sheahan, USMC, Head, Joint Matters and Doctrine Branch, Headquarters, USMC; Cdr. Bert D. Terry, USN, ROP OP-05, Office of the CNO; Lt. Col. Henry E. Shinol, USAF, OJCS, SAGA; Lt. Col. Gary E. Ramage, ODCSOPS, HQDA (Army)-----	836
Hally, Col. Thomas, Chief, Air Force Branch, Soviet/Warsaw Pact Division, Defense Intelligence Agency; accompanied by Lt. Col. Warren A. Uthe, USAF, Chief, Special Research Section, Soviet/Warsaw Pact Air Forces Branch; Dolores D. Mason, Special Research Section, Soviet/Warsaw Pact Air Forces Branch; John Yeany, Chief, Defensive Missile Section, Soviet/Warsaw Pact Missile Forces Branch; Gary L. Andrew, DIA-Western Europe Division (DB-3); Capt. John Robinson, Soviet/East European Division, Directorate of Estimates-----	838
Brinker, Lt. Col. Michael P., USAF, Deputy Director, Force Planning and Programing Division, Plans and Policy Directorate, Organization of the Joint Chiefs of Staff-----	853

MARCH 8, 1979

ARMY AVIATION COMBAT AIRCRAFT

Pierre, Dr. Percy A., Assistant Secretary of the Army, Research, Development, and Acquisition, accompanied by Lt. Gen. Donald R. Keith, Deputy Chief of Staff for Research, Development, and Acquisition; and Brig. Gen. Carl H. McNair, Deputy Director of Requirements and Army Aviation Officer, Office of the Deputy Chief of Staff for Operations.---	880
--	-----

Wray, Col. Donald P., Chief, Aviation Systems Division, Office of the Deputy Chief of Staff for Research, Development, and Acquisition-----	897
Browne, Brig. Gen. Edward M., Manager for Advanced Attack Helicopter, U.S. Army Materiel Development and Readiness Command-----	909

MARCH 15, 1979

NAVY/MARINE CORPS TACTICAL AIRCRAFT AND MISSILE PROGRAMS

Turner, Vice Adm. F. C., U.S. Navy, Deputy Chief of Naval Operations (Air Warfare), accompanied by Vice Admiral Petersen, Commander, Naval Air Systems Command-----	948
Miller, Lt. Gen. Thomas H., U.S. Marine Corps, Deputy Chief of Staff for Aviation -----	991

MARCH 20, 1979

AIR FORCE TACTICAL AIR PROGRAMS

Stafford, Lt. Gen. Thomas P., Deputy Chief of Staff, Research, Development, and Acquisition, Headquarters, U.S. Air Force-----	1058
Belli, Col. Robert E., Directorate of Programs, DCS/Programs and Evaluation -----	1073
Ahmann, Maj. Gen. James H., Director of Plans, Deputy Chief of Staff, Operations, Plans, and Readiness-----	1085
Maxson, Maj. Gen. William B., Director of Development and Programing, Deputy Chief of Staff, Research, Development, and Acquisition-----	1102

APRIL 2, 1979

AIRCRAFT ENGINES

Perry, Dr. W. J., Under Secretary of Defense, Research and Engineering--	1198
Maxson, Maj. Gen. W. B., USAF, Director, Development and Programing, Deputy Chief of Staff, Research Development and Acquisition-----	1206
Speer, Rear Adm. Paul H., U.S. Navy, Director, Aviation Plans and Requirements Division, Deputy Chief of Naval Operations for Air Warfare--	1211

MARCH 28, 1979

NAVY SHIPBUILDING PROGRAM

Hayward, Adm. Thomas B., USN, Chief of Naval Operations, accompanied by Vice Adm. C. R. Bryan, USN, Commander, Naval Sea Systems Command; and Vice Adm. J. H. Doyle, Jr., USN, Deputy Chief of Naval Operations (Surface Warfare)-----	1252
--	------

APRIL 5, 1979

Perry, William J., Under Secretary of Defense, Research and Engineering--	1321
Clayton, Hon. W. Graham, Secretary of the Navy-----	1340

MAY 10, 1979

ROLAND MISSILE AND ARMY AIR DEFENSE SYSTEMS

Perry, Hon. William J., Under Secretary of Defense for Research and Engineering, and Hon. Percy A. Pierre, Assistant Secretary of the Army (Research, Development and Acquisition), accompanied by Lt. Gen. Donald R. Keith, Deputy Chief of Staff for Research, Development and Acquisition, Army; and Maj. Gen. John J. Koehler, Commanding General, Army Air Defense Center, Fort Bliss, Tex-----	1377
Pierre, Hon. Percy A., Assistant Secretary of the Army (Research, Development and Acquisition)-----	1381
Koehler, Maj. Gen. John J., Commanding General, Army Air Defense Center, Fort Bliss, Tex-----	1384

MAY 15, 1979

M-X ICBM, MISSILE PROGRAM

Perry, Hon. William J., Under Secretary of Defense, for Research and Engineering, accompanied by Walter Slocombe, Director of Salt-II Task Force, and Seymour Zeberg, Director of the Strategic Systems Office, Department of Defense ----- Page 1402

PART 4—MANPOWER AND PERSONNEL

FEBRUARY 21, 1979

OVERSEAS TROOP DEPLOYMENT FOR KOREA AND RELATED AREAS

Armacost, Michael H., Deputy Assistant Secretary of Defense, accompanied by Gen. John W. Vessey, Jr., U.S. Army, Commander in Chief, United Nations Command ----- 1454

FEBRUARY 22, 1979

TROOP LEVELS IN NATO

Haig, Gen. Alexander, U.S. Army Commander in Chief, U.S. European Command ----- 1500

MARCH 7, 1979

LAND, AIR, AND NAVAL FORCE STRUCTURE PLANS

Pirie, Robert B., Jr., Acting Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics; accompanied by Lt. Gen. E. C. Meyer, Deputy Chief of Staff for Operations and Plans, U.S. Army; Rear Adm. J. G. Williams, Director, General Planning and Programing Division, Office of Program Planning, U.S. Navy; Lt. Gen. Abbott Greenleaf, Deputy Chief of Staff, Programs and Evaluation, U.S. Air Force; Maj. Gen. P. X. Kelley, Deputy Chief of Staff for Requirements Programs, U.S. Marine Corps; and Rear Adm. Mark Frudden, Deputy Director for Force Development and Strategic Plans, Office of the Joint Chiefs of Staff ----- 1536

MARCH 20, 1979

MILITARY MEDICAL PROGRAMS

Pixley, Lt. Gen. Charles C., MC, the Surgeon General, Department of the Army ----- 1604
Arentzen, Vice Adm. Willard, Medical Corps, the Surgeon General, U.S. Navy ----- 1618
Myers, Lt. Gen. Paul W., Surgeon General, U.S. Air Force ----- 1625

MARCH 21, 1979

TRAINING, EDUCATION AND STUDENT LOADS

Greenberg, I. M., Deputy Assistant Secretary of Defense for Program Management ----- 1711

MARCH 27, 1979

PERSONNEL MANAGEMENT IN THE MILITARY SERVICES

McLennan, Lt. Gen. Kenneth, U.S. Marine Corps, Deputy Chief of Staff for Manpower, Headquarters, U.S. Marine Corps ----- 1850
Baldwin, Vice Adm. Robert B., U.S. Navy, Deputy Chief of Naval Operations for Manpower, Personnel, and Training, and Chief of Naval Personnel ----- 1853

	Page
Yerks, Lt. Gen. Robert G., U.S. Army, Deputy Chief of Staff for Personnel	1859
Davis, Lt. Gen. Bennie L., U.S. Air Force, Deputy Chief of Staff for Manpower and Personnel-----	1863

APRIL 4, 1979

CIVILIAN MANPOWER REQUIREMENTS

Pirie, Robert B., Jr., Acting Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics; Accompanied by Hon. Robert L. Nelson, Assistant Secretary of the Army for Manpower and Reserve Affairs; Dr. Bernard D. Rostker, Principal Deputy Assistant Secretary of the Navy for Manpower and Reserve Affairs; William H. Mitchell, Principal Deputy Assistant Secretary of the Air Force for Manpower Resources and Reserve Affairs-----	1990
Pell, Hon. Claiborne, a U.S. Senator from the State of Rhode Island-----	2042

APRIL 6, 1979

DEPENDENTS OF MILITARY PERSONNEL OVERSEAS

Pirie, Robert B., Acting Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics; Accompanied by Lt. Gen. E. C. Meyer, Deputy Chief of Staff for Operations and Plans, Department of the Army; Maj. Gen. Edgar A. Chavarrie, Director of Plans and Policy for the European Command; Maj. Gen. John R. D. Cleland, Vice Director for Plans and Policy, Joint Chiefs of Staff; Maj. Gen. Stanley M. Umstead, Jr., Deputy for Military Personnel Policy; and Maj. Gen. William L. Webb, Jr.-----	2082
--	------

APRIL 9, 1979

SELECTED RESERVE COMPONENTS PERSONNEL STRENGTHS

Roberts, Maj. Gen. J. Milnor, AUS (retired), Executive Director, Reserve Officers Association of the United States-----	2118
Carl, Capt. Fred D., U.S. Naval Reserve (retired), President, Naval Reserve Association, accompanied by Rear Adm. Phil Smith, National Executive Vice President, U.S. Naval Reserve; and Capt. P. R. Lucci, National Vice President for Surface/Subsurface Naval Reserve Association-----	2133
Vaughn, Raymond A., USNR, Senior Chief Hull Maintenance Technican, National President, Naval Enlisted Reserve Association, accompanied by George Lang, USNR, Master Chief Hull Maintenance Technician and Master Chief John Thomas, Legislative Chairman-----	2153
McKinney, C. A., Director of Government Affairs, National Capital Office, Noncommissioned Officers Association of the United States, accompanied by Normand M. Gonsauls, NCO Association of USA (NCOA), Richard W. Johnson, Jr., Coordinator of Veterans Affairs, NCO Association of the USA (NCOA)-----	2163
Greenleaf, Maj. Gen. Francis S. (retired), Executive Vice President, National Guard Association of the United States-----	2176

APRIL 10, 1979

MANPOWER REQUIREMENTS FOR MOBILIZATION

Danzig, Richard, Acting Principal Deputy Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics; and John Brinkerhoff, Special Assistant to the Deputy Assistant Secretary of Defense for Reserve Affairs; accompanied by Maj. Gen. J. C. Faith, USA, Director of Operations and Readiness-----	2189
---	------

PART 5—GENERAL PROCUREMENT—CIVIL DEFENSE

APRIL 6, 1979

FISCAL YEAR 1980 PROCUREMENT PROGRAM

	Page
Perry, Hon. William J., Under Secretary of Defense, Research and Engineering -----	2276
Pierre, Hon. Percy A., Assistant Secretary of the Army, Research, Development, and Acquisition -----	2307
Mann, Hon. David E., Assistant Secretary of the Navy, Research, Engineering and Systems -----	2311
Martin, Hon. John J., Assistant Secretary of the Air Force (Research, Development and Logistics) -----	2315
Greenlief, Maj. Gen. Francis S. (Retired), executive vice president, National Guard Association of the United States -----	2322
Roberts, Maj. Gen. J. Milnor, AUS (Retired), executive director, Reserve Officers Association of the United States -----	2351
Appendix (Flight Simulators) -----	2375

APRIL 9, 1979

STRATEGIC MISSILES PROCUREMENT AND PROCUREMENT OF AIR AND MISSILE DEFENSE SYSTEMS

Stafford, Lt. Gen. Thomas P., USAF, Deputy Chief of Staff for Research, Development, and Acquisition -----	2466
Burke, Maj. Gen. Kelly -----	2475
Griffiths, Vice Adm. C. H., Deputy Chief of Naval Operations (Submarine Warfare) -----	2498
Wertheim, Rear Adm. Robert H., USN Director Strategic Systems Project, Naval Material Command -----	2500

AIR DEFENSE CAPABILITIES

Keith, Lt. Gen. Donald R., USA, Deputy Chief of Staff for Research, Development, and Acquisition; Maj. Gen. John J. Koehler, Commanding General, U.S. Army Air Defense Center, Fort Bliss, Tex., and Col. Leo C. Waible, Chief, Missiles and Air Defense Systems Division -----	2528
Ward, Rear Adm. Thomas M., Jr., U.S. Navy, Director, Service Combat Systems Division, Office of the Chief of Naval Operations -----	2567

APRIL 10, 1979

U.S. ARMY'S PROCUREMENT PROGRAM FOR 1980-84

Pierre, Dr. Percy A., Assistant Secretary of the Army (Research, Development, and Acquisition); accompanied by Lt. Gen. Donald R. Keith, Deputy Chief of Staff for Research, Development, and Acquisition; Maj. Gen. Donald M. Babers, Project Manager, XM-1 tank system, U.S. Army Materiel Development and Readiness Command; Thomas E. Harvey, Deputy Assistant Secretary of the Army (Research, Development, and Acquisition); Brig. Gen. Louis C. Wagner, Jr., Director of Combat Support Systems, Office of the Deputy Chief of Staff for Research, Development, and Acquisition; Brig. Gen. Phillip L. Bolte, Project Manager, Infantry Fighting Vehicle System, U.S. Army Materiel Development and Readiness Command -----	2595
Keith, Lt. Gen. Donald R., Deputy Chief of Staff for Research, Development, and Acquisition -----	2605
Babers, Maj. Gen. Donald M., Project Manager, XM-1 Tank System, U.S. Army Materiel Development and Readiness Command -----	2611
Bolte, Brig. Gen. Philip L., Program Manager, Fighting Vehicle Systems, U.S. Army Materiel Development and Readiness Command -----	2618

APRIL 11, 1979

SPACE SHUTTLE, MILITARY SATELLITES

Yowell, Rear Adm. Grover M., Project Manager, Navy Space Project Office, Naval Electronics System Command, accompanied by Rear Adm. C. R. Bell, Director, Naval Communications Division, Office of the Chief of Naval Personnel, and Captain Newell-----	Page 2642
Martin, Hon. John J., Assistant Secretary of the Air Force, Research, Development and Logistics-----	2646
Stafford, Lt. Gen. Thomas P., USAF, Deputy Chief of Staff for Research, Development, and Acquisition-----	2648

APRIL 23, 1979

CIVIL DEFENSE

Johnson, David, Chief of the Defensive Forces Branch in the Soviet Strategic Forces Division of the Office of Strategic Research of the Central Intelligence Agency, accompanied by Doug Linton and Linda Varacalli--	2689
Lieberman, Alfred, Chief, Office and Operations Analysis, U.S. Arms Control and Disarmament Agency (ACDA)-----	2708

DEFENSE CIVIL PREPAREDNESS AGENCY

Tirana, Bardyl R., Director Defense Civil Preparedness Agency; Brig. Gen. Richard T. Boverie, Policy Plans and NSC Affairs, International Security Affairs, Department of Defense, accompanied by George W. Jett, Jr., Acting General Counsel, Federal Emergency Management Agency; Clifford M. McLain, Deputy Director, Defense Civil Preparedness Agency; John W. McConnell, Assistant Director for Plans and Operations; Donald A. Thompson, Comptroller-----	2724
--	------

PART 6—RESEARCH AND DEVELOPMENT

MARCH 14, 1979

DEPARTMENT OF DEFENSE, R.D.T. & E. PROGRAM

Perry, Dr. William J., Under Secretary of Defense for Research and Engineering; accompanied by R. A. Moore, Deputy Under Secretary of Defense for Research and Engineering, Tactical Warfare Programs, and Dr. Ruth Davis, Deputy Under Secretary of Defense for Research and Engineering, Research and Advanced Technology-----	2784
--	------

MARCH 15, 1979

TECHNOLOGY BASE—DARPA R.D.T. & E.

Davis, Dr. Ruth, Deputy Under Secretary of Defense, Research and Engineering (Research and Advanced Technology), accompanied by Dr. George P. Millburn and Col. Donald I. Carter-----	2858
Fossum, Dr. R. Robert, Director, Defense Advanced Research Projects Agency, accompanied by David R. Braunstein and Engene Kopf-----	2879

MARCH 21, 1979

ANTISUBMARINE WARFARE PROGRAMS

Mann, Hon. David E., Assistant Secretary of the Navy, Research Engineering and Systems, accompanied by Gerald A. Cann, Deputy Assistant Secretary of the Navy (Systems); Vice Adm. David F. Emerson, USN, Director, Research, Development, Test, and Evaluation, Office of the Chief of Naval Operations; Rear Adm. Jeffrey C. Metzler, Jr., USN, Director, Antisubmarine Warfare Division, Office of the Chief of Naval Operations-----	2904
--	------

MARCH 27, 1979

SPACE SURVEILLANCE AND DEFENSE

Zeiberg, Dr. Seymour L., Deputy Under Secretary of Defense, Research and Engineering (Strategic and Space Systems)-----	Page 3008
Stafford, Lt. Gen. Thomas P., USAF Deputy Chief of Staff for Research, Development, and Acquisition-----	3013
Yost, Maj. Gen. William R., Director of Space Systems and Command and Control Communications-----	3020
Timbie, Dr. James T., Chief, Strategic Affairs Division, Bureau of International Security Programs, U.S. Arms Control and Disarmament Agency-----	3030

MARCH 28, 1979

TANKS, ANTITANKS AND OTHER ARMY PROGRAMS

Pierre, Dr. Percy A., Assistant Secretary of the Army for Research, Development and Acquisition-----	3043
Keith, Lt. Gen. Donald R., Deputy Chief of Staff for Research, Development and Acquisitions, U.S. Army-----	3044
Babers, Maj. Gen. Donald M., Project Manager, XM-1 Tank Program, Department of the Army-----	3057
Covington, Maj. Terrell G., Systems Manager, Armored Combat Vehicle Technology Program, Department of the Army-----	3065
Fitch, Brig. Gen. William H., Deputy Chief of Staff for Research, Development and Studies, U.S. Marine Corps-----	3069

APRIL 3, 1979

FLEET AIR DEFENSE PROGRAMS

Emerson, Vice Adm. David F., Director, Research, Development, Test, and Evaluation, Office of the Chief of Naval Operations, accompanied by Mr. G. A. Cann, Deputy Assistant Secretary of the Navy for Systems; Rear Adm. Wayne E. Meyer, Manager, Aegis Shipbuilding Project, Naval Sea Systems Command; Rear Adm. T. M. Ward, Director, Surface Combat Systems Division, Office of the Chief of Naval Operations; Rear Adm. C. J. Rorie, Deputy Commander, Combat Systems, Naval Sea Systems Command; Capt. A. A. Gallotta, Manager, Rewson (Reconnaissance Electronic Warfare Special Operations and Naval Intelligence) Project, Naval Electronic Systems Command; and Capt. Lowell J. Holloway, Director, Combat Systems Architecture, Naval Sea Systems Command-----	3106
Ward, Rear Adm. T. M., Director, Surface Combat Systems Division, Office of the Chief of Naval Operations-----	3109
Holloway, Capt. L. J., Director, Combat Systems Architecture, Naval Sea, Systems Command-----	3127
Meyer, Rear Adm. W. E., Manager, Aegis Shipbuilding Project, Naval Sea Systems Command-----	3135

APRIL 4, 1979

NATO STANDARDIZATION PROCESS

Perry, Hon. William J., Under Secretary of Defense, Research and Engineering, accompanied by V. Garber, Director of International Programs (Office of Undersecretary of Defense, Research and Engineering); Brig. Gen. C. W. Dyke, USA, Chief, Department of the Army, International Rationalization Office; Vice Adm. D. F. Emerson, USN, Director, Research, Development, Test, and Evaluation, Office of Chief of Naval Operations; Maj. Gen. J. R. Brickel, USAF, Assistant Deputy Chief of Staff, Research, Development and Acquisition; and Lt. Col. C. Richardson, USA, Deputy Chief, NATO Standardization Division, International Security Affairs Office-----	3212
--	------

Brickel, Maj. Gen. James R., USAF, Assistant Deputy Chief of Staff, Research, Development, and Acquisition-----	Page 3253
Emerson, Vice Adm. David F., USN, Director, Research, Development, Test, and Evaluation, Office of Chief of Naval Operations-----	3262

APRIL 5, 1979

STRATEGIC SURVEILLANCE, WARNING AND COMMAND AND CONTROL

Dinneen, Hon. Gerald P., Assistant Secretary of Defense, Communications, Command, Control and Intelligence-----	3286
Shutler, Lt. Gen. P., USMC, Director for Operations, Office of Joint Chiefs of Staff-----	3290
Doubleday, Maj. Gen. V. C., USAF, Deputy Director for Operations (Command Control and Communications), OJCS; accompanied by K. L. Jordan, Jr., Principal Deputy Assistant Secretary of the Air Force, Research and Development; Vice Adm. R. Y. Kaufman, USN, Director of Command and Control-----	3291
Stolarow, Jerome H., Director, Procurement and Systems Acquisition Division, General Accounting Office, accompanied by Felix E. Asby, Assistant Director; Edward M. Morahan, Team Leader, Procurement and Systems Acquisition Division, General Accounting Office-----	3309
Wood, Dr. Lowell, University of California, Lawrence Livermore Laboratory, Livermore, Calif-----	3324

APRIL 10, 1979

THEATER NUCLEAR FORCES

Wade, Hon. James P., Jr., Assistant to the Secretary of Defense for Atomic Energy-----	3406
Slocombe, Hon. Walter, Principal Deputy Assistant Secretary of Defense for Internal Security Affairs, and Director, Department of Defense SALT II Task Force-----	3413
Vesser, Brig. Gen. Dale A., U. S. Army, Deputy Director, Force Development and Strategic Plans, Directorate for Plans and Policy-----	3424
McNutt, Col. Donald L., U.S. Army, Chief, Nuclear Contingency Branch, Strategic Operations Division-----	3430
Mansfield, John E., Chief, Nuclear Energy and Applied Sciences Division, Directorate for Scientific and Technical Intelligence, Defense Intelligence Agency-----	3432

APRIL 11, 1979

M-X MISSILE PROGRAM

Perry, Hon. William J., Under Secretary of Defense for Research and Engineering-----	3476
Hepfer, Maj. Gen., M-X Program Manager, U.S. Air Force-----	3477
Welch, Maj. Gen. Jasper, Assistant Chief of Staff, Studies, and Analyses, U.S. Air Force-----	3518
Allen, Gen. Lew, Jr., Chief of Staff, U.S. Air Force-----	3550

1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

Year 1917

1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

Year 1918

1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

Year 1919

1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
1972
1973
1974
1975
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025

PREPARED STATEMENTS AND REPORTS RETAINED IN COMMITTEE FILES

The following prepared statements and reports were submitted for the hearing record but were not printed as part of the fiscal year 1980 Authorization hearings. They are retained in the committee files.

- Brown, Hon. Harold, Secretary of Defense, submitted the Department of Defense—Annual Report, fiscal year 1980, for the record of January 25, 1979.
- Jones, Gen. David C., USAF, chairman, Joint Chiefs of Staff, submitted the Military Posture of the United States, fiscal year 1980, for the record of January 25, 1979.
- Duncan, Charles W., Jr., Deputy Secretary of Defense, prepared statement, submitted for the record of January 30, 1979.
- Alexander, Clifford L., Jr., Secretary of the Army, January 30, 1979; and Rogers, Gen. Bernard W., Chief of Staff, U.S. Army, February 8, 1979: Joint prepared statement submitted for the record.
- Claytor, W. Graham, Jr., Secretary of the Navy, prepared statement, submitted for the record of January 30, 1979.
- Stetson, John C., Secretary of the Air Force, prepared statement, submitted for the record of January 30, 1979.
- Report to the President—Department of Defense Programs to Prevent and Detect Fraud and Waste in Government Operations; submitted for the record of January 30, 1979.
- Byrd, Harry F., Jr., question submitted for the record of January 30, 1979; separation charts.
- Allen, Gen. Lew, Jr., Chief of Staff, U.S. Air Force, prepared statement, submitted for the record of February 2, 1979.
- Hayward, Adm. Thomas B., Chief of Naval Operations, prepared statement, submitted for the record of February 6, 1979.
- Wilson, Gen. Louis H., Commandant of the Marine Corps, prepared statement, submitted for the record of February 6, 1979.
- Pirie, Robert B., Acting Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics), prepared statement, submitted for the record of March 7, 1979.
- Brown, Hon. Harold, Secretary of Defense, submitted the NATO Report—Rationalization/Standardization Within NATO—Fifth Report, January 1979; A Report to the U.S. Congress, for the record of March 7, 1979.
- Yerks, Lt. Gen. Robert G., Deputy Chief of Staff for Personnel, U.S. Army, prepared statement, submitted for the record of March 27, 1979.
- Mitchell, Willard B., Principal Deputy Assistant Secretary, Manpower Resources and Reserve Affairs, prepared statement, submitted for the record of April 4, 1979.
- Nelson, Robert L., Assistant Secretary of the Army (Manpower and Reserve Affairs), prepared statement, submitted for the record of April 4, 1979.
- Perry, Hon. William J., Under Secretary of Defense, Research and Engineering, prepared statement, submitted for the record of March 14, 1979.
- Davis, Dr. Ruth M., Deputy Under Secretary of Defense for Research and Advanced Technology, prepared statement, submitted for the record of March 15, 1979.
- Fossum, Dr. Robert R., Director, Defense Advanced Research Projects Agency, prepared statement, submitted for the record of March 15, 1979.
- Pierre, Dr. Percy A., Assistant Secretary of the Army (Research, Development, and Acquisition), March 28, 1979; and
- Keith, Lt. Gen. Ronald R., Deputy Chief of Staff for Research, Development and Acquisition, March 28, 1979: Joint prepared statement submitted for the record.
- Land Force Tactical Doctrine, ATP-35, Report, NATO Standardization Process, April 1978, submitted for the record of April 4, 1979.

WITNESS LIST

A

Ahmann, Maj. Gen. James H., Director of Plans, Deputy Chief of Staff, Operations, Plans, and Readiness-----	Page 1085
Alexander, Hon. Clifford L., Jr., Secretary of the Army-----	124
Allen, Gen. Lew, Jr., Chief of Staff, U.S. Air Force-----	415, 3550
Andrew, Gary L., DIA-Western Europe Division (DB-3)-----	838
Arentzen, Vice Adm. Willard, Medical Corps, the Surgeon General, U.S. Navy-----	1618
Armocost, Michael H., Deputy Assistant Secretary of Defense-----	1454
Arnold, Capt. J. E., USN, Congressional and Policy Coordination Branch, OCNO-----	482
Asby, Felix E., Assistant Director, Procurement and Systems Acquisition Division, General Accounting Office-----	3309

B

Babers, Maj. Gen. Donald M., project manager, XM-1 tank system, U.S. Army Materiel Development and Readiness Command-----	2611, 3057
Baldwin, Vice Adm. Robert B., U.S. Navy, Deputy Chief of Naval Operations for Manpower, Personnel, and Training, and Chief of Naval Personnel-----	1853, 1901
Bell, Rear Adm. C. R., Director, Naval Communications Division, Office of the Chief of Naval Personnel-----	2642
Belli, Col. Robert E., Directorate of Programs, DCS/Programs and Evaluation-----	1073
Blaz, Brig. Gen. Vincente T., Deputy Chief of Staff for Reserve Affairs, USMC-----	509
Bolte, Brig. Gen. Phillip L., project manager, Infantry Fighting Vehicle System, U.S. Army Materiel Development and Readiness Command-----	2618
Boverie, Brig. Gen. Richard T., Policy Plans and NSC Affairs, International Security Affairs, Department of Defense-----	2724
Brickel, Maj. Gen. J. R., USAF, Assistant Deputy Chief of Staff, Research, Development and Acquisition-----	3212, 3253
Brinker, Lt. Col. Michael P., USAF, Deputy Director, Force Planning and Programing Division, Plans and Policy Directorate, Office of the Joint Chiefs of Staff-----	836, 853
Brinkerhoff, John, Special Assistant to the Deputy Assistant Secretary of Defense for Reserve Affairs-----	2189
Brown, Hon. Harold, Secretary of Defense-----	9
Browne, Brig. Gen. Edward M., Manager for Advanced Attack Helicopter, U.S. Army Materiel Development and Readiness Command-----	909
Bryan, Vice Adm. C. R., USN, commander, Naval Sea Systems Command-----	1252
Burke, Maj. Gen. Kelly-----	2475

C

Cann, Gerald A., Deputy Assistant Secretary of the Navy (systems) --	2904, 3106
Carl, Capt. Fred D., U.S. Naval Reserve (retired), president, Naval Reserve Association-----	2133 2858
Carter, Col. Donald I.-----	
Chase, Hon. Harold W., Deputy Assistant Secretary of Defense (Reserve Affairs)-----	2232

Chavarrie, Maj. Gen. Edgar A., Director of Plans and Policy for the Euro- pean Command-----	Page 2082, 2096
Claytor, Hon. W. Graham, Jr., Secretary of the Navy-----	125, 1340
Cleland, Maj. Gen. John R. D., Vice Director for Plans and Policy, Joint Chiefs of Staff-----	2082
Cleveland, Maj. Gen. Charles G., Vice Commander, Air Training Command, Department of the Air Force-----	1787
Covington, Maj. Terrell G., Systems Manager, Armored Combat Vehicle Technology Program, Department of the Army-----	3065

D

Danzig, Richard, Acting Principal Deputy Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics-----	2189, 2229
Davis, Lt. Gen. Bennie L., U.S. Air Force, Deputy Chief of Staff for Man- power and Personnel-----	1863, 1910
Davis, Dr. Ruth, Deputy Under Secretary of Defense for Research and Engineering, Research and Advanced Technology-----	2784, 2858
Dennis, Comdr. E. J., USN, head, Congressional Coordination Section, OCNO-----	482
Dinneen, Hon. Gerald P., Assistant Secretary of Defense, Communications, Command, Control and Intelligence-----	3286, 3288
Doubleday, Maj. Gen. V. C., USAF, Deputy Director for Operations (Command Control and Communications), OJCS-----	3291
Doyle, Vice Adm. J. H., Jr., USN, Deputy Chief of Naval Operations (Sur- face Warfare)-----	1252
Dramesi, Col. John A., USAF, Tactical Forces Division Chief, Office of Director of Plans-----	836
Duncan, Hon. Charles W., Jr., Deputy Secretary of Defense-----	118
Dyke Gen. C. W., USA, chief, Department of the Army, International Rationalization Office-----	3212, 3247

E

Ellis, Gen. Richard H., Commander-in-Chief, Strategic Air Command---	298, 316
Emerson, Vice Adm. David F., USN, Director, Research, Development Test and Evaluation Office of the Chief of Naval Operations.--	2904, 3106, 3212, 3262

F

Faith, Maj. Gen. J. C., USA, Director of Operations and Readiness-----	2189
Fitch, Brig. Gen. William H., Deputy Chief of Staff for Research, Develop- ment and Studies, U.S. Marine Corps-----	3069
Fossum, Dr. R. Robert, Director, Defense Advanced Research Projects Agency-----	2879
Frudden, Rear Adm. Mark, Deputy Director for Force Development and Strategic Plans, Office of the Joint Chiefs of Staff-----	1536

G

Gallotta, Capt. A. A., manager, Rewson (Reconnaissance Electronic War- fare Special Operations and Naval Intelligence) Project, Naval Elec- tronics Systems Command-----	3106
Garber, V., Director of International Programs (Office of Under Secre- tary of Defense, Research and Engineering)-----	3212
Goldwater, Barry, a U.S. Senator from the State of Arizona (flight simulators)-----	2375
Gonsauls, Normand M., NCO Association of USA (NCOA)-----	2163
Graham, Brig. Gen. Irwin P., Deputy Director, Politico-Military Affairs Di- vision, Plans and Policy Directorate, Office of the Joint Chiefs of Staff--	836
Greenberg, I. M., Deputy Assistant Secretary of Defense for Program Management-----	1711
Greenleaf, Lt. Gen. Abbott, Deputy Chief of Staff, Programs and Evalua- tion, U.S. Air Force-----	1536
Greenleaf, Maj. Gen. Francis S. (retired), Executive Vice President, National Guard Association of the United States-----	2176, 2322

Griffiths, Vice Adm. Charles H., USN, Deputy Chief of Naval Operations for Submarine Warfare-----	Page 298, 322, 2498
Grover, Capt. Royal E., Acting Chief, Office of Reserves, U.S. Coast Guard-----	2244
Grunawalt, Capt. Richard J., JAGC, USN Special Counsel to the CNO, OCNO -----	482
Guice, Gen. John T., Director, Air National Guard-----	415, 457

H

Haig, Gen. Alexander, U.S. Army, Commander in Chief, U.S. European Command -----	777, 1500
Hally, Col. Thomas, Chief, Air Force Branch, Soviet/Warsaw Pact Division, Defense Intelligence Agency-----	838
Harvey, Thomas E., Deputy Assistant Secretary of the Army (Research, Development, and Acquisition)-----	2595
Hayward, Adm. Thomas B., USN, Chief of Naval Operations-----	482, 1252
Hepfer, Maj. Gen., M-X Program Manager, U.S. Air Force-----	3477
Holloway, Capt. Lowell J., Director, Combat Systems Architecture, Naval Sea Systems Command-----	3106, 3127

J

Jett, George W., Jr., Acting General Counsel, Federal Emergency Management Agency-----	2724
Johnson, David, Chief of the Defensive Forces Branch in the Soviet Strategic Forces Division of the Office of Strategic Research of the Central Intelligence Agency-----	2689
Johnson, Richard W., Jr., Coordinator of Veterans Affairs, NCO Association of the USA (NCOA)-----	2163
Jones, Gen. David C., U.S.A.F., Chairman of the Joint Chiefs of Staff-----	29
Jordan, K. L., Jr., Principal Deputy Assistant Secretary of the Air Force, Research, and Development-----	3291

K

Kaufman, Vice Adm. R. Y., USN, Director of Command and Control-----	3291
Keith, Lt. Gen. Donald R., Deputy Chief of Staff for Research, Development, and Acquisition, U.S. Army-----	880, 1377, 2528, 2605, 3044
Kelley, Maj. Gen. P. X., Deputy Chief of Staff for Requirements Programs, U.S. Marine Corps-----	1536
Koehler, Maj. Gen. John J., Commanding General, Army Air Defense Center, Fort Bliss, Tex-----	1384, 2528
Kuci, Brig. Gen. R. A., U.S. Marine Corps, Director of Training-----	1783

L

Lang, George, USNR, master chief hull maintenance technician-----	2153
Lieberman, Alfred, Chief, Office and Operations Analysis, U.S. Arms Control and Disarmament Agency (ACDA)-----	2708
Loving, Lt. Gen. George G., commander, U.S. Forces, Japan-----	730
Lucci, Capt. P. R., National Vice President for Surface/Subsurface Naval Reserve Association-----	2133
Lyon, Maj. Gen. William, Chief of Air Force Reserve, Headquarters USAF-----	415, 453

M

Mann, Hon. David E., Assistant Secretary of the Navy, Research, Engineering, and Systems-----	2311, 2904
Mansfield, John E., Chief, Nuclear Energy and Applied Sciences Division, Directorate for Scientific and Technical Intelligence, Defense Intelligence Agency-----	3432
Martin, Hon. John J., Assistant Secretary of the Air Force (Research, Development and Logistics)-----	2315, 2646
Mason, Dolores D., Special Research Section, Soviet/Warsaw Pact Air Forces Branch-----	838

Maxson, Maj. Gen. W. B., USAF, Director, Development and Programing, Deputy Chief of Staff, Research Development and Acquisition.....	1102, 1206
McConnell, John W., Assistant Director for Plans and Operations, DCPA.....	2724
McKinney, C. A., Director of Government Affairs, National Capital Office, Noncommissioned Officers Association of the United States.....	2163
McLain, Clifford M., Deputy Director, Defense Civil Preparedness Agency.....	2724
McLennan, Lt. Gen. Kenneth, U.S. Marine Corps, Deputy Chief of Staff for Manpower, Headquarters, U.S. Marine Corps.....	1850, 1895
McNair, Brig. Gen. Carl H., Deputy Director of Requirements and Army Aviation Officer, Office of the Chief of Staff of Operations.....	880
McNutt, Col. Donald L., U.S. Army, Chief, Nuclear Contingency Branch, Strategic Operations Division.....	3430
Metzel, Rear Adm. Jeffrey C., Jr., USN, Director, Antisubmarine Warfare Division, Office of the Chief of Naval Operations.....	2904
Meyer, Lt. Gen. E. C., Deputy Chief of Staff for Operations and Plans, U.S. Army.....	1536, 2082
Meyer, Maj. Gen. Stewart C., USA, Ballistic Missile Defense Program Manager.....	298, 309
Meyer, Rear Adm. Wayne E., Manager, Aegis Shipbuilding Project, Naval Sea Systems Command.....	3106, 3135
Millburn, Dr. George P.....	2858
Miller, Lt. Gen. Thomas H., U.S. Marine Corps, Deputy Chief of Staff for Aviation.....	991
Mitchell, William H., Principal Deputy Assistant Secretary of the Air Force for Manpower Resources and Reserve Affairs.....	1990
Mohr, Maj. Gen. Henry, Chief, Army Reserve, Department of the Army.....	614
Moore, R. A., Deputy Under Secretary of Defense for Research and Engineering, Tactical Warfare Programs.....	2784
Morahan, Edward M., team leader, Procurement and Systems Acquisition Division, General Accounting Office.....	3309
Myers, Lt. Gen. Paul W., Surgeon General, U.S. Air Force.....	1625

N

Nelson, Hon. Robert L., Assistant Secretary of the Army for Manpower and Reserve Affairs.....	1990
Newell, Captain, Naval Communications Division, Office of the Chief of Naval Personnel.....	2642
Norrington, Comdr. Giles R., U.S. Navy, Aviation Training Program Coordinator for Planning and Programing, Deputy Chief of Naval Operations (Air Warfare) (Flight simulators).....	2402

P

Palmer, Rear Adm. Frederick F., USN, Chief of Naval Reserve.....	496
Pell, Hon. Claiborne, a U.S. Senator from the State of Rhode Island.....	2042
Perry, Hon. William J., Under Secretary of Defense for Research and Engineering.....	298, 1198, 1321, 1377, 1402, 2276, 2784, 3212, 3476
Peterson, Vice Admiral, Commander, Naval Air Systems Command.....	948
Pierre, Hon. Percy A., Assistant Secretary of the Army (Research, Development and Acquisition).....	880, 1881, 2307, 2595, 3043
Pirie, Robert B., Acting Assistant Secretary of Defense for Manpower Reserve Affairs and Logistics.....	1536, 1990, 2082
Pixley, Lt. Gen. Charles C., MC, the Surgeon General, Department of the Army.....	1604

R

Ramage, Lt. Col. Gary E., ODCSOPS, HQDA (Army).....	836
Richardson, Lt. Col. C., USA, Deputy Chief, NATO Standardization Division, International Security Affairs Office.....	3212
Roberts, Maj. Gen. J. Milnor, AUS (retired), Executive Director, Reserve Officers Association of the United States.....	2118, 2351
Robinson, Capt. John, Soviet/East Europe Division, Directorate of Estimates.....	838
Rogers, Gen. Bernard W., Chief of Staff, U.S. Army.....	603
Rorie, Rear Adm. C. J., Deputy Commander, Combat Systems, Naval Sea Systems Command.....	3106

Rostker, Dr. Bernard D., Principal Deputy Assistant Secretary of the Navy for Manpower and Reserve Affairs-----	Page 1990, 2013
--	--------------------

S

Schwenk, Lt. Gen. Adolph, Deputy Chief of Staff, Plans and Policies, Headquarters, Marine Corps-----	732
Sheahan, Col. Robert R., USMC, Head, Joint Matters and Doctrine Branch, Headquarters, USMC-----	836
Shinol, Lt. Col. Henry E., USAF, OJCS, SAGA-----	836
Shutler, Lt. Gen. P., USMC, Director for Operations, Office of Joint Chiefs of Staff-----	3290
Slocombe, Hon. Walter, Principal Deputy Assistant Secretary of Defense for Internal Security Affairs, and Director, Department of Defense SALT II Task Force-----	1402, 3414
Smith, Maj. Gen. James C., Director of Training Office, Deputy Chief of Staff for Operations and Plans, Department of the Army-----	1767
Smith, Rear Adm. Phil, National Executive Vice President, U.S. Naval Reserve-----	2133
Speer, Rear Adm. Paul H., U.S. Navy, Director, Aviation Plans and Re- quirements Division, Deputy Chief of Naval Operations for Air Warfare-----	1211
Stafford, Lt. Gen. Thomas P., USAF, Deputy Chief of Staff for Research, Development, and Acquisition-----	1058, 2466, 2648, 2655, 3013
Stancil, Maj. Charles M., Aviation Systems Division, Directorate of Weap- ons Systems Office, Department of the Army (Flight simulators)-----	2383
Stetson, Hon. John C., Secretary of the Air Force-----	127
Stolarow, Jerome H., Director, Procurement and Systems Acquisition Divi- sion, General Accounting Office-----	3309

T

Terry, Cmdr. Bert D., USN, ROP OP-05, Office of the CNO-----	836
Thomas, Master Chief John, Legislative Chairman, Naval Enlisted Reserve Association-----	2153
Thompson, Donald A., Comptroller, DCPA-----	2724
Timbie, Dr. James T., Chief, Strategic Affairs Division, Bureau of Inter- national Security Programs, U.S. Arms Control and Disarmament Agency-----	3030
Tirana, Bardyl R., Director Defense Civil Preparedness Agency-----	2724
Tower, John, a U.S. Senator from the State of Texas (flight simulators)---	2376
Train, Adm. Harry D., II, U.S. Navy, Commander in Chief, Atlantic-----	781
Turner, Vice Adm. F. C., U.S. Navy, Deputy Chief of Naval Operations (Air Warfare)-----	948

U

Umstead, Maj. Gen. Stanley M., Jr., Deputy for Military Personnel Policy--	2082
Uthe, Lt. Col. Warren A., USAF, Chief, Special Research Section, Soviet/ Warsaw Pact Air Forces Branch-----	838

V

Vaughn, Raymond A., USNR, Senior Chief Hull Maintenance Technician, National President, Naval Enlisted Reserve Association-----	2153
Vesser, Brig. Gen. Dale A., U.S. Army, Deputy Director, Force Develop- ment and Strategic Plans, Directorate for Plans and Policy-----	3424
Vessey, Gen. John W., Jr., U.S. Army, Commander in Chief, United Nations Command-----	726, 1454

W

Wade, Hon. James P., Jr., Assistant to the Secretary of Defense for Atomic Energy-----	3406, 3443
Wagner, Brig. Gen. Louis C., Jr., Director of Combat Support Systems, Office of the Deputy Chief of Staff for Research, Development, and Acquisition-----	2595
Waible, Col. Leo C., Chief, Missiles and Air Defense Systems Division----	2528
Walker, Maj. Gen. Emmett H., Jr., Director, Army National Guard, Department of the Army-----	611

Ward, Rear Adm. Thomas M., Jr., U.S. Navy, Director, Surface Combat Systems Division, Office of the Chief of Naval Operations-----	2567, 3106, 3109
Webb, Maj. Gen. William L., Jr.-----	2082
Weisner, Adm. Maurice F., USN, Commander in Chief, Pacific-----	706
Welch, Maj. Gen. Jasper, Assistant Chief of Staff, Studies, and Analyses, U.S. Air Force-----	3518
Wertheim, Rear Adm. Robert H., USN, Director, Strategic Systems Project, Naval Materiel Command-----	2500
Williams, Rear Adm. J. G., Director, General Planning and Programing Division, Office of Program Planning, U.S. Navy-----	1536
Wilson, Gen. Louis H., Commandant, U.S. Marine Corps-----	489
Winnefeld, Rear Adm. J. A., Director, Total Force Programing Division, Deputy Chief of Naval Operations (MPT)-----	1777
Wood, Dr. Lowell, University of California, Lawrence Livermore Laboratory, Livermore, Calif-----	3324, 3326
Wray, Col. Donald P., Chief, Aviation Systems Division, Office of the Deputy Chief of Staff for Research, Development, and Acquisition-----	897

Y

Yeany, John, Chief, Defensive Missile Section, Soviet/Warsaw Pact Missiles Force Branch-----	838
Yerks, Lt. Gen. Robert G., U.S. Army, Deputy Chief of Staff for Personnel-----	1859
Yost, Maj. Gen. William R., Director of Space Systems and Command and Control Communications-----	3020
Yowell, Rear Adm. Grover M., Project Manager, Navy Space Project Office, Naval Electronics System Command-----	2642

Z

Zeiberg, Dr. Seymour L., Deputy Under Secretary of Defense, Research and Engineering (Strategic and Space Systems)-----	298, 1402, 3008
---	-----------------

I N D E X

A

	Page
A-6 force level, reduction of.....	551
A-6 TRAM.....	1054
A-6E.....	588, 1020, 1021
A-6E intruder.....	973
A-7E Corsair II.....	977
A-7K aircraft.....	2324
Status.....	1152
A-10.....	1105
Contractor cost control system.....	1147, 1179
Flying time.....	2455
Night attack.....	1191
Simulator.....	2444
Weapon system trainer.....	2443
A-10 and F-16.....	2319
AV-8A.....	1051
AV-8A and AV-8B, commonality of.....	581
AV-8B.....	85, 93, 94, 98, 232, 269, 566, 569, 581, 1028, 1042
Affordability.....	554
Continuation of development.....	581
Decision.....	53
Deferral of fiscal year 1979 funding.....	545
1980, no funds at present for.....	76
Funds.....	152, 541, 545
Funds selection, impact of.....	863
Funding versus Iranian DD 993 funding.....	1018
Harrier.....	286
Improvement over the AV-8A.....	553
Marine Corps aircraft.....	280
Operating experience.....	553
Priority.....	545, 576
Program.....	52, 518, 581
Program increase.....	1027
Program termination.....	576
R. & D. program.....	541
Release of fiscal year 1979 R. & D. funds.....	545
Replacement for Navy medium attack aircraft.....	1013
Safety record.....	553
Versus F/A-18.....	577
Comparative costs of.....	576
Versus F-18.....	185, 535
V/STOL program.....	542
A-10:	
Capability.....	471
Retrofit of.....	293
A-10 and F-15 aircraft crashes.....	292
AAH:	
Army need for.....	909
Fiscal year 1980 budget request.....	914
Program schedule.....	911
Team.....	920
ABM treaty.....	380, 406
Limited deployment.....	409
Stability of.....	391

	Page
AH-1S	930, 2325
Cobra	901
AIM-7 WRM requirements and inventory	1134
AIM-7F	1108
AIM-9L	1109
AIM-9 WRM requirements and inventory	1135
ALCM	333
Program	392
Range	2346
AMRAAM	1110, 1158
Limitations against guided missiles	1186
Missile	1027
AMMX air launch sequence	3492
AMMX and other strategic aircraft	3520
AMST source selection	89
AMST/M-X takeoff gross weight	3582
APRAPS	568
APRAPS/PHM	568
APRAPS/Surface effect ship	568
ARAPAHO	559, 573, 588
ARCSA :	
Force structure	890
Philosophy	890
ASALM	402, 2853
ASARC activities	1382
ATLIS	1153
ATLIS II	1399, 3257, 3261
Costs of	1190
ATLIS II for F-16	1193
AWACS	441
Readiness	1175
Security for	1145
Spares support problems	1177
AWOL/deserters, number of	288, 539
Personnel	188
Policy	288
Rates	1916
Absenteeism	270
Abortions	1623
Policies in military medical facilities	1669
Acceleration of procurement rates	268
Accessions by mental category, non prior service	1923
Accident rates, comparison of	579
Accident rate as a criteria in procurement	581
Acoustic detection systems	2911
Acquisition policy	121
Active duty personnel, filling new technician add-ons with	476
Active force	1895
And the All-Volunteer Force	1994
Mission transfers	2258
Administration proposals, shortcomings	2204
Advanced Harrier program	67
Advanced Scout helicopter (ASH)	665
Fiscal year 1979 budget	899, 901
Program	887
Advanced signal processor	2958
Advanced technology program (ATP)	310
Integrated technology program	311
The advanced technology program elements	311
Aegis	3201, 3206
1980's	3113
Combat system	3202
Shipbuilding project	3147
Tracking	3145
Weapon system Mark 7	3137, 3139

	Page
Afghanistan as problem area	724
Africa, importance of	754
Air base defense, status of	1096
Defensive counterair	1097
Loading	1095
Air composite squadrons (VC)	2137, 2144
Air control	585
Air defense	3072
Artillery	2567
Assets (total)	2556
Capabilities	2527, 2585
Procurement	2359
Air defense and command aircraft allocations	863
Air defense of North American continent	439
Air defense system, airborne intercept	337
Surface-to-air missile	338
Air Force:	
Accomplishments	457
Readiness	458
Budget, U.S.	2649
Concept of a "Hybrid" trench	1440
Electronic warfare preparation	1595
Flying hour program	1589
Interest in VSTOL technology	873
Manpower	458
Military personnel—drill strength	458
Recruiting and retention	1910
Requirements	458
Technical personnel	459
Military full-time training and administration (MFTTA) test	1641
Medical facilities, upgrading and replacement of	1637
Medical mobilization capability	456
Mission support units	1625
Physicians, shortage of	290
Position—basing modes	457
Posture	457
Force structure	457
Mission training	1955
Programs	1630
Projections on physician shortages	2524
Recommended air mobile system	2125, 2352
Reserve	456
Force structure, flying units	456
Personnel strengths	477
Recruiting	477
Technicians to military, converting	454
Role in weather reconnaissance	2424
Simulator program	874
Support for AV-8B	1057
Tactical air programs	2523
Air Force/Navy drop ASRAAM	475
Air Guard A-7K's	3116
Air-launched ASM's, threat from	2490
Air-launched cruise missile (ALCM)	401
Air-launched M-X	
Air mobile:	
Advantages	2524
Ballistic missile defense	3582
Basing	475
Basing concept	3489
Environmental problems	3583
Funding fiscal years 1979, 1980	92
ICBM	436

	Page
Air mobile—Continued	
MAP concept	347
Missiles	3494
M-X	3487
M-X verification precedents	3542
Options, origin of	92
Simulation	3580
Study	348
Survival	3581
Air National Guard	450
Increase in, needed	427
Overview	457
Air Reserve aircraft	475
Air Reserve technician	453
Air support for ground battle	767
Air support, offensive	1099
Air threat to Central Europe	2533
Air-to-air missiles	1024
Air-to-ground programs	1041
Air-to-ground standoff weapons	1053
Air-to-surface antiship missile platforms	3117
Airborne and spaceborne communications	390
Aircraft:	
Age accounting, affect of SLEP on	1019
Carrier	84, 93
Vulnerability	522
Engines	1197
Improvement	1200, 2875
Flying hours	289
And ship steaming hours	282
In-service, modification	2317
Inventory	882
Total force	1073, 1074
Maintenance personnel	2072
Material readiness, total force	960, 966
Needs for full strength tactical fighter force	1570
Operational rates for 1980	1590
Procurement versus support	965
Readiness	49
Sea-based, alternatives	1019
Status	1086
Equipment and supplies	1087
Storage of	1011
Support equipment and facilities	955
Threat against NATO	861, 865
Aircraft and helicopters	658
Comparison of, totals	861
Aircraft and missile procurement	1019, 1063
Airfield attack system, low altitude	1113
Airfields as military targets	2112
Airlift	1506
Modifications	2319
All-Volunteer Force	44, 50, 417, 1707, 1863, 1867, 2164
Concept	1501
Obligation to one's country	1501
Retaining trained people a problem	1502
Cost of	1857, 1868
Department of Defense report on the	1635, 1829
Quality of force	1870
Recruiting, under the	630, 1891
Retention under the	1892
Service rewards, under	1958
Success of	164
Allied assistance	764
Allied cooperation, problems of	3274

	Page
Allied response.....	105
Allies, role of.....	825
Alterations in deterrence philosophy.....	101
Alternatives to the Volunteer Force.....	631
American military power in Pacific.....	737
Ammunition.....	660
Interoperability.....	3244, 3251
Amphibious capability, creating sufficient.....	549
Amphibious lift.....	592
Package.....	574
Requirements.....	592
Amphibious ship (LSD-41).....	89, 284
Replacement.....	592
Antimissile threat.....	530
Antiradiation weapon (ARM).....	1153
Antisatellite systems, R. & D. efforts.....	2688
Antiship capabilities of Soviet Pacific Fleet.....	763
Antisubmarine warfare (ASW).....	569
Air program.....	2943, 2950
Barriers.....	2920
Budget development.....	2967
Combat system integration.....	2908
Force levels.....	2946
Lightweight torpedos.....	2922
Mine programs.....	2944
Mines.....	2923
Portion of fiscal year 1980 request.....	2940
Operational strategy.....	2919
Programs.....	2903
Sensor developments.....	2914
Torpedo threat.....	2915
United States versus Soviet.....	2969
Weapons—Lightweight torpedoes.....	2908
Antitank:	
Aircraft.....	3101
Missiles.....	3093, 3094
Areas of concern.....	483
Armed Forces:	
Deploying the forces.....	605, 610
Equipping the force.....	604, 608
Goal of.....	603
Manning the force.....	604, 608
Manpower deficiency.....	606
Mobilizing the force.....	605, 609
Recalling veterans to serve in.....	2202
Sustaining the force.....	610
Training the force.....	604, 609
Armed services personnel problems.....	748
Arming B-52's with cruise missiles.....	109
Arms control compatibility.....	2487, 3547
Arms control measures, sound.....	811
Arms control group, formation of.....	3460
Arms sales overseas.....	102, 111
Arms to third countries, selling.....	3224
Army:	
Acquisition plans.....	269
Aircraft procurement.....	898
Air defense.....	2576
Air defense procurement.....	2557
Aviation combat aircraft.....	879
Aviation R.D.T. & E.....	897
Aviation readiness.....	891
Aviator training rates.....	895
Deserters and the FBI.....	687
Fixed-wing utility aircraft.....	2323

Army—Continued	Page
Installation and activity realignments by State.....	229
Medical capability to support mobilization.....	1636
Medical programs.....	1614
Metal matrix funds.....	2877
National Guard, posture of.....	613
Training is one of top priorities.....	613
Personnel resources is greatest problem.....	617
Physician needs toward mobilization.....	1605
Physician shortage.....	1604
Plans for installation realignment studies.....	227
Procurement programs.....	106
Procurement program, U.S., 1980-84.....	2593
Procurements, efficient rates on.....	268
Programs.....	601
Recruiting and retention.....	1859
Reenlistment rate.....	154
Reserve.....	2122
Equipment shortages.....	643
MILCON.....	697
Standards today.....	654
Strength.....	1859
Synthetic flight training systems.....	2333
Tactical aircraft inventory and location.....	882
Army Guard/Reserve, increased strengths.....	2189, 2190
Army/Marine Corps efforts.....	3075
Asia, withdrawing from.....	759
Asian exercises with Pacific forces.....	758
Asian forces, application of.....	865
Assault helicopter force.....	734
Assessment of contract performance by minority business firms.....	226
Assessments of SAC's capability.....	318
Atlantic council study.....	825
Attack fighter aircraft.....	1065
Attack helicopters.....	2322
Posture.....	885
Attack submarine construction.....	1303
Attrition at service academies.....	1810
Attrition initiatives.....	241
Avoiding cost overruns on new ships.....	147
Aviation modernization program.....	491

B

B-1 bomber.....	106, 109
B-1 R. & D. total costs.....	357
B-52.....	2843
Cruise related programs.....	2838
Estimated cost.....	2457
Force.....	332
Reengining.....	476
Survival chances.....	438
WST.....	2455
WST's on contract.....	2458
B-52's, replacement for.....	109
Reengine.....	391
B-52G modification.....	2846
Backfire bomber.....	109, 403, 546
As missile carrier.....	589
Association with air-launched cruise missile.....	852
Capabilities.....	851
Effects of understandings.....	3452
Interdiction of route.....	766
Production rate.....	877
Use in NATO.....	876

	Page
Balance in chemical capability-----	800
Ballistic missile:	
Defense-----	666
Defense contribution-----	409
Defense research and development program-----	309
Force-----	2918
Threat-----	2917
Base realignments-----	133, 151, 227
Basing modes, final decision-----	290
Basing modes for M-X-----	290
Basing selection versus full scale development-----	392
Basing systems—SALT II-----	291
Battle group AAW coordination-----	3154
Battlefield surveillance/target acquisition systems-----	3251
Benefits, erosion of-----	1970
Binary munitions-----	98, 640
Black Hawk (UH-60)-----	943
Blue collar wage reform-----	2002
Bomber development-----	372
Bomber force-----	319
Bombers, intermediate and long range-----	864
Bonus programs-----	664
Budget increase for nuclear weapon security-----	1591
Budget Impoundment Act of 1974-----	68
Budget priorities and management issues-----	116
Budget requests-----	512
Budget request, fiscal year 1980-----	2315
Budget requirements for fiscal year 1980-----	392

C

C-5 "alter current wing" modification-----	2365
Cockpit procedures trainer-----	2447
Service life-----	2364
C-5/C-141 associate program-----	1572
C-130 simulators-----	2442
C-130's, condition of-----	449
C-130A, cost of maintenance-----	2335
C-130H-----	2324, 2325
C-141 cockpit procedures trainer-----	2448
C ⁶ I, effects on-----	390
CIWS improvements (Block I)-----	3187
COLA for bachelors-----	662
CRAF modification cost-effective-----	2366
CV battle group, strike-----	3114, 3127
CV and CVV protection features-----	1289
CV versus CVV-----	55, 94, 168
CVV carrier-----	503
Escorts for-----	1310
CVV in President's budget-----	184
CVW capabilities in ASW-----	557
CG/SM-2:	
Funding-----	3169
System-----	3168
Ch-53E Super Stallion training system-----	2412
Capabilities, 1984-----	403
Capabilities to deal with contingencies-----	758
Captor mine-----	2341, 2368
Captor mine, MK-60-----	2965
Career reenlistment rates-----	237
Career force management-----	1914
Carrier(s):	
Air wing, 12-----	521
Employment-----	560
Flexibility-----	1312

Carrier(s)—Continued	Page
Life-cycle costs	581
Light (VSS)	1313
Programs	1014
Question	89
Recommended	1288
Vulnerability of, to Soviet attack	545
Catlow/Russo	1956
CHAMPUS	1690
CHAMPUS, improvements in	1651
Changes in projections, January 1978 to January 1979	91
Chaparral	2548, 2590
Chaparral funding	2563
Chemical attack	3471
Chemical defense	671
Chemical warfare	96, 113, 644, 646, 675, 2893, 3096
Capabilities between NATO and Warsaw Pact	1510
Defense aircrew protective clothing	3255
Training	675, 1839
Training, USMC	97
Chemical weapons, banning	638
Defense against	635
Negotiations	98
China ICBM	388
China, military capacity of	750
China-U.S.S.R. missile capabilities	385
China's nuclear weaponry, status of	357
Chinese military capabilities	669
Civil defense:	
Attack preparedness timetables	2774
Authorization request, fiscal year 1980	2723
Community assistance	2779
Current administration	111
Disaster response	2774
Distribution of urban population	2709
Distribution of rural population	2710
Exercises	2765
Fatalities from attack on counterforce	2712
Financial assistance to States	2774
Government obligations	2775
In a nuclear war	2708
Peacetime radiological planning	2777
Relocation planning	2753
State and local acceptance	2766
Research coordination	2773
Shelter survey	2778
Soviet	2689, 2772
Staff funding allocation	2778
State and local versus national priorities	2766
Statutory limits	2776
Strategic policy implications	2745
Civil Reserve Air Fleet	421
Civilian(s):	
Attrition	2061
Contract employment	1922
Employment restrictions on NARF's	594
End strength, fiscal year 1980	2030
Health and medical program of the uniformed services	1622
In mobilization	2076
Manpower	119, 1908, 2055
Manpower, fiscal year 1980 authorization request	2072
Marksmanship	278, 696
Pay reform	224
Personnel	1601, 1896
Personnel management	1867, 1916

	Page
Civilians—Continued	
Strength	1855, 1861
Strength reductions	2063
Coast Guard Reserve	2124
Cobalt and chromium	2900
Substitutions for	2901
Code and MCM proposals (UCMJ)	1955
Combat:	
Aircraft technology	1129
Billets for women	518
Readiness	490
Readiness, increasing	432, 736
Readiness, maintaining high state of	753
System architecture	3131, 3197, 3208
Command and control	2932, 3257, 3402
Improvements	88
Network	349
Command, control, and communications (C ³)	319, 870, 2565, 3071, 3250
Commitments to Taiwan	70
Committee hearings on the fiscal year 1980 defense program	117
Committee procedures on classified hearing statements	379
Committee's responsibility under the Congressional Budget Act	117
Communication coverage—combined Wisconsin and Michigan facilities	325
Communications	3305
Jamming	3095
Problems destroy own forces	3241
Security	2670
To SSBN's	3343
Communicative systems, types of	3346
Communist ideology	58
Comparison of fiscal year 1980 authorization requests submitted January 1978 and January 1979	195
Training and education	196
High grade civilian controls	197
Contract conversions fiscal year 1980 President's budget	198
Comparisons of Soviet and United States naval force	764
Comparative capability of MPS versus air mobile	407
Compensation and retirement	1867
Compulsory national service	172
Computer exports to PRC	386
Computer technology to PRC	548
Computers	1826
Confidence in outlay estimates	91
Consensus on theater nuclear modernization	807
Conscription in NATO countries	1505
Constructing a vulnerable ELF system	399
Construction budget cuts	698
Contingency plans to safeguard equipment	809
Continuing two M-X basing concepts	388
Contract milestone contract	2029
Contracting out	266
Contractual support for maintenance	2449
Conventional and nuclear forces, balance of	3466
Conventional forces	32, 1530
Cooperation of NATO allies lagging	61
Copperhead/Stinger	2336
Copperhead/TOW	671
Cost and budget data	1951
Cost comparisons—basing systems	291
Cost of peace	782
Cost studies of a long war scenario	745
Costs of attrition for fiscal year 1975-78 male accessions	235
Cost-of-living increases to bachelors	88
Cost of training in critical technical skills	238
Cost to move troops from Korea	184

	Page
Credible nuclear deterrence	789
Critical skill shortages	236
Cruise missile(s)	66, 2373
Carrier study	339, 406
Carrier, wide-bodied	460
Force	2844
Future role of	88
Phase I testing	335
Programs	80, 423
Program a success	361
Range limit	389, 3471
Survivability	406
Survivability design features	334
Versus modified FB-111's	464
Cryptologic training consolidation	1847
Current administration civil defense program	111
Current civil defense program	113

D

DARPA :	
75mm gun	2896
R.D.T. & E	2857
Program execution	2881
Role in science and technology program	2879
Fiscal year 1980 budget comparisons	2889
DDG-2 guided missile destroyer	1295
DDG-7 most effective against Soviet cruise missiles	597
DIA advanced briefing	875
DIA/CIA estimates	876
DIVAD :	
Gun	2553
Gun funding	2564
DSCS system degradation	2683
Defense Civil Preparedness Agency :	
Programs, increases and decreases	2726
Declining military strength	62
Defense, Department of :	
Balances	256
Budget	118
Commissary subsidy	2058
Cost studies	2024
Dependents school	2061
Headquarters study recommendations	262
Manpower in support of training, fiscal year 1980	1759
Obligated and unobligated balances, exclusive of unperformed FMS orders	257
Outlays	2330
Policy in export control of U.S. technologies	2810
Savings by	150
Science and technology program	2861
Shipbuilding program	7
Spending for strategic and general purpose forces	1557
Unobligated balances	217, 245
Defense as a share of GNP	90
Defense budget, real increases in	6, 78
Defense civilian duties	1988
Defense cost sharing program	734
Defense Dental Systems, organization of	1667
Defense meteorological satellite program	2668, 2683
Defense Officer Personnel Management Act (DOPMA)	1864, 2002, 2139
Administrative pay	2139
Dual pay	2139
Defense organization	215

	Page
Defense organization study.....	262
Defense posture in Asia and Pacific and Indian Oceans.....	705
Defense programs, need for growth in.....	107
Defense resource management study.....	1637
Army.....	1982
Defense satellite communication system.....	2660
Defense spending, annual increases in.....	808
Efficiency in.....	40, 121
Defense support program, Air Force.....	2658
Defense suppression weapon.....	1154
Defense requirements.....	394
Defensive systems, major.....	546
Dental Corps shortages, Army.....	1657
Dentists and chaplains, active duty.....	1921
Dependents, number of.....	2113
Dependents in Europe.....	271, 651, 653, 661, 1471
Deploying a MAP system.....	392
Dependents of military personnel overseas.....	2081
Dependents screening, GAO survey on overseas.....	2116
Deployment of SLBM's.....	341
Deployment of Soviet antisatellite systems.....	387
Depth mine, intermediate water.....	2975
Deserters.....	1985
Deserters reported to FBI.....	189
Desertion rate.....	599, 1890
Deteriorating U.S. chemical munitions stockpile.....	675
Diego Garcia.....	1289
Diesel fuel, self extinguishing.....	2637, 3103
Differences between Korea and Germany.....	628
Discharges, in absentia.....	1957, 1984, 1985
Discipline and leadership.....	2166
Discipline problems.....	65, 542
Doctor shortage.....	476, 663, 1682
Doctrine.....	676
Dollar devaluation and quality of life.....	627
Draft:	
Army Reserve.....	685
Move toward.....	1502
Of veterans.....	1893
Priorities.....	686
Registration, resumption of.....	2119
Return to favored.....	173
Spur to enlistments.....	164
Would not solve problems.....	137
Drafting into the Army Ready Reserve.....	1654
Drug abuse.....	272, 275, 661, 1964
Drug abuse in Germany.....	637
Drug and alcohol abuse.....	1516

E

E-2C Hawkeye.....	953, 985
E-3A.....	2321
Sentry.....	1115
EA-6B.....	1020
Prowler.....	976
Prowler training system.....	2411
EF-111.....	1167
Contract.....	1140
EF-111A.....	1119
EOC:	
Construction costs.....	2747
Funding.....	2747, 2781

EOC—Continued	Page
Nomination of projects.....	2748
Upgrading facilities.....	2748
Electronic equipment, modernize.....	332
Electronic warfare.....	1840
Surface.....	3192
ELF program.....	404
Communicating system.....	525, 3307
Concerns about.....	3394
Decision.....	404
Funding.....	3359
Michigan and Wisconsin.....	3398
Survivability of.....	3395
System needed.....	325
Emergency Operation Pilot projects.....	2746
Energy, Department of.....	2899
Energy research program, directed.....	384
Energy weapons systems, directed.....	384
Engine improvements; joint plan funding.....	1205
Enlisted grades, increase in top six.....	1959
Enlisted personnel overseas.....	1998
Enlisted years of service by grade.....	1935
Enlistment and reenlistment bonuses.....	616, 624, 625
Original bonus program.....	625
Skilled fields with enlistment bonus.....	625
Enlistment program.....	1877, 1895
Option, 2 year.....	1962, 2190
Enlistments, fraudulent.....	1886
Enlistments, effect of constructive.....	1887
Equipment for Reserve Forces.....	660
Erosion of benefits.....	1970
Eurogroup.....	3241
Europe:	
Crisis stability.....	3463
Dependents in.....	271, 651, 653, 661, 1471
Cost of dependents in Europe.....	1473
Threat to central.....	3465
European Allies improvements.....	805
European military housing.....	476
European program group, independent.....	3220
European views on tactical nuclear weapons.....	3459
Evacuation:	
Aerial evacuation risk assessment.....	2111
Balance of payments, impact on.....	2110
Dependent versus casualty evacuation.....	2112
Noncombatant evacuation, short warning.....	2085, 2110
Plans.....	2113
Reinforcement and evacuation operations, conflicts between.....	2110
Exercises, fiscal year 1979.....	1806

F

F-14.....	1013, 1016, 1234
And F/A flyaway costs.....	983
Attrition rate projections.....	1020
Engine (TF-30) coproduction with [deleted].....	214
Requirements, training, attrition and maintenance.....	1013
Spares funding.....	1020
Tomcat training systems.....	2411
F-14/F-15 materiel readiness.....	2358
F-14/F-100 engine.....	1228
F-14A Tomcat.....	980
F-15.....	1103
Air combat part task trainer.....	2439
Engine improvement results.....	1192

	Page
F-15—Continued	
OFT's air-to-air capability.....	2462
Operational flight trainer.....	2438
Simulator program.....	2461
Undergraduate pilot training instrument.....	2445
Simulators, procurement on.....	292
F-15 and F-16 stall stagnation.....	1238
Reengining.....	476
F-16.....	1105, 1170
Adapt F-18 radar to.....	1171
Cost overruns.....	1141
Fighter aircraft.....	3254
OFT introduction.....	2460
Operational flight trainers.....	2459
Situation.....	1083
F-18.....	560
Procurement.....	223
F/A-18.....	534, 560, 1022, 1045
Procurement quantities.....	506
F/A-18 Hornet.....	952, 982
Training systems.....	2409
F-18/AV-8B.....	549, 560
F-100:	
CIP demonstration.....	1229
Engine modules.....	1242
Engine problem.....	1150
Maintenance problems.....	1231
Procurement cost.....	1207
F-101X:	
Backup engine.....	1226
Cooperative limited development.....	1210
Fit F-15.....	1219
Other aircraft use.....	1230
F-111.....	1107
F-111's versus B-52's, modified.....	373
FB-111.....	389, 463
Operational dates for modified.....	400
Penetrating capability.....	465
FFG construction.....	285
FLIR POD.....	1189
FFG—low-cost escort frigate.....	522
FROKA forces, studies of.....	767
Facilities and logistics contracting.....	2059
Federal deficit, holding down.....	150
Federal Emergency Management Agency (FEMA).....	2749
Diversion of funding.....	2750
Regional structure.....	2750
Federal outlays.....	27
Field firing/marksmanship training devices.....	1825
Field grade officers, actual number.....	1568
Fighter accident rate.....	579
Fighter engine plan.....	1244
Fighter forces, available.....	1091
Fighter versus Aegis.....	1048
First strike.....	443
Capability and crisis stability.....	100
First term attrition.....	1920
Fiscal year:	
1977 study request on M-X.....	407
1979 outlays.....	91
1979 study on theater missiles.....	405, 408
1979 supplemental.....	361
1980, adequacy of 15-ship program in.....	281
1980 materiel readiness package.....	214
1981 estimates, possibility for change in.....	92

	Page
Fleet strength, effect of reduced	537
Fleet air defense program, fiscal year 1980	3108
Flight simulators	2375
Evaluation	2387
Instrument evaluation	2400
Mission tasks—value of simulators	2425
Overview	2425
R.D.T. & E. funding	2382
Study questionnaire, SFTS	2402
Utilization	892
Flight training	1763, 1775, 1780, 1785
Device procurement request, fiscal year 1980	2376
Flying hour savings by aircraft, fiscal year 1980	2380
Flying hours to be increased	426
Force capability improvements, required	758
Force exchange charts	388
Force level, need to sustain	516
Force levels, predictable decline in	515
Force level reductions	591
Force status	419
Force structure, posture of	543
Forces at irreducible level	485
Foreign medical graduates	1670
Foreign policy goals and objectives	73
Fort Gordon pilot program	2076
Contracting out, anticipated savings	2038, 2078
Umbrella-type contracting	2076
Forward base system	795
Freedom to mix	109
Fratricide	391
Fuel and ammunition storage meet deployment plans	1160
Funding considerations	782
Funding for full-scale development	465
Funding impact of uncompleted foreign sales	468
Funding Pershing II	799
Funding requirements	660
Future surface ships	1314

G

GAO cost study, challenges	140, 141
Report, comments on	1143
GBU-15 program, tasks and funds	1156
GLCM restrictions in SALT II protocol	3452
GS-12 promotions	2048
Gain and loss tables, fiscal years 1978-80	1944
Gaming probabilities	3579
General and flag officers:	
In command	1867
Total number of	1592
General posture	99
General purpose forces	19, 24
General support rocket system	3094
Geographic effect on Soviet and United States naval forces	764
German deputy in SHAPE headquarters	1521
German tank gun and AWACS	109
German tank gun for XM-1 tank	108
Germany, agreements with	3240
Glossary of terms used in study recommendations	266
Gross national product (GNP)	831
Ground combat	3072
Ground launched cruise missile	2492
Growth in investment outlays	91
Guam versus Philippine bases	768
Guard technician unions, position on	476

H

	Page
H-3 Sea King training systems	2411
HARM	584, 1005, 1026
Cost and schedule	1151
Harpoon improvements	1040
Harrier accident rate	579
Improved system	2591
Hawk	2544
Health care as a career benefit	1618
Health professions scholarship program	620, 1615, 1677, 1688
Incentive pay, legislation	1617
Health professionals, attracting	643
Shortage of	619
Health Services Care System	2121
Helicopter antisubmarine warfare (ASW) squadrons	2137
Helicopter pilot training	215, 539, 1820
Consolidation	1735
Undergraduate	1846
Helicopters posture, medium lift	888
Helicopter threat, current and future	2534
Hellfire as TOW replacement	3093
Hellfire program acquisition cost	908
High frequency radio	3294
High school diploma graduates	1924
High school graduate recruits, lowering number of	468
Hind helicopter	874
Homeporting:	
CV in Japan	768
Carrier in the Philippines	761, 766, 768
Hospital construction to meet Federal regulations	1683
Hospitals:	
Fort Carson, U.S. Army	1652
Fort Stewart Hospital	1681
Letterman Army Hospital/Letterman Army Institute	1680
Host nation logistics support	3236
Hydrofoils/ASW	1314

I

ICBM's	319, 417
Alternative	1432
Attacks, short flight	395
Both sides deploying mobile, less stabilizing	473
Budget	351
Comparisons	343
Defense of	385
Force	474
Forces, comparison	2470
Greater throw-weight	397
Radio update	407
Survival of	435
Vulnerability/basing decision	465
ICBM, SLBM, bombers	3292
IFV	2361
IFV/CFV	681
IOC of PRC's ICBM	385
Impact of higher rates of inflation	90
Improved accuracy program (IAP)	2504
Trident II relationship	2509
Improved NATO cooperation	123
In-absentia discharges	233
Increase in Soviet RV's	406
Indian Ocean:	
Fleet	1290
Importance of	723

	Page
Improving interoperability	420
Individual Ready Reserve (IRR) -----	450, 1872, 1888, 2139
Average tour of duty	1875
Direct enlistment into	2209
Efforts	1042
Problems/solutions	664
Refresher training	2262
Reserve Forces	1874
Reserve incentives	1876
Retention	1873
Shortages in, clarification	2194
Shortfalls	1876
Individual replacements	685
Industrial activity advantages	578
Industrial base	657
Industrial productivity down	30
Industrial work backlogs	578
Industrially funded civilians	1989
Infantry and other OSUT savings	1726
Infantry division, withdrawal of 2d	760
Infantry fighting vehicle (IFV) -----	689, 2609, 3092, 3097
Infantry fighting vehicle and cavalry fighting vehicle	666
Inflation allowances in O. & M.	77
Inflation and real growth	556
Inflation influencing factor	74
Infra-red device	1826
Inpatient-outpatient care in military facilities, costs of	1643
Initiatives	685
Intelligence assessment completion	772
Interdiction of Backfire bomber route	766
International developments	16
International situations and defense	7
Iran:	
Impact	833
Intelligence base	408
Scope of American assistance to	797
Status of F-14's in	516
Verification capabilities	99
Iranian cancellation, impact of	2318
Iranian destroyers	1287
Iranian F-14's, repurchase	2363
Funding shortfalls	2363

J

JCS/DIA threat assessment	835
Agreement with	861
Frontal aviation	840
JCS discussions on the budget	108
JCS integration of NATO capabilities	862
JCS position on SALT II	109
JCS review and coordination of service target priorities	861
Jammer, anti-standoff	2587
Jammer suppression, standoff	3204
Jamming and deception	3193
Jamming and interception	2687
Japan:	
Attitude toward Korean withdrawal	770
Defense forces, increase in	770
Equal treatment for	59
Forces capabilities	760
Not a military threat	752
Relations with	721

	Page
Japan—Continued	
Release of information to	761
Self defense	760
Self-defense forces	731
Support of U.S. forces	732
Treatment of	110
U.S. forces in	730
Joint Armed Services—MED ACAD	642
Joint exercises	2249
Joint exercises program, 1980-84	1587
Joint Services small arms program	3085
Junior ROTC	626

K

KC-10A	2317
KC-135	2846
Reengining	2324
Reengining program, cost	2333
WST's in source selection	2457
KIEV flight deck	848
KKK activities/discharges	1968
Korea, North:	
Agreement to open talks, reason for	772
Anticipated problems	773
Withdrawal schedule	773
Aggression, possible	767
Attack from, unlikely	745
Intelligence reports from	743
Military strength, assessment of	101, 760
Mining capability	763
New offensive power	772
Objectives and intentions	1494
Order of battle	1457
Political effect of seizure	767
PRC's relations with North Korea	1467
Relations with PRC	1484
Relations with U.S.S.R.	1485
Korea, Republic of:	
Attitude of Congress	1460
Allied concerns on troop withdrawal	1473
Abeance and reassessments	1461
Background of withdrawal decision	1491
Balance of trade	1486
Balance of trade with South Korea	1486
Basing of 2d Division	1465
Capability of South versus North Korea	1466
Civilians in Korea	1468
Commander's view	1462
Conditions in	1687
Cost of withdrawal	1465
Cost to remove troops from	184
Current withdrawal plans	1480
Dependents and morale	1471
Dependents in Korea	1469
Discussions with Teng on Korea	1486
DOD civilians in ROK	1469
Economics of U.S. troop presence	1485
Equipment transfers to Korea	1476
Force improvements	727
Foreign troops in Korea	1484
Impact of Korea troop withdrawal on Japan	1477
Impact of PRC normalization	1464
Impact of withdrawals on budget	1461
Impact of withdrawal on morale	1473
Important recent events	728

	Page
Korea, Republic of—Continued	
Indigenous tank.....	1466
Intelligence reassessment.....	1490
Koreagate impact.....	1458
Korean missiles.....	1487
Korean withdrawal.....	1471
List of current U.S. units in Korea.....	1482
Logic questioned in Korean withdrawal.....	742
Maintaining 2d Infantry Division in.....	180
Maintaining support troops in.....	146
Medical problems in Korea.....	1483
Medical services in Korea.....	1474
Military reason for withdrawal.....	1470
Mine warfare.....	1495
Mining of Korean ports.....	768
Mining of South Korean ports.....	1482
North-South talks.....	1458, 1464
Nuclear weapons.....	1489
Overseas troop developments and related areas.....	1453
Percentage of GNP devoted to defense.....	1468
Personnel/budget impact on Army.....	1462
Possibility of U.S. casualties in a contingency.....	1469
Progress on the withdrawal of ground forces.....	727
Prepositioned equipment.....	1480
Rapid buildup of U.S. forces.....	1482
Readiness.....	1475
Recent developments.....	1457
Recommitment of U.S. ground combat forces to Korea.....	1482
Redeployment of U.S. ground forces.....	1482
Relationship between U.S.S.R. and North Korea.....	1485
Removing troops from.....	737
Replacement of Army equipment.....	1477
Reporting requirements.....	1495
Reports to the Congress.....	1496
Residual U.S. military presence.....	1468
ROK force improvement plan.....	1483
ROK intelligence tank.....	1488
Sino-United States normalization.....	1457
Stationing of 2d Infantry Division.....	1481
Stationing of withdrawal units.....	1481
Tactical mobility.....	1495
Timing of reassessment.....	1464
Transfer of equipment to ROK.....	1463
Troop withdrawal.....	1481
U.S. military presence and its impact on North-South dialog.....	1467
U.S. troop deployments for December 31, 1978.....	1477
U.S.S.R.—PRC—North Korea relations.....	1496
Value of transfer program.....	1480
Withdrawal planning.....	1492
Withdrawal schedule.....	1460
Withdrawal of troops from.....	637
Korea, South:	
Current level of preparation of forces.....	767
Possibility of attacking the North.....	1466
Production of military equipment.....	1468
Kwajalein missile range.....	314

L

LAMPS MK III.....	2905, 2952
LSD-41.....	541
Delay.....	544
Delay to redesign.....	545
Program.....	592
Program, alternatives to.....	553
Program deletions.....	552

	Page
LUA	403
LVA/LVT-7	551
LVT(X)/LVT-7	552
Land, Air, and Naval Force structure plans	1535
Land acquisition/military construction problems	3572
Defense policy	1537
Force planning	1537
Forward deployment	3447
Land attack SLCM	2844
Development	2928
Land-based ASW aircraft	766
Land-based air substitute for carrier?	2407
Laser air-to-air gunnery simulator	2894
Laser as useful weapon	1190
Laser designation	1023
Laser designation system	2685
Laser in space, high energy	1195
Laser spot tracker	3394
Laser system, drawbacks to	385
Laser tests	193
Laser theory	1826
Laser training devices	3328
Laser transmitted subsystem	3345, 3362
Lasers, blue-green	2686
Lasers and satellites, use of	552
Launch distances	401
Launch of MM force	408
Launch on warning	555
Laws of war program	2079
Leach amendment	243
Lead ship design and construction	213
Leader/follower	243
Length of acquisition cycle	2137, 2144
Light attack helicopters (HAL)	575
Lightweight antiarmor vehicle	1311
Life cycle costs of possible task groups	135, 152
Limited registration	104
Linkage of SALT and Soviet behavior	156
Living allowance in NATO countries	418
Logistics and support program	1309
Long-range naval aviation	857
Long-range Soviet cruise missiles	859
Production estimates for 1978	3472
Long-range theater ballistic missile	90
Long-term TOA and outlay growth rate	1633
Longevity credit, loss of	3223
Look-down/shoot-down radars and missiles	3236
Low cost expendable harassment vehicle (LOCUST)	2685
Low frequency, jamming of	145
Lump sum payment	

M

M-60A3 tanks, continue production	1442
MAP option	353
MICV—A characteristic American problem	681
MIRV'd versus non-MIRV'd	402
MK-30 mobile target	2343
MK-46 torpedo	2368, 2955, 2982
MK-48 torpedo	2369, 2370, 2982
Advanced capabilities (ADCAP)	2908
Inventory objective	2370
Procurement	588
Tomahawk missile	2370

	Page
MK-75 76mm gun mount.....	2521
MK-XX, advanced ASW torpedo.....	2957
MM launch.....	403
MM III tests.....	1447
MPS.....	473
Air mobile cost comparison.....	3582
Full-scale development reservations.....	92
Shelters, differences in.....	1433
Verifiability.....	407
Versus air mobile.....	379, 473
MPWS:	
Foreign vehicle.....	576
Funding.....	551, 575
MPWS/LCAC/LSD-41.....	574
M-X.....	297, 402, 441
Accuracy.....	1427
Air mobile—summary comparisons.....	3502
Basing decision.....	94, 381, 2339
Delay.....	372
Options for.....	429
Pros and cons.....	472
Carrier configuration.....	3496
Decision.....	372, 408
Deployment.....	108
Fiscal year 1979 supplemental funding.....	80, 465
Fiscal year 1980 funding.....	465
Full-scale development.....	3569
Funding.....	2488
ICBM missile program.....	1401
Long lead items.....	2526
MPS cost if Soviets fractionate.....	3576
MPS and mobile/M-X systems comparisons.....	3578
Missile.....	174
Missile basing mode.....	108
Missile only decision.....	381
Multiple aimpoint systems.....	7
Options.....	1449
Options versus fractionization.....	410
Presidential support.....	92
Program.....	355
Delay in.....	291
Evolution.....	2477, 3477
Recommendations on.....	382
Transporter-emplacer vehicle concept.....	3482
Trident funding and first-strike capability.....	100
Versus Trident I and II acceleration.....	3565
Management actions to retain personnel.....	1967
Management improvements.....	1879
Managing recruit quality.....	1878
Manila Pact, obligations under.....	747
Manpower.....	57, 75, 128, 424, 510
Acute shortage.....	1500
Authorization for additional personnel.....	1513, 1990
Civilian requirements.....	1987
Costs.....	1988
Civilian strength request.....	1988
Contracting out.....	1988
Equipment levels for 1979, each service.....	1583
Funding.....	1901
Leadership.....	1899
Major issues.....	1994
Management—assignment policies.....	1898
Morale and discipline effect on leadership.....	1513

	Page
Manpower—Continued	
Quality of.....	493, 1519, 1851, 1900
Request for fiscal year 1980.....	1956
Requirements for mobilization.....	2187
Requirements in shipyards, standards for.....	2071
Total force.....	1902
Support of training.....	1714
Marine Corps:	
Absentee/desertion rates.....	283
Budget problems.....	525
Field logistics system.....	574
Future role of the.....	112, 186
Improvements in.....	733
Manpower request.....	1850
Missions.....	3074
Mission in NATO.....	112
Relationship to Army Rangers.....	112
Requirements.....	992
Reserve.....	2125
Generals.....	1963
Problems with "Nifty Nugget".....	542
Unit rotation.....	1818
Marine Forces in Pacific.....	761, 769
Maritime strategy.....	520
Maverick.....	1111
Measuring defense expenditures.....	61
Medical Corps:	
Staffing in CONUS hospitals.....	1678
Strength.....	1674
Medical care problems, serious.....	138
Medical education, graduate.....	1699
Contracting out.....	1701
Incentive pay.....	1700
Medical facilities, contracting for.....	1642
Medical management cooperation, tri-service.....	1665
Medical military construction.....	1703
Medical personnel, obligated service for.....	1653
Medical programs, size of.....	1614
Medical requirements, estimated costs of meeting.....	1640
Medical reserves.....	1622
Medical resources, use of.....	1605
Medical screening:	
Army and Air Force dependents.....	2115
Noncommand sponsored dependents.....	2116
Medical students and doctors.....	146
Medical Support:	
Cross service.....	1704
Planning for readiness.....	1615
Shortage.....	495, 699
Medical training for mobilization purposes.....	1665
Medical units in Europe, status of.....	1671
Medium range ballistic missiles.....	2855
Study.....	3456
Military.....	2126
Militarization of art positions.....	
Military:	
Assistance to Turkey.....	785
Balance.....	17, 95, 726
In Korea.....	638
Compensation system—reform.....	120, 2000
Construction.....	614
Construction Act; debate, Sec. 612.....	150
Dependents in Europe.....	801
Discipline.....	1850, 1881
Doctor shortage.....	181
Health care.....	1695
Delivery.....	1677

Military—Continued	Page
Justice	1950, 1952
Jurisdiction	1882
Manpower	119, 2176, 2180
Budget	802
Medical programs	1603
Personnel costs:	
Air Force enlisted	1957
Average	1957
Personnel management	1912
Personnel, Navy dollars by budget activity	1904
Physicians, combining	1706
Posture and national power	29
Retirement, accrual accounting for	2001
Selling equipment to foreign nations	187
Strength	2167
Student loads, requested	1709
Issues in training	1709
Superiority	110
Systems, potential use in specific	386
Military training and education	1908, 1999
Middle East:	
Contingency	593
Force	754
Mine warfare	2973, 3245
Minuteman	2489
As an MRRM	3457
Declining survivability of	423
ICBM force	297
Requirements for	406
Minuteman III tests	1427
Missiles:	
Basing scheme selection	1419
Medium range air-to-surface	1038
Mobile	352
Options	2511
Option 2	1411, 1449
Option 5	1425, 1434
Small versus large	1409
Mission execution	784
Mission of the Navy	1599
Mobile protected weapons system (MPWS)	540, 550, 3096
Mobiles and SALT	3533
Mobility forces	1544
Mobilization:	
Alerts, dependent problems during	1514
Augmentation	455
Management	1997
Physician requirements and capability	1575
Shortfall	1859
Modernization of conventional Army forces	112, 659
Modular universal laser equipment (MULE)	3082
Morale in Armed Services	462
Morale and motivation	678
Multiple aimpoint basing and strategic balance	103
Multiple protective structures	436
Mutual balanced force reductions (MBFR)	670
N	
NASA orbiters	2682
NATO	274
ASRAAM	1185
Advantages/disadvantages	2523
AWACS	85, 221, 2356
Additional costs	470

	Page
NATO, AWACS—Continued	
Annual operational cost.....	470
Buy, money saved.....	292
Cost share.....	466
Devaluation impact on.....	291
Early funding.....	470
Funds, fiscal year 1980.....	1177
Funding sharing.....	469
Number of.....	469
Procurement cost.....	291
Study, spares and supplies consideration.....	292
Support and spares.....	471
Support cost for.....	466
Total program cost.....	470
Airborne early warning and control.....	3255
Alliance and Turkey.....	785
Allies, relying on strength of.....	58
Arms control group.....	3461
Contingency, availability.....	2259
Conventional vulnerability.....	803
Cooperative development, congressional steps to improve.....	2850
Counter to the SS-20.....	105
Defense increase.....	275
Deployment aircraft.....	972
Deterrent posture.....	804
Developed ASRAAM favored.....	2523
Employment.....	584
European improvement needs.....	1522
Improved armaments cooperation.....	3213
Naval armaments group.....	3264
Nuclear assets, destruction of.....	871
Nuclear vulnerability.....	3454
Prepositioning in.....	275
Quality and quantity of equipment.....	3227
Reinforcement—cargo requirement versus capability.....	1093
Role in Central Europe.....	585
SIOP tanker assets.....	1094
Southern flank.....	786
Standardization process.....	3211
TNF in SALT and MBFR, restrictions.....	3450
Theater nuclear forces.....	622
Current deficiencies.....	3454
Theater nuclear weapons.....	3463
Threat.....	864
NBC filtration systems for combat vehicles.....	644
NFS:	
CH-53E.....	2419
EA-6B.....	2421
F-14.....	2420
F-81.....	2421
P-3.....	2418
NIF:	
Employment ceilings.....	579
Manpower ceilings.....	578
NORAD combat operations center.....	3029
NRF and NFAF ships in total force levels.....	288
National Board for Promotion of Rifle Practice.....	110, 276, 692
National defense.....	144
National Defense Reserve fleet.....	1596
National Guard:	
A-7K's.....	1194
MILCON.....	696
Equipment.....	700
Helicopter problem.....	700
Recruiters.....	2183

	Page
National Health policies.....	1689
National military command structure study recommendations.....	263
National stockpile of strategic and critical materials.....	111
National Training Center at Fort Irwin, Calif., Army.....	1815
Naval communications funding.....	2687
Naval forces.....	1543
Comparisons of Soviet and United States.....	764
Role in Pacific.....	548
Naval gunfire.....	593
Naval Reserves.....	1855, 2123, 2225, 2353
Age of ships in Naval Reserve.....	588
Centers/facilities.....	2271
Destroyers.....	2137, 2146
Destroyers dropped from.....	596
End strength.....	1600
Greatest unfunded needs of.....	591
Mobilization requirements for.....	590
New missions.....	2074
Program.....	1909
Reduction by State.....	1600
Revitalizing.....	487
Ships, status of.....	524
Size of.....	1964
Training centers.....	1600
Navigators, advancement of.....	440
Navy:	
Absentee/desertion rates.....	283
Active military manpower requirements.....	1903
Active, military strengths.....	1903
Aircraft funding, annual percentage increase.....	1015
Aircraft inventory.....	968
Aircraft procurement, fiscal year 1980.....	2362
Airlift modernization.....	2136, 2145
Aviation force requirements.....	958
Budget.....	126
Campus for achievement.....	1782
Cost savings of physicians versus contracting.....	1641
Desertion rate.....	51, 1503
Electronic surveillance/analysis.....	3191
Flight simulators.....	2413, 2418
Future of the.....	82
Highest unfunded priorities.....	587
Initiatives to improve retention.....	1967
Manpower ashore and afloat.....	1591
Manpower shortage.....	2227
Medical contingency role.....	1646
Mobilization shortage.....	1644
New missions.....	2074
Organic airlift.....	2353
Physicians, shortage of.....	1624
Pilot training rate.....	1811
Recruiting.....	1853
Retention and recruiting programs.....	590
Shipbuilding claims.....	122
Shipbuilding program.....	1251, 1319
Service life extension program (SLEP).....	2075
Size and needs of the.....	585
Tactical aircraft inventory.....	969
Tactical aircraft, procurement of.....	763
Navy/Air Force requirements.....	1236
Navy/Marine Corps:	
Aircraft and missile threat responsibility.....	1018
Aircraft shortages.....	1010
Amphibious team.....	494

	Page
Navy/Marine Corps—Continued	
Partnership	735
Tactical aircraft and missile programs	947
Neutron weapon	641, 670
New munitions technologies and concepts	420
Newport News versus Philadelphia	166
"Nifty Nugget," exercise	87, 630, 672, 682, 2213
Lessons learned/correct deficiencies	1693
Readiness mobilization and exercise	120
Night attack programs	1127, 1183
Nike Hercules	2543
Nonacoustic submarine warfare	558
Noncircumvention provision and cooperation with our allies	38
Nonnuclear submarine study	573
Non-Soviet/Warsaw Pact modernizations	866
Nuclear attack submarines	1334
Nuclear:	
Command and control airplane	1429
Capability of People's Republic of China	547, 755
Carrier, cost and design	1302
Forces	19, 32, 404, 1530, 3405
Grade material for M-X	3571
Missile, theater	2340
Release authority	3469, 3472
Targeting doctrine	1437
Warheads for Navy vessels	2849
Nuclear and nonnuclear balanced forces	25
O	
O. & M	400
Funding	474
Negative growth of O. & M. funds	523
OMB versus degradation of U.S. Strategic Forces	383
OSD reductions—readiness	477
OSD decision	1155
Obligational authority, new	41
Officer accessions	1863
Officer acquisition	1809
Training	1761
Officer and enlisted strengths	1929
Officer pilot retention	238, 239
Officer programs	1895
One-station unit training (OSUT)	1773, 1835
Army	1718
Operation redoubt	432
Operations and maintenance	128
Operational and maintenance accounts	431
Operational dates for modified FB-111's	400
Operational missiles (Central Europe)	2532
Options for RV increases	388
Orbiting reflector subsystem	3329
Organization and structure	512
Outlays, constant fiscal year 1980 dollars	91
Outpatient visits in military medical facilities, charging for	1663
Oversight committee in Department of Defense	159
Oversight committee report in fraud and waste	160
P	
P-3 program	584, 2953
Orion training systems	2410
P-3C program	2954
PACOM force structure	717
Force improvement	718
Personnel	719

	Page
PACOM—Continued	
Readiness	719
Training and exercises	719
PAVE mover	1187
PLSS meet TAC requirements	1169
Pacific amphibious lift	769
Pacific Area:	
Regional summary	706
Northeast Asia	706
Southeast Asia	708
Threat	714, 864
China	715
North Korea	715
Philippine Islands	722
Taiwan	722
South Asia	710
Indian Ocean	711
Vietnam	716
Africa	711
South/Southwest Pacific	711
Air Force	718
Army	718
Navy	718
Other forces	718
Pacific force structure, increase to	771
Pacific test results	589
Panama Canal	2078
Particle beam technology	2899
Patriot	658, 2551
Funding	2559
System	2589
Penetration of defenses	391
People considerations	782
People's Republic of China	50
Naval strategic nuclear capability	762
Nuclear capability	547, 755
Recognized	740
Relations with North Korea	1487
U.S. defense interests, recognition of	771
Pershing II	622, 3458
Pershing II/GLCM	2853
Persian Gulf contingency	1092
Permanent change of station (PCS)	1896
Personnel attrition level	598
Personnel readiness	1904
Personnel retention uncertainties	3581
Incentives	650, 684, 697
Personnel in Europe in combat and combat support	1592
Personnel management in military services	1849
Phalanx CIWS funding	3188
Phalanx close-in weapon system	2520
Physician (s)	684
Assistants	1626, 1659
Appropriate rank of	1661
Utilization of	1660
Bonus pay for military	1647
Cost of special pay bill	1640
Hiring of civilian	1667
In the civilian market, competing for	1625
Mobilization requirements	1638
Number of civilian	1675
Obligated service, Air Force position on	1655
Pay differential for physicians	1634
Recruiting practices, Army	1656
Reserve components, in	1658

	Page
Physician (s)—Continued	
Retention	1686
Shortage	463, 1692
Shortfall	1671
Phoenix	999
Characteristics/performance comparison	1003
Missile	1025
Pilot training:	
Capacities	1810
Costs	240, 540, 1738
Rates	1739
Pilot involuntary separations	1814
Pilot resignations	239
Pilot retention	1854, 1865
Pilot shortage	290, 468, 539
Pilots dissatisfaction/Air Force leadership	1966
Pilots needs of airlines	1854
Plane for cruise missile carrier	373
Policy of unilateral restraint	107
Poseidon submarines to be moved	322
Poseidon submarine patrol areas	342
Poseidon targeting	103
Potential military applications	386
Preattack warning time	623
Precision location strike systems	1121
President's economic assumptions	90
Pretrained individual manpower	2237
Pretrained manpower, legislation on	2198
Prime contract awards	255
Problems of responsibility	375
Procurement:	
5-year program	2361
Appropriations unobligated balances (excluding FMS) and TOA	258
Applying technology	2278
Fiscal year 1980	2275
Funding	2358
Management incentives	2283
Increase fiscal year 1979 to fiscal year 1980	356
Marine Corps, funding reduction	2371
Policy changes	213
Rates, study of	268
Rationale	269
Programming and budgeting priorities	2403
Professional development education	1764
Professional education	1793
Position location reporting system	3083
Program execution and available balances	245, 254
Project ELF	161, 192
Projecting an adequate Naval force	132
Q	
Qualifications of minority business firms	226
Quality of accessions	684
Quality of force, AVF	1870
Quality of life	636
Quality of life and compensation	1915
Quality of personnel	87, 188
Quality of recruits	1877
Quickstrike	2909
R	
R. & D., combining American and European	3225
ROTC programs, fiscal years 1978-80	1761
Scholarships	1814, 1815, 1889

	Page
RV limits	1432
RV's versus shelters	1439
Radars, surveillance	3162
Funding summary	3167
Radiation warheads	3457
Radiation weapons	95, 1511
Radio equipment, interoperable	3243
Ram weapon system	3183
Funding	3185
Ramifications of main attack north of Seoul	767
Rapier system for air defense of bases	2527
Rationalization, standardization, and interoperability (RSI)	3220
Reaction to Soviet buildup	789
Readiness	33, 513
Funding	467
Rating	700
Ready Reserve readiness, assessment	2232
Reasonable warning time	803
Rebasing bombers	409
Reconnaissance	1101
Recruit(s) :	
Abuse data	1810
Quality of	1816, 1877
Reading skills	1871
Training	1772, 1779, 1783, 1788
Training, length of	1964
Training in the Department of Defense	1715
Recruiter misconduct	1851
Recruiting :	
Advertising	1918
Attracting and retaining quality	1975
Bonuses	1977
Difficulties	468
Directly into the Individual Ready Reserve (IRR)	687
Effort from airlines	434
Force, full-time	2190
Goals	1976
Incentives	2182
Irregularities—Ohio	1965
Legislation assist for	550
Malpractice	542
Performance	1852
Posture	550
Problems	289, 538
Programs for the Reserves	2251
Quality	1897
Qualified personnel	486
Reducing the requirements	1896
Retaining qualified personnel	1619
Shortfalls	1872
Storm warnings	1898
Under the AVF	630, 1891
Recruiting and retention problems	526
Recruits in BSEP, number of	1730
Reduction in budget request	687
Reduction in civilian end strength	170
Reduction in civilian work force	273
Reflex type study	579
Reform of military compensation system	225
Regional security, commitment to	759
Registration	216, 272, 662, 699, 1860
18-year-olds	172
Favored	527
Registration and classification	1852, 1856, 1861, 2205

	Page
Reinstating the Selective Service.....	64, 135
Relative force size.....	403
Relocating 7th fleet.....	548
Reporting requirements.....	667
Reprogramming actions for fiscal years 1970-78.....	261
Research, development, and acquisition.....	2784
Reserve and Guard strength.....	155
Reserve(s) :	
ASW helicopter squadrons.....	2144
AVF, under the.....	1996
Air Force.....	2125, 2352
Aircraft shortages.....	594
Army.....	2122
Coast Guard.....	2124
Component readiness.....	2257
Component training.....	1842
Doctors promotion.....	476
Draft.....	1862
Equipment problems.....	594
Force enlistment :	
Bonuses.....	618, 648
Incentives.....	647
Options.....	649
Force overseas training.....	651
Incentives.....	1980, 2190
Marine Corps.....	2125
Mobilization requirements.....	593
Mobilization within 30 days.....	2253
Navy.....	1855, 2123, 2353
On active duty, authorization.....	2234
Physician strength.....	1592
Posture, future.....	2203
Pretrained manpower.....	2192
Readiness.....	555, 687, 2254
Recruiting methods.....	1981
Retention, factors affecting.....	487
Seabee strength.....	2143
Strength levels.....	593
Strength problems, resolving.....	2192
Strength shortfalls.....	2191
Support forces.....	2193
Training exercises.....	2246
Retention/reenlistment.....	1900
Second term.....	236
Remotely piloted vehicle (RPV) system.....	905
Retired pay.....	88
Retirement of survey ship <i>Harkness</i>	280
Retirement program, the 20-year.....	433
Retirement reform.....	215
Retirement system, equal.....	144
Return to draft favored.....	173
Reverse trends.....	379
Revised fiscal year 1979 level.....	79
Road mobile verification.....	3575
Roland.....	658, 2554
Alternatives to.....	1379
COEA.....	1384
Funding.....	2561
Missile and Army air defense systems.....	1375
Missile failures.....	2588
Test program.....	2560
Role of allies (NATO).....	19
Role of tactical air defense.....	1377
Role of theater nuclear weapons in overall strategy.....	81

	Page
S&A Viking training systems	2412
SAC communications	402
SACEUR barrier plan	3247
SALT	408
Agreement better than none	70
Agreement, understanding	798, 806
Compatibility	408
Ground-launched cruise missile	3458
Noncircumvention, provision of	38
Protection of U.S. interests	3574
Protective basing	3548
Role of	3546
Verification	72, 80, 101
SALT II	15, 373, 424, 669, 1421
M-X	103
Deployment	108, 110
Impact on	3565
Provisions	54
Soviets and Warsaw Pact	791
Noncircumventions provisions	3451
Protocol	3463
Ratification, discussion of	104
Verifiability	88
Verification under	1436
SALT III, forum for	3460
SARS system comparison	2603
SEAMOD	567
SH-3	2929
SIOP capabilities	404
SLBM:	
Comparisons	1328
Fractionation	3583
Launcher levels	324, 1326
Threats, assumed	3498
SLBM's and MIRV's	1403
SLEP	544
SM-1:	
Funding	3179
Improvements	3178
SM-2:	
Funding	3177
Improvements	3175
SOTAS:	
Fiscal year 1980 highlights	903
Program acquisition costs	904
SS-18	410
SS-20:	
Absence of restrictions	3452
Counter to	105
Protocol restrictions	3451
SS-22/Backfire, threat posed by	3461, 3462
SSBN invulnerability	3351
SSBN-X study	1594
SSN combat suit	2974
SSN 688 snap roll problem	2972
SURTASS	2998
Characteristics and performance	2947
Ships	1297
SWATH	567
Saratoga crew	1602
Satellites:	
Lease or use backup	2684
Procurement	2656
Survivability requirements	3028, 3037
With RV's	387

	Page
Saudi Arabia, deployment to	1067
Scout and light observation helicopter (LOH) posture	886
Sea-based ASW aircraft	2929
Seabees	2227
Sea control:	
Capability	812
In the Mediterranean	1520
Seafarer system, delay in	375
Sea lanes, maintaining the	1600
Sealift/aircraft	1594
Sealift capability in NATO areas	157
Sealift operations	1505
Second-strike capability	21
Second term retention	236
Selected Reserve:	
Components personnel strengths	2117
Manpower program	1991
Operational level	1924
Strengths	2189, 2233
Strengths	89, 2165
Selective service:	2138
Draft	44, 683, 690
Registration	148
Selective Service Act:	618
Need to return to	621, 2190
Selective Service System:	87
Capabilities	1993
Senior grade military and civilian reduction	66, 139, 142, 168, 270
Service life extension program (SLEP):	451
B-52's	279
Saratoga	1958
Service rewards under the AVF	1804
Service roles in joint exercises	1845
Service week, cost-benefit analysis of	1303
Shipbuilding:	1365
Claims	586
CV costs	1366
Reduction in	1303
SLEP	1365
Ships:	129
Claims settlements	148
Procurement study	3189
AAW systems, projected	749
Shortage of noncommissioned officers	628
Shorter tours without dependents	400
Short-term responses	2181
Short war philosophy	2682
Shuttle preparation funds	2454
Simulators:	2450
Exempt from DSARC process	2450
First operational year	2453
Hours available	2451
Procurement, justification for	2450
Termination, impact of	2452
Utilization rates	725
Sino-Vietnamese conflicts	2924
Sonobuoys	11, 714
Soviet Union:	876
AWACS	1428
Accuracy, projection of	1139
Air-to-air weaponry capabilities	872
Aircraft weapons systems, new	335
Air defense, penetrating	870
Air-delivered munitions	870

Soviet Union—Continued		Page
Anti-SLOC campaign assessment	-----	822
Antisubmarine capability	-----	2688
Armament reductions, judgment on	-----	3451
Arms buildup	-----	105
Attack helicopter role	-----	874
Attitudes toward TNW	-----	3467
Behavior	-----	382
Bomber	-----	406, 875
Backfire	-----	1512
Buildup, reaction to	-----	789
Buildup in the Kurils	-----	756
Buildup of strategic forces	-----	393
Civil defense	-----	2689, 2772
Cruise missiles	-----	875
Long range	-----	865
Conventional force buildup	-----	104
Defense:		
Expenditures	-----	13, 397
Trends	-----	13
Doctrine	-----	405
Drawdowns of U.S. warheads/EMT	-----	370
Emphasis on satellites	-----	2687
Equivalence with	-----	107
Fighter aircraft:		
Exports 1973-78	-----	866
Production	-----	866, 877
Helicopters	-----	870
ICBM production	-----	408
ICBM's and SALT	-----	408
Intentions	-----	634
Interest in reducing collateral damage	-----	3462
Long-range AAM	-----	869
Look-down/shoot-down	-----	382, 402
Maritime capability improving faster than United States	-----	1524
Military capability	-----	634
Modernization	-----	788
Naval capability in LANT	-----	333
Naval threat, deficiency in meeting	-----	538
Pacific fleet, impact of	-----	771
Off Vietnam, projection of	-----	772
Presence in Africa, impact of	-----	814
Problems encountered by	-----	31
RV growth	-----	383
Reactions to Chinese invasion of Vietnam	-----	759
Response to MPS or air mobile ICBM	-----	472
SLBM's	-----	372
Shipbuilding capacity impressive	-----	485
Strategic air defense system	-----	2585
Strategic forces buildup	-----	35
Strategy in Asia	-----	758
Submarine trends	-----	2918
Support to ground forces	-----	871
Tactical nuclear weapons	-----	3462
Technology gains by	-----	2862
Theater nuclear forces	-----	36, 3466
Threat growth costs versus U.S. response	-----	2484
Use of West Africa	-----	825
Weapons system	-----	383
Phaseout	-----	3454
Soviet-United States civilian manpower	-----	2060
Soviet Union/Warsaw Pact:		
Aircraft all-weather capabilities	-----	870
Helicopter capability	-----	865

	Page
Space:	
Boosters	2653
Defense	3039
Systems program	3015
Development	2852
Launch support program	2652
Programs, Air Force	2650
Shuttle	2651, 2854
Military satellites	2641
Surveillance and defense	3007, 3020
Technology	3023
System asymmetry	3010
Utility	3008
Spacetrack	3022
Sparrow missile	1024
Special Electronic mission aircraft (SEMA) procurement	906
Special Operations Forces	1595
Special pay bill, effect on retention	1632
Support of	1631
Spruance-class destroyer, modernizing	573
Stabilizing world peace	794
Standardization, interoperability, and arms cooperation	3231
Standoff-jammer suppression/requirement	1184
Stinger	2552
Funding	2562
Strategic:	
Balance shifting	808
Europe	82
SALT II	79
C ³	3292
Capabilities	46, 74, 127
Command, control, and communications (C ³ , adequacy of	80
Concepts	18
Concept of one and one-half wars	219
Forces	19
1985, with and without a SALT agreement	71
Buildup, 20-year history of	1403
Combat ready and alert	23
Execution	3293
Full potential of	399
Improvement	380
Modernization plan	304
Hard target kill capability	2525
Missile procurement and procurement of air and missile defense systems	2465
Nuclear forces	12, 22, 31
Endurance	3578
Theater nuclear forces, balance of	3239
Preparedness	173
Submarine communications problem	3326
Threat analysis	3352
Warning	405
AMMX	3525
Weapons:	
Imbalance	105
Theater use of	104
Submarine(s)	1313, 1315, 2927
ASW program	2941
ASW standoff weapon	2963
Borne optical detector subsystem	3331
Building rate too low	587
Detection	2686, 3351
Force best in world	484
Launched ASM's, threat from	3119
Missile gap	373

	Page
Submarine (s)—Continued	
Programs	530
Projected vulnerabilities	3001
Sensors and systems	2905
Submerged launch cruise missile threat	2917
Surface:	
ASW program	2942
Combatant force being rejuvenated	484
Effect ship	573
Fleet, current	3160
Missile system, improved point defense	3180
Surface-launched:	
ASM's, threat from	3118
Cruise missile threat	2916
Survivability:	
Cruise missile	334
MPS versus air mobile	3574
Mission, typical overland	336
Survivor benefit plan	106
"Swing" strategy	759, 822
Systems technology program (STP)	313

T

T-34C	2342
TA-7D's, contract status of	471
Two-place prototype	471
TF30-P414 engine	979
TR-1	1117, 1196
TAC (See Tactical Air Command)	
TACAIR:	
Coordination among services	863
Defense threat	862
Force readiness	863
Force structure	863
TACAMO:	
Aircraft requirements	3402
Improvement program	3345
Pacific based	3401
System	3346
TACAMO versus ELF	404
TACAS (tactical towed array sonar)	2908
TACTAS program	2960
TOA and outlays, real growth in	90
TOW	671
Tactical Air Command:	
Fighter basing	1976
Helicopters	876
Day/night/all-weather capabilities	876
Tactical Air Force	422, 1544
Tactical air power, USAF	1058
Tactical aircraft systems	884
Operational readiness posture	893
Tactical airlift	1068
Forces	2335
Modernization	1131
Tactical C ³ countermeasures	1123
Tactical missiles	956
Tactical/navigation modernization	2143
Tactical nuclear leg—Triad	790
Tactical nuclear weapons:	
C ³ capability	3464
Development and acquisition plan	3459
Forces, need for	3466
Tactical vehicle fleet (TVF)	3076
Heavy prime mover	3077

	Page
Tactical vehicle fleet—Continued	3078
High mobility tactical trucks	3077
Medium prime mover	3078
Semitrailer, 65-ton	3581
Tactical warning system costs	69
Taiwan and People's Republic of China	443
Taiwan issue	738
Taiwan, moral obligation to	741
Taiwan's defensive needs, meeting	1067
Tanker aircraft	670
Tanks	657
Program	3082
Structure, USMC	767
Target acquisition	397
Target list to grow	298
Targeting our strategic forces	407
Targeting study	3173
Tartar SM-2	993
Technological age of active aircraft	122
Technology	2789
As a schedule problem	2787
As cost problem	2786
Balance	83
New, use of	107
Transfer to allies	3198
Terrier "new threat upgrade"	163
Test scores higher (Army)	20
Tests of effectiveness	760
Thailand under Manila Pact, commitments to	19, 32, 3405
Theater nuclear forces	3453
Balances in Europe	3228
Third country sales	318
Threat, the	3170
Threat system, new	2770
Radiological emergency response exercises	2768
Three Mile Island incident	42, 59
Three-percent annual increase	2489
Titan II	554
Title X USC—Reserve affairs	3470
Tomahawk	2518
antiship missile	2517
Engineering development program	2981
Torpedo, advanced lightweight	40
Total defense spending	1909
Total force	629
Tour length in Germany	2112
Tour policy, accompanied and unaccompanied costs	1025
Trainer aircraft program	513, 1813, 1855, 1913
Training	700
Annual	1771
Base	1760
Categories, trends in	1765, 1769
Collective	1766
Continuing education	1748
Costs, increase in	1804
Cost per recruit graduate	1831
Device funding	1833
Devices, nonsystem	1791
Flying	1845
Funding	2240
Improvements	1765, 1768
Individual	1796
Facilities	1795
Funding	1772
Requirements	

Training—Continued	Page
Interservice	1804
Load trends	1712
Loads	1756
Loads by service, 1978-80	1758
Loads, fiscal year 1980	1808
Loads, projected	1809
Mobilization plan	2265
National center	1771, 1812
Officer acquisition	1774, 1779, 1784
Officer accession programs	1788
Officer skill qualification tests	1837
Priorities, individual/unit	1816
Professional development	1776
Professional development education	1781, 1786
Recruit	1772, 1779, 1783, 1788
Skill qualification tests	1835
Specialized skill	1762, 1775, 1780, 1784, 1790
Study, Army	1742
Support	1770
Support program	1786
Technologies and techniques, new	1829
Technology in DOD, new	1822
Training and doctrine command (TRADCO)	2597
Training and readiness	24, 509, 556
Training and testing, innovative	1824
Training, education, student loads	1709
Transfer of intelligence gathering equipment	787
Triad	404, 1405, 1430
Balance	3566
Capability	409
Strategic nuclear forces	1538
Triad versus DYAD	383
Trident program	409, 2500
Growth potential	2510
Manpower requirements	1598
Role of	3350
Submarine basing	1594
Submarine construction	375
Status	323
Submarine fleet	1593
Trident I	1404
Trident II pre-DSARC I tasks	2512
Troop deployment in major attack, current	767
Troop withdrawal	95, 96
Two legs of strategic Triad in airplanes	474
U	
UH-1H/UH-60A posture	888
U.S.S. <i>Constellation</i> , Indian Ocean aircraft loadout	1012
Squadron size versus deck space	1012
U.S. Air Force/Soviet weapons deployment	2531
U.S. Army/Soviet weapons deployment	2530
U.S./NATO AWACS programs, cost relations	469
Undersea surveillance	2925
Uniformed Services University of Health Sciences	642, 1668
Unit deployment	760, 1765, 1792, 1960
Unit priority and reserve force bonuses	650
Unit training in DOD	1739
United States:	
AWACS, number of	471
ICBM deployments	344
Air forces abilities	770
As Pacific power	770

	Page
United States—Continued	
Atlantic command	1806
Attitudes on Soviet threat	3461
Chemical munitions stockpile, deteriorating	98
Contribution to NATO theater nuclear forces	3426
Credibility, effect on	773
Defense requirements	716
Collective security	716
Forward basing	717
Forward defense	717
Strategy	716
European command	1805
Fleet, shrinkage of	558
Forces in Japan	730
Forces in Korea, role of	726
Symbol of stability	729
Holds naval balance	597
Interests and objectives	712
Allied countries	713
Economic	712
Political	713
Security	713
Interests in Asia, threats to	757
Merchant Marine fleet, capability of	525
Military, improving the image of	749
Pacific command	1806
Pacific Fleet and Soviet invasion of Vietnam	759
Power in Western Pacific	731
Readiness command	1805
Response to fractionization	410
Roland/British Rapier	2586
RV numbers	388
Share of NATO program cost	470
Strategic forces, degrading of	382
Strategic nuclear warheads	3425
Delivery capability	3425
United States-Japan:	
Alliance, reliability of	762
Communications interoperability	766
Cooperation	739
Coordination and cooperation	765
Joint training	751
United States and Soviet:	
Defense objectives	2468
Intercontinental ballistic missiles	2469
Look-down/shoot-down	391
Military balance	39
Navies in South China Sea	762
R.D.T. & E. programs	1071
Satellite communications	2687
Submarine acoustic comparison	3351
United States and allied naval force requirements to contain the Soviet fleet	765
United States and South Korean air forces preparedness	767
United States-Iranian military sales program	796
United States and Soviet forces, maintain balance between	331
Unobligated and unexpended balances	466
In fiscal 1980 budget	182
"Up or out" policy	118

V

V/STOL aircraft, advantages of	577
V/STOL aircraft technology	2853
V/STOL and CTOL aircraft	570
V/STOL capability, maintaining	577

	Page
V/STOL carriers-----	559
V/STOL light attack force, all-----	577
V/STOL technology funding-----	1026
VLF TACAMO/satellite-----	3344
VSS design-----	534
Vance Air Force Base operations-----	2031
Cost-plus contract-----	2033
Variances from fiscal year 1978 estimates :	
Direct obligations and unobligated balances, DOD-----	259
Direct obligations and unobligated balances, procurement appropriations-----	259
Outlays and unexpended balances, DOD-----	260
Verifiability of SALT II-----	88
Verification capabilities—Iran-----	99
Verification of air mobile option-----	372
Vertical launching system-----	3150
Vertical shelter concept-----	345
Veterinary support-----	1623
Veterinary mission/responsibility-----	1607
Views differ on U.S. position-----	147
Volunteer active Army-----	633
Vulcan-----	2547
Vulnerabilities and needs-----	22
Vulnerability of downlink points-----	390
Vulnerability of ground communications-----	391

W

WAAM/Air Force and Army coordination-----	1157
WRSK, withdrawals from-----	1163
Wage and price guidelines-----	178
As a condition of Government contracting-----	178, 243
Procurement policy-----	218
War education, law of-----	1813
War games-----	826
Warfare area breakdown—fiscal year 1980 R.D.T. & E. budget-----	3107
Warfare problems, elements of-----	3136
Warning systems-----	349
Warning times, incentive to decrease-----	3583
Warsaw Pact assessments-----	862
Warsaw Pact Theater nuclear force, 1984-89-----	3462
Warsaw Pact threat assessment-----	869
Wartime casualties, new assessments-----	2210
Waste and fraud-----	123, 226
Weakness of cruise missile carrier system-----	373
Weapon systems, competition in development and acquisition-----	2851
Weaponry improvements-----	490
Weapons control measures-----	2540
Weapons systems and equipment-----	3250
Weapon location system-----	2896
Wharton Graduate School study-----	166
Wide-bodied cruise missile carrier-----	460
Winter Olympics, 1980-----	1989, 2072
Withdrawal of troops from Korea-----	637
Women :	
Assignment limitation, Navy/Air Force-----	2003
In Armed Forces-----	517
In Air Force-----	154
In the Army-----	663
Military training-----	1837
On ships-----	1890, 1963
Percentage of the Force-----	1961
Shortfall in recruiting-----	1961
Trainees-----	1838
Worldwide training scenarios-----	1089

X

	Page
XM-1 tank-----	541, 623, 2338, 2609, 3083, 3089
Acquisition plans-----	106
Backup diesel engine for-----	1442
Engine-----	1398
Facilitization costs-----	2639
Main gun-----	3088, 3092, 3098, 3100
Program-----	3057

Y

YAV-8B flight testing-----	553
Yearly U.S. R. & D. expenditures-----	398
Yield, accuracy, and first-strike capability-----	100

O

