

(U) Appendix B - Acknowledged Names and Functions

(Appendix B is UNCLASSIFIED in its entirety)

NOTE: The names of Department of Defense officials appearing in records twenty-five-years old or older are releasable, as are the names of officials in other executive branch agencies other than the Intelligence Community (e.g., DOE, NASA, etc.). The names of government and contractor personnel who worked on the WS-117L/SENTRY/SAMOS Program in the 1950s are also releasable. The names of contractor personnel who have worked on the NRP are not releasable unless they appear below. Air Force personnel assigned to the CIA on overhead systems likewise are not releasable unless their names appear below or in the CIA list of releasable names. Any names that appear below, when associated with more recent, specific NRO satellite programs or activities outside of the timeframe indicated, should be redacted under the Privacy Act exemption. See also release authority regarding signatures in section 9.

AHOLA, Teuvo A. (Gus) (Col, USAF). Commander, 6594th Recovery Group. Responsible for the CORONA recovery effort in the 1960s.

ALDRIDGE, Edward C. Director, NRO, (1981-1988).

ALKOBER, James. Eastman Kodak. Instrumental in investigating and characterizing the unique technical challenges for high altitude reconnaissance films. Helped develop and define the film sensitometric and spatial performance requirements for the CORONA program and assisted the government in monitoring operational system performance.

ALLEN, Edward L. A CIA member who supported the U-2 program in the 1950s.

ALLEN, Lew (Gen, USAF)⁷¹. Director, Secretary of the Air Force Special Projects (SAF/SP) and Program A from 1 April 1971 to 21 January 1973. Also served as Director of the NRO Staff (Secretary of the Air Force for Space Systems[SAF/SS]) from 20 June 1969 to 20 August 1970.) Later became Air Force Chief of Staff.

ALSER, Donald. (Maj USAF). A member of SAF/SS, 1969-70.

ALVAREZ, Luis.⁹⁴ A member of the Drell Committee established by DDS&T Bud Wheelon in the mid 1960s..

AMORY, Robert. CIA Deputy Director, Intelligence, 1960.

ANDERSON, Everett E. 6593rd Test Squadron.

ANDERSON, John R. (Maj, USAF). Member of SAF/SS 1973-74.

ARAKI, Samuel.⁹⁴ President of Lockheed Missiles and Space Co.

BACALIS, Paul. A CIA member (later D/OSA) who supported the U-2, A-12, and CORONA programs in the 1950s and 1960s.

BACHELOR, William B. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

BAGWELL, Jim (Lt Col, USAF).⁹⁰ Assigned to SAF/SP in 1971 time frame.

BAILEY, Bernard L. (Col, USAF). Director, Program D, 21 July 1972 - 1 October 1974.

BAKER, James G.⁶² Harvard Astronomer, member of the 1950's Technology Capabilities Panel. Designed virtually all of the lenses and many of the cameras used in aerial over flights of "denied territory."

BAKER, William O. Ph.D.⁶² A physical chemist and signals intelligence expert at AT&T Bell Laboratories who served as scientific counselor to the NSA, CIA, USN, and NRO on the overhead Advisory Committee and the President's Foreign Intelligence Advisory Board.

BAILEY, (Col, USAF). Member of Program D, 1970-74.

BARNES, C. Tracy. CIA Assistant Deputy Director, Plans.

BASS, Gordon. (Maj, USAF). Member of SAF/SS, 1970-71.

BATTLE, Clarence L. CORONA Program Manager.

BAUMGARDNER, (Capt, USAF). Member of Program D, 1970-72.

BEEDE, Donald.⁹⁰ Air Force officer assigned to SAF/SP in the 1971 time frame.

BEERLI, Stanley W. (Col, USAF). Served on the U-2 program reporting to Richard Bissell, and later as Deputy to CIA Deputy Director for Research (DDR) Herbert Scoville, and represented him at meetings in 1962 with DNRO Charyk.

BELL, (Lt Col, USAF). Member of Program D, 1970-73.

BENNETT, John P.⁶² TRW's chief engineer in support of Program B, Mr. John Bennett conceived the spacecraft design, including the reflectors, used in signals intelligence satellite systems.

BERG, Russell .A. (Brig Gen, USAF).⁷⁰ Deputy Director, SAF/SP from 1962-1965. Later served as NRO Staff Director, SAF/SS, from 1 February 1967 to 19 June 1969.

BETTERTON, Thomas C. (RADM, USN). Director, Program C, 20 March 1985- ?

BETTS, Austin W. OSD Director, Advanced Research Projects Agency (ARPA).

BILLINGS, Bruce H. OSD Deputy Director, Research and Engineering, 1960.

BISHOP, Charles.⁸² As a major in the USAF in the mid 1970s, served as the North American Air Defense Command (NORAD) interface with SAF/SP. Later became a Brigadier General and served as Chief of Intelligence for HQ USAFE.

BISSELL, Richard, M. CIA, U-2 and CORONA Project Director, 1954-1960.

BLACK, Edwin F. Military Assistant to DEPSECDEF.

BLACKWELL, Arthur. An Aerospace Corporation engineer during the CORONA program who later became the first African-American to achieve super grade status at CIA.⁸⁷ (Effective 3/14/02)

BLANKENSHIP, James R. (Maj, later Col, USAF). An Air Weather Service member of the DMSP program, late 1960s; member of SAF/SS 1977-78.

BLUM, Edward F. Lockheed, Engineering Development Manager. Development and manufacture of Agena A, B, and D upper stage to which CORONA payload was integrated.

BOREL, Paul A. CIA, Assistant Director Office of Current Research, 1960.

BOTZONG, Wilbur B. (Lt Col, USAF). DMSP Program Director in the early 1970s.

BOYD, Albert P. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

BRADBURN, David D. (Brig Gen, USAF). Director, SAF/SP and Program A from 22 January 1973 to 31 July 1975. Earlier served as Staff Director, National Reconnaissance Office (SAF/SS) from 1 June 1971 to 7 January 1973.

BROOKS, Dennis (COMM, USN). Director, Program C, 4 October 1982-19 March 1985.

BROSS, John. Director, National Intelligence Programs Evaluation. Led negotiations that resulted in the fourth NRP agreement in August 1965.

BROWN, George S. (Gen, USAF). Military Assistant to SECDEF, 1960. Later became Air Force Chief of Staff and Chairman, JCS (CJCS).

BROWN, Lee.⁹⁰ A member of the COMIREX staff who helped develop the NIIRS rating scheme, an empirical way to define resolution for interpretation of satellite imagery.

BROWNING, John W. (Col, USAF).⁶² Directed a key SIGINT satellite project for NRO Program A, managing its first launch and operations.

BRUGIONI, Dino. Manager, National Photographic Interpretation Center (NPIC).

BRYSON, Jon H. (Col, USAF).⁶² Directed the development, acquisition, and operation of a Program A signals intelligence satellite system that handled rapidly increasing data rates.

BUMM, William. One of the original 13 individuals assigned to work space operations at the Satellite Test Center during the CORONA program. Provided the vital link between the operations at the Advanced Projects Integration Facility and the on-orbit controllers at the Satellite Test Center.

BURKE, William (Col, USAF). Assigned to the CIA in support of the U-2 program in the 1950s.

BURKS, Roy A.⁶² Served as Technical Director of the NRO Program B CORONA Program.

BUSH, George H. W., DCI 30 January 1976-20 January 1977.

BUZARD, Frank S. (Col, USAF).⁶² CORONA System Integration Manager. Became the first Air Force Director of Program B's follow-on imaging satellite, described as "the most complex electromechanical device ever placed in orbit" in 1966.

CABALLERO, Julian.⁶¹ Provided executive leadership to NRO satellite system development and operation as Program B Director.

CABELL, C.P. Deputy Director Central Intelligence (DDCI), 1957.

CAMINITI, Lee.⁹⁰ Involved with CORONA launch activity.

CARLSON, William Dr.⁹⁰ Chief Scientist for TRW.

CARPENTER, Ralph A. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

CARROLL, F.P. (Lt Gen, USAF).⁷¹ Director, Defense Intelligence Agency. He participated in the interagency debate in the 1970s about development of an EOI imaging capability.

CARTER, D.L. (Col, USAF).⁷⁰ A member of the NRO Staff, mid 1960s.

CASEY, William J., DCI, 28 January 1981-29 January 1987.

CHAMBERS, Cornelius W.⁶² Contributed flight "protective measures" adopted for use on most NRO satellites, developing a novel approach to on-board fault detection.

CHARYK, Joseph V. Director, National Reconnaissance Office (DNRO), 6 September 1961 to 1 March 1963.

CHUBB, Melvin F. "Nick" (Capt, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

CHRISTMAN, Donald B. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

CLARK, Ed.⁹⁰ An Aerospace Corporation employee.

CLARK, John (ADM, USN). ARPA, 1957.

CLAUSEN, Ingard. Original General Electric Program Manager for the CORONA space return vehicle assembly.

CLINE, Raymond.⁷¹ Director of State Department's Bureau for Intelligence and Research in the 1970s. He participated in the interagency debate over development of the EOI imaging system during that period.

CODY, Joseph J., General, USAF. Commander, 6555 Aerospace Squadron at Vandenberg AFB (VAFB) during the CORONA program.

COFFMAN, Vance D.⁹⁵ Associated with NRO programs at Lockheed since 1971. Led the development of a new satellite attitude control capability needed to provide major improvements in

producing large quantities of geographically accurate, highly-detailed maps from satellite-collected images.

COLBY, William E. DCI 4 September 1973-29 January 1976.

COLE, (Capt, USN). Member of SAF/SS 1976-77.

COMER, Robert L. (Lt Gen, USAF).⁷⁹ Then Colonel Cromer directed the design, development, and acquisition of a new imaging satellite system that became a critical part of U.S. national reconnaissance. His work led to vital new imaging capabilities, and his efforts in this and other NRO programs were critical to the evolution of NRO systems.

CONOVER, Alfred R. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

CONWAY, Harry L. Worked with the 6593rd Test Squadron to pioneer air-to-air pickup of space capsules used in the CORONA program.

COOK, Charles, W. Deputy Director, NRO (16 July 1974 - 30 November 1979) and Acting Director, NRO (1977).

COPLEY, John O. (Col, USAF).⁶² Guided the development of Program A signals intelligence satellites from the earliest experiments to the later constellations that provided broader coverage.

CORRETT, Donald A.⁹⁰ TRW employee who worked on NRO programs.

COYLE, Harold S. Jr. (Lt Col, USAF). Member of SAF/SS who worked policy issues for the DNRO, 1971-1975.

CRAIG, (nfi) (Lt Col, USAF).⁷¹ Member of the NRO Staff (SAF/SS) in the 1970s.

CRITCHER, James R.⁹⁰ Manager of Corona Engineering, Operations, and Analysis for the Lockheed Missiles and Space Company, 1965-1972.

CROFT, Charles (Capt, USAF).⁶⁴ Member of the DMSP Program staff within SAF/SP, in charge of contracts.

CROMER, Donald L. (Brig Gen USAF), Director, NRO Staff (SAF/SS) 5 May 1982-11 June 1984.

CROTHER, Robert H.⁶² Business manager for the contractor supporting the Program B electro-optical imaging satellite and wrote the handbook on cost and schedule management that remains a standard reference in spacecraft acquisition.

CROWLEY, John J.⁶² Served as chief of Program B's Office of Special Projects (OSP), and is credited with establishing a true partnership between the CIA and SAF/SP elements of the NRO.

CUDMORE, Patrick H. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

CULLEN, Paul E.⁹⁰ Air Force officer

CUNNINGHAM, James A.⁴⁷ Assistant to Richard Bissell in CIA's U-2 Project Office.

Cullinane, Eugene T. M. (Lt Col, USAF). Member of SAF/SS in 1976-77.

CURTIN, Richard D. (Brig Gen, USAF).⁷⁰ First Director, SAF/SS (NRO Staff) from 31 August 1960 to 14 June 1962.

CUTLER, Otto E. CIA Assistant Director, Office of Research and Reference, 1960.

DARCY, Robert T. (CAPT, USN). Director, Program C, 24 July 1975 to 30 June 1977.

DAUGHERTY, Kenneth I. Geodesist.

DAVIES, Merton E.⁶² An engineer, reconnaissance system designer, imagery interpreter, and space cartographer who invented the Spin-Pan camera and worked on designs for a family of film-based reconnaissance satellites that led to CORONA. Employed throughout his career at RAND, he also served on the panels that established reconnaissance requirements and advised on competing systems.

DAVIS, Arthur. (Capt, USAF). Member of SAF/SS 1979-80.

de BROEKERT, James C.⁶² A contractor with Advent Systems, Inc., contributed key payload designs for several of Program A's first-generation signals intelligence satellites.

DENNIS, Marion Gary. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

DIENER, William.⁹⁰ Air Force officer who served with the CORONA launch crew during the CORONA program.

DIRKS, Leslie C.⁶¹ As Director, Program B from 6 June 1976 to 2 July 1982, provided executive leadership to NRO satellite system development and operation, especially the technical development of the electro-optical imaging system in the 1960's and 1970's.

DIX, Edgar L. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

DOLAN, Don.⁹⁴ A TRW employee who worked with NRO Pioneer John Bennett on SIGINT systems for the NRO.

DONOVAN, A. F.⁷⁰ A member of the Purcell Panel.

DORNBRAND, Harry.⁹⁰ A Naval Research Laboratory employee.

DRELL, Sidney D., Ph.D. Stanford University scientist recruited by Wheelon (CIA/Deputy Director for Science and Technology) to tackle CORONA problems. A theoretical physicist, he also served on the President's Foreign Intelligence Advisory Board and the President's Science Advisory Committee. He served as a key scientific consultant to Program B, and served on the Technology Review Panel of the Senate Select Committee on Intelligence where he was instrumental in securing approval and support for several NRO special projects.⁶²

DUCKETT, Carl E. Succeeded Bud Wheelon as CIA DDS&T and Director, Program B.

DULLES, Allen W. Director of Central Intelligence (DCI), 1953-1961.

Dvorchak, Stephen (Capt. USAF), worked launch vehicles for DMSP in the early 1960s.

EARMAN, John S. CIA Special Assistant to the DCI, 1960.

ECHOLS, Emmett D. CIA Director of Personnel, 1960.

EDWARDS, Sheffield. CIA Director for Security, 1960.

EISENHOWER, Robert E. Developed high-speed, real-time, on board integration, synchronization, and processing of SIGNINT data from multiple satellites, 1962 - 2005.

ELSBY, C. Neal (Capt, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

ENNIS, William P. OSD, Director, Weapon System Evaluation Group, 1960.

ERKELENS, (Lt Col, USAF). Member of Program D, 1970-72

ERSKINE, Graves G. (GEN, USA). OSD Special Assistant to SECDEF for Special Operations, 1960.

EVANS, Fred.⁶¹ Provided executive leadership to NRO satellite system development and operation.

EVANS, Harry. L. (Col, USAF).⁶⁴ Deputy Director, SAF/SP, 1960-1964.

EVERETT, James.⁹⁰ Air Force officer who participated in NRO programs.

EWING, Harold.⁹⁰ Harvard University professor who worked on the 1960's Purcell Panel that recommended increased resolution capabilities for reconnaissance satellites.

FAGA, Martin. Director, NRO (1989-1993).

FARNUM, Mark. (Lt Col, USAF). Member of SAF/SS in 1963-64.

FELDMAN, William.⁹⁴ A Kodak employee involved in developing NRO imaging payloads as mentioned in the NRO Pioneer memoir of Charles Spoelhof.

FERDINSI, Carl L.¹⁰² Pioneered algorithms and computer processing techniques for foreign instrumentation signals intelligence data, leading to dramatic improvements in telemetry collection.

FLAX, Alexander. Director, NRO from 1 October 1965 to 17 March 1970.

FLUCKEY, Eugene G. (ADM, USN). Director, Program C, 8 July 1966 to 30 January 1968.

FORCETERLE, Edward R. (Lt, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

FOLEY, Paul F. (Col, USAF). Director, NRO Staff (SAF/SS), 15 July 1984-31 January 1985

FORD, Ralph J. Assistant CORONA Program Manager.

FORSYTHE, (Capt, ?). Member of SAF/SS in 1964-65.

FOSS, Joe (Col, USAF).⁹⁰ Deputy Wing Commander at Vandenberg, AFB during the CORONA Program.

FOSTER, John S.⁹⁰ Addressed NRO programs while serving as Director of Defense Research and Engineering (DDR&E) in the Department of Defense, late 1960s.

FROST, Laurence H. (RADM, USN). Director of Naval Intelligence, 1960.

FUBINI, Eugene. Director of Defense Research and Engineering (DDR&E) in the Department of Defense, early-mid 1960s. Addressed NRO issues for the SECDEF and served on the NRO Executive Committee.

GARWIN, Richard L., Ph.D.^{62,71} A physicist who served on the President's Science Advisory Committee, and chaired its panels on Military Aircraft, Anti-submarine and Naval Warfare. He established standards and found solutions for electromechanical design of modern spacecraft. As a champion of Electro-Optical Imaging, he helped Henry Kissinger understand its role for our national defense.

GATES, Thomas. SECDEF 1960.

GAVLAK, Ray. Lockheed. Supervised the engineers and technicians at the Lockheed facility at VAFB and coordinated CORONA launch efforts with the other contractors.

GEARY, Leo (Brig Gen, USAF). The first Director of Program D from 2 May 1962 to 15 July 1966.

GEER, Richard L. (Capt, USAF).⁶⁴ Member of DMSP Program staff responsible for DMSP launch vehicles, 1961-1965.

GEIGER, Robert K. (ADM, USN). Director, Program C, 5 January 1971 to 23 July 1975.

GEIGER, William. (Maj, USAF). Member of SAF/SS in 1976-77.

GENEZ, Victor M. (Col, USAF).⁹⁰ The Director of Intelligence in AF Air Research and Development Center in the 1950s when WS-117L was established.

GEYER, Gary S. (Col, USAF).⁶² Contributed to notable improvements in processing, and dissemination that permitted the product to reach military and civil users in near real time.

GIFFORD, David.⁹⁰ A NPIC employee involved with interpreting satellite imagery.

GIFFORD, Elaine A. NPIC Photogrammetrist.

GILLER, Edward B. A CIA member of the U-2 and A-12 programs in the 1950s and 1960s.

GOODPASTER, Andrew J. (GEN, USA). Eisenhower Staff Secretary.

GORDAY, Charles A. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

GORMAN, Frank B. (Capt, USN).⁷⁰ An original member of the first NRO staff (SAF/SS).

GRAFE, Arthur H. CORONA Operations officer, 6594 Recovery Control Group.

GRAN, Ralph M. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

GRAY, Gordon. Eisenhower Assistant for National Security Affairs.

GREEN, Edgar. Eastman Kodak. Program Manager for the Kodak interface with the government and camera manufacturers during the critical CORONA program implementation years.

GREER, Kenneth E. CIA historian and author of a Corona history.

GREER, Robert E. (Maj Gen, USAF). First Director, SAF/SP and Program A, 20 September 1960 to 30 June 1965.

GRIEGO, William. (Maj. USAF). Member of SAF/SS in 1976-77.

HAAS, Donald, L. Deputy Director, NRO from 9 December 1979 to 11 April 1982.

HAGERTY, James. Eisenhower Press Secretary.

HAIG, Thomas O. (Lt Col, USAF). First 417/DMSP Program Director at SAF/SP. Led a team in 1961 that developed an operational polar-orbiting meteorological satellite, its launch vehicle, and associated ground command and control stations.

HAINES, Clarence R. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

HALL, Keith, R. Director, NRO (1997-present) and Deputy Director, NRO (1996-1997).

HALL, R. Cargill. (Air Force and CIA Historian, retired). Author of various NRO histories, a number of them are in the public domain.

HANMARSTROM, Lee M.⁹⁵ Associated with NRO programs since 1962. His concepts and developments for satellite, ground station, and processing systems greatly improved the accuracy, timeliness, and volume of NRO ELINT products. He also served as the head of the NRO's Technology Office, and as the NRO's Chief Scientist.

HARD, Donald G. (Brig Gen, USAF).⁹⁰ Served as part of the CORONA Recovery Group in the late 1960s and early 1970s. Later, Director NRO Staff (SAF/SS), 5 November 1987-5 February 1989.

HARDING, Roy A. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

HARLFINGER, Frederick J. (ADM, USN). Director, Program C, 10 September 1968 to 4 January 1971.

HARRIS, Jeffery D. Director, NRO (1994-1996).

HARRIS, William R.⁹⁰ A Lockheed employee who worked on early NRO SIGINT systems in the 1960s.

HARTLEY, Frank (Col, USAF). Director, Program D from 1 November 1967 to 30 June 1972.

HAWKINS, Willis M. General Manager of the Lockheed space vehicle effort during the formative days of the CORONA program.

HEISLER, Will. Chief, CORONA Launch Control Team (VAFB).

HELMS, Richard. DCI, 30 June 1966-2 February 1973.

HERAN, Paul (Col, USAF).⁷⁰ SAMOS E-6 Program Director. Also involved with the CORONA program.

HERMAN, Robert J. Director, NRO from 8 October 1979 to 2 August 1981.

HERRON, T. J. (Lt Col, USAF).⁷⁰ An original member of the first NRO staff (SAF/SS).

HEYROTH, James.⁹⁰ Air Force officer cognizant of NRO programs.

HICKS, John J.⁹⁰ Director of NPIC who approved the NIIRS developed by NRO Pioneer Kohler and his team.

HILL, Jimmie D.⁷³ Deputy Director, NRO and Acting Director, NRO (1993-1994). Also served as NRO Staff Director (SAC/SS), 12 June 1978-9 April 1982.

HINEMAN, Evan. CIA director of DS&T, and of Program B, 1982-1986.

HOFFMANN, Frederick L. "Fritz" (Maj, later Col, USAF).⁷¹ Member of the NRO Staff (SAF/SS) in the 1970s.

HOFFMAN, Ralph (Lt, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

HOGARTY, (Lt, USAF). Member of Program D, 1970-73.

HORNER, Richard. Assistant Secretary of the Air Force, 1957.

HOUSTON, Lawrence R. CIA, General Counsel.

HOWARD, Henry C. (Major, USAF).⁷⁰ A member of the first NRO staff (SAF/SS), 1961-1965.

HUBBLE, Hilbert R. (PO1, USN).⁹⁴ A USN technician mentioned in the memoirs of NRO Pioneer Mayo as working in the GRAB radio control and interrogation hut in Hawaii.

HUFFSTUTLER, R. M. (Rae). CIA, Executive Director, Deputy Director for Administration, and Director, NPIC.

HUNTLEY, Hal.⁹⁰ Employee of Lockheed Martin Corporation.

INLOW, Roland.⁹⁰ CIA employee who served as Chairman, COMIREX, late 1960s and 1970s.

IORILLO, Tony.^{61,79} Mr. Iorillo conceived a new concept in spacecraft control and operation, which became a fundamental design for many NRO spacecraft. He also was a leader in the Hughes design and development effort that fielded the critical, near-real-time optical-imagery-transmission relay system. He guided corporate and government funded research efforts on critical technologies that produced significant advances in national reconnaissance capabilities. His efforts contributed to the successful achievement of a challenging and important vision: near-real-time optical imaging, with data relayed directly from space to a ground processing system.

ISTVAN, Edwin J. (Lt Col, USAF).⁷⁰ An original member of the first NRO staff (SAF/SS).

JACOBSON, Ralph H. (Brig Gen, USAF). Director of Program A, 20 January 1973-19 February 1987.

JAMES, Clifton E. (Major, USAF).⁷⁰ An original member of the first NRO staff (SAF/SS).

JOHNSON, Albert W. CORONA Payload Recovery Manager.

JOHNSON, William (Capt, USAF). Involved in Corona payload integration and recovery during the early 1960s.

JOHNSON, Roy. First director of ARPA, 1957-59.

JOHNSTON, Means. Military Assistant to SECDEF, 1960.

JONES, Thomas (Maj, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

KAEHMERER, Robert S.⁹⁰ TRW employee involved with NRO programs.

KATZ, Amrom H.⁶² A physicist involved in lens and camera design who performed the first experimental simulation of electro-optical satellite imaging. At RAND, he co-directed a project on overflight reconnaissance, and co-proposed film-recovery satellites as an immediate alternative to the near-real-time readout satellite, a proposal eventually established as the CORONA Project.

KAUFMAN, Frederick H.⁶² Directed the TRW team that produced two important Program B signals intelligence satellites, including the first communications cross-link system in space.

KELLY, Daniel. CORONA Contracts. Negotiated the initial contract with Lockheed Missiles and Space Company in April 1958.

KELLY, George W. Jr. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

KENNEDY, Joseph.⁹⁴ A member of Edwin Land's Technology Capabilities Panel Project Three that explored ways to improve the nation's intelligence capabilities in the 1950s.

KENT, Sherman. CIA Assistant Director, National Estimates 1960.

KERR, Richard J. CIA/DDCI.

KIEFER, Eugene P. Special Assistant for Technical Assistance to Richard Bissell and later Deputy Director, NRO, 2 July 1963-18 February 1965.

KIEFER, Richard. (Lt Col, USAF). A member of SAF/SS in 1969-70.

KILLIAN, James. President of the Massachusetts Institute of Technology, he chaired the panel that recommended building the U-2 aircraft and reconnaissance satellites. He chaired the President's Foreign Intelligence Advisory Board and the President's Science Advisory Committee. He also worked on Department of Defense-CIA agreements that structured the NRO.⁶²

KING, William G. (Brig Gen, USAF). Director, SAF/SP and Program A from 1 August 1969 to 31 March 1971. As a Lt Col in 1956, he was a member of USAF board that selected Lockheed as the prime contractor for WS-117L.

KIRKPATRICK, Lyman B. CIA, Inspector General, 1960.

KISTIAKOWSKY, George. Eisenhower Science Advisor.

KNOCHE, E. Henry.⁹⁰ Director of NPIC and later DDCI, Acting DCI 21 January 1977-8 March 1977.

KOHLER, Robert.^{61,62} A CIA photographic specialist who introduced photographic edge measurement and edge sharpening tools used to evaluate and enhance overhead imagery. Also provided executive leadership to NRO satellite system development and operation later in his career.

KRAFF, Arthur E. Captian, USN. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

KROMMILLER, George G. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

KUCERA, George. First Chief of the CIA CORONA Development Staff.

KULPA, John E. (Maj, later Maj Gen, USAF). Director of the DMSP Program between 1966-1969. Later, Director, SAF/SP and Program A from 1 August 1975 to 19 January 1983. Earlier served as NRO Staff Director (SAF/SS) from 8 January 1973 to 20 September 1974.

LAND, Edwin H.⁶² An imagery intelligence expert who was the CEO of the Polaroid Corporation and chaired the Intelligence Subcommittee of the Technology Capabilities Panel. As Chairman of the President's Science Advisory Committee Intelligence Panel, he advised the NRO on new and existing overhead systems. He played a vital role in advising President Nixon on the capabilities of Electro-Optical Imaging.

LANDSDALE, Edward C. OSD, 1960.

LAPIN, Ellis E.⁶² Managed the Aerospace Corporation's system design and engineering efforts for Program A imaging satellites, improving flight operations by nearly doubling functional on-orbit time.

LATHAM, Allen.⁹⁴ A member of Edwin Land's Technology Capabilities Panel Project Three that explored ways to improve the nation's intelligence capabilities in the 1950s.

LAUDERDALE, Lloyd K.⁶² Program manager for the CIA Program B team that developed an advance signals intelligence satellite from concept through first launch.

LAY, James S. Jr., Executive Secretary of the National Security Council during the Eisenhower administration, 1953-1961.

LEACH, (nfi) (Col, USAF).⁷⁰ A SAF/SP staff member.

LEDFORD, Jack (Brig Gen, USAF). As a Colonel, served as deputy to CIA DDR Herbert Scoville, and represented him at meetings in 1962 with DNRO Charyk. Later served as Director, Program B from 12 August 1963 to 27 September 1965.

LEE, (NFI) PO1, USN.⁹⁴ A USN technician mentioned in the memoirs of NRO Pioneer Mayo who worked at the GRAB radio control and interrogation hut in Hawaii.

LEFSTAD, Roy B. CORONA Launch Control Officer (VAFB).

LEGHORN, Richard. Principal contributor to the early CORONA camera development as a consultant to the USAF Scientific Advisory Board and the Special Assistant to the President for Disarmament Affairs. Co-founder and the first President of the Itek Corporation.

LEHAM, Frank W.⁶² An electrical engineer who was a member of the President's Science Advisory Committee and served on the Land Panel that advised the NRO and Program B on overhead reconnaissance systems. He was instrumental in the decision to proceed with an important high altitude signals intelligence satellite system, and contributed to the reflector design for that system.

LEVISON, Walter J. Itek CORONA Program Manager. Principal proponent of the proposal that CORONA employ a high resolution 24 inch focal length Petzval lens in a panoramic camera to be used on a stable body space vehicle.

LINDSAY, Nathan J.⁹⁴ (Maj Gen, USAF). As a major in the USAF, worked with NRO Pioneer Gary Geyer. As a general officer, later became Director, SAF/SP and Program A 1987-1992.

LINDSEY, Frank.⁷⁶ OSS in WWII, CEO, ITEK Corporation in the mid-1960s.

LINE, D. P.⁷⁰ A member of the Purcell Panel.

LISCIOTTI, Francis L. (Capt, USAF).⁷⁰ A member of the first NRO staff (SAF/SS).

LLOYD, H. Gates. CIA Assistant Deputy Director, Security, 1960.

LORENZEN, Howard O.⁶² An early advocate of signals intelligence satellites who directed the development of GRAB, the nation's first such program, at the Naval Research Laboratory.

LOWRANCE, Vernon L. (ADM, USN). Director, Program C from 23 July 1962 to 19 June 1963.

LUNDAHL, Arthur C. CIA, Director Photographic Interpretation Center, 1960 and later Director, NPIC.

MACLEISH, Kenneth.⁹⁴ A Kodak employee involved in developing NRO imaging payloads as mentioned in the NRO Pioneer memoir of Charles Spoelhof.

MADDEN, Francis J. (Frank). Itek. Chief engineer for development of the HYAC panoramic camera and subsequently responsible for all engineering development of the CORONA camera and its improved versions.

MAHON, J. E. COL, USA. Staff Officer, JCS, 1960.

MAHONEY, William C. Photogrammetrist during the CORONA program.

MANNEN, James T. (Col, USAF).⁶² As director of a vital imagery satellite program, introduced procedures that improved target

tasking and significantly increased ground resolution and on-orbit system reliability.

MARK, Hans. Director, NRO (1977-1979).

MARKWOOD, Calvin H. (Capt, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

MARSH, Roger C. Developed means to construct, operate, and manage covert organizations using open source methods, 1971-2001.

MARTIN, John L. Jr. (Brig Gen, USAF). Aide to DNRO Charyk and later, as a general officer, Director of SAF/SP, Program A, and NRO Staff Director (SAF/SS), 1 July 1962-3 August 1964.

MASON, Charles W. CIA Chief, Budgeting and Comptroller, 1960.

MATHISON, Charles G. Vice Commander, 6594 Recovery Group.

MAXEY, Jackson. Head of the CIA office that was directly responsible for development and system integration of the CORONA cameras through 1965.⁸⁷ (Effective 3/14/02)

MAYHEW, Paul W., Ph.D.⁶² Served as TRW's payload project manager and system engineer for two unprecedented signals intelligence satellite systems.

MAYO, Reid D.⁶² Working at the Naval Research Laboratory; conceived and designed the first Navy signals intelligence satellite, GRAB/DYNO. Later served as project engineer and technical director of Program C.

MERRIDE, Charlie.⁷³ SAF/SP staff member involved with financial management.

MCCARTNEY, Forrest S. Satellite Test Center. Responsible for the on-orbit control of early CORONA satellites and was at the console during the first successful CORONA mission. Later became Commander, AF Space Division.

MCCLELLAND, Harold M. CORONA Staff. Principal liaison between the Pentagon's Advanced Research Projects Agency (ARPA) and the CIA CORONA Program Office during the formative years of the program.

MCCONE, John A. DCI, 28 November 1961-28 April 1965.

MCCRAY, Phillip R. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

McDonald, James H. CIA member of the CORONA team, (1960-1972).

McLUCAS, John L. Dr. Director, NRO (1969-1973).

McMAHON, John N. CORONA Development Team and later DDCI.

McMILLAN, Brockway. Director, National Reconnaissance Office from 1 March 1963 to 1 October 1965.

MECEDA, John. (Capt, USAF). A member of SAF/SS in 1968-69.

MESSNER, David. (Capt, USAF). A member of SAF/SS in 1976-77.

NETTLER, Reuben.⁹⁰ Employee of TRW who was cognizant of NRO programs.

MILES, John M. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

MILLER, Edward A. GE CORONA Project Manager. Led the team that successfully developed the recovery vehicle in record time.

MILLER, Herbert I. CIA member who supported the U-2 and A-12 programs in the 1950s and 1960s.

MISNER, Robert D. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

MITCHELL, Harold E. Air Force pilot during the first aerial recovery of the CORONA film return capsule.

MOORE, Richard R. Involved with CORONA Thor booster modifications.

MOORMAN, Thomas S. Moorman, Jr. (Brig Gen, USAF). NRO Staff Director (SAF/SS), 5 February 1985-18 October 19987.

MORGAN, James E.⁶² An early Navy champion of electronic intelligence satellite tactical support to military operations, developed the target tasking and data dissemination architectures for key Program C systems.

MORTON, Mark. GE General Manager responsible for ensuring all GE support to CORONA was delivered on schedule.

MUNSON, Alden V., Jr.⁶² A contractor with the Aerospace Corporation and TRW who conceived and developed a fully automatic electronic intelligence system that directly supported U.S. military forces in the field.

MURPHY, Charles L. (LtCol, USAF).⁶⁰ The first CIA Field Technical Director, Advanced Project Integration Facility. Managed the integration, test, launch, and on-orbit operations of the CORONA system. Murphy's Air Force and CIA affiliations can be acknowledged.

MURPHY, Frank (CAPT, USN). Interim Director, Program C.

NAKA, F. Robert. Deputy Director, NRO from 1 July 1969 to 31 August 1972.

NALLY, (Lt Col, USAF). Member of Program D, 1970-72.

NEWMAN, Mark.⁹⁰ Employee of TRW who was cognizant of NRO programs.

NEWMAN, Mark.⁹⁴ A TRW employee who worked with NRO Pioneer John Bennett on SIGINT systems for the NRO.

NOLAN, Donald.⁹⁰ Employee of TRW who was cognizant of NRO programs.

NOWINSKI, Ed.⁶¹ Provided executive leadership to NRO satellite system development and operations.

O'CONNELL, John M. (LtCol, USAF).⁹⁰ Air Force officer who worked on SIGINT programs in SAF/SP. Later worked for Lockheed.

ODER, Frederick (Col, USAF). Program Manager. Deputy to General Shreiver for WS-117L and DISCOVERER/CORONA. Played crucial role in early CORONA Technical Development.

O'GREEN, Fred. Lockheed manager for the design, manufacture, and test of the Agena vehicle for CORONA.

O'TOOLE, Joseph P. Satellite Test Center. Control Chief for CORONA operations at Sunnyvale and supervised the duty controllers.

OVER, John J. (Jack). Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

OWENS, Raymond B. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

OWENS, Wesley D. (Lt Col, USAF). A member of SAF/SS in 1969-75.

PAIGE, Hilliard. GE General Manager with overall responsibility for development of the CORONA bucket reentry systems.

PARANGOSKY, John. CORONA Program Staff. Served as Deputy Chief, then later as Chief of the CORONA Program Office Development Staff in CIA DS&T.

PARRISH, David P. (Col, USAF).⁹⁰ Air Force officer assigned to SAF/SP.

PATTERSON, Lee Roy (CAPT, USN). Director, Program C, from 31 August 1981-10 September 1972.

PAULSON, Robert L. (Colonel USAF).⁹⁵ Associated with NRO programs between 1973 and 1989. Served as the Air Force Program Manager for a multi-agency IMINT satellite system program. He successfully led his program office and operations team through the critical design, development, and testing of the system, and developed its complex ground architecture.

PEAN, Hayden. (Lt Col, USA). A member of SAF/SS in 1969-70.

PELINE, Julius P., Ph.D.⁶² Served as Lockheed's system test director and program manager for a key imagery intelligence satellite program.

PENCE, Lawrence. (Maj, USAF). Member of SAF/SS 1969-70.

Perry, Robert L. Member of RAND and an NRO contract historian, 1966-1974.

PERRY, William J. A mathematician who served in the U.S. Army, and advised NSA and the CIA on programs to intercept and evaluate Soviet missile telemetry and communications intelligence. He chaired the "Perry Panel" that advised the CIA on all overhead signals intelligence collection, and later served as Under Secretary of Defense for Research and Engineering and as Secretary of Defense.

PEYTON, Keith. (Capt, USAF). Member of SAF/SS 1972-1975.

PHILBRICK, Richard W. (Col, USAF). Aerial reconnaissance pioneer with the Army Air Corps (later USAF) and a top leader at the Itek Corporation on the Corona Program in the 1960s.

PHILMEYER, Gil.⁹⁰ Employee of Eastman Kodak who was cognizant of NRO programs.

PIETZ, John (Maj, USAF).⁷⁰ A staff member of SAF/SP.

PLUMMER, James W. Director, National Reconnaissance Office from 21 December 1973 to 28 June 1976. Earlier in his private industry career, he led the Lockheed team from the early days of WS-117L, and as the Lockheed program manager for the CORONA program, led the prime contractor efforts all the way through its formative years to full operational capability.

POST, William S. (RADM, USN). Deputy J-2, Joint Chiefs of Staff (JCS) 1960.

POWELL, Robert M.⁶² Lockheed program manager for a key high-resolution satellite reconnaissance program who devised a novel orbital maneuver that greatly extended the lifetimes of satellites in orbit.

POWERS, Francis Gary. CIA U-2 pilot shot down over the Soviet Union on 1 May 1960.

PRICE, Charles W. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

PROFFITT, Wayne L. Designed the mechanism that permitted a satellite to point its communications antenna toward a relay satellite and maintain continuous contact.

PURCELL, Edward M., Ph.D.⁶² A Harvard Nobel Laureate and radar expert who worked on all early overhead reconnaissance projects that operated at extreme altitudes. His main contribution involved methods to make these vehicles, if not invisible to radar, hard to observe with radar. He also chaired the Land Panel subcommittee that selected the Program B follow-on film recovery reconnaissance system.

QUARLES, Donald A. DEPSECDEF, 1957-59. Drafted the first "Freedom of Space" presidential directive for the IGY satellite program while serving as Asst SECDEF R&D in 1955.

QUIGGINS, Richard S. (Lt Col, USAF). Member of SAF/SS 1963-65.

QUIGLEY, Frank.⁸³ As a Captain in the Navy was Director of a satellite ELINT System Program Office (SPO) during the development and early operational period of the automated ELINT processing system. (Effective 2/7/02)

RABORN, William F., (ADM, USN). DCI, 28 April 1965-26 April 1966.

RAMBOLT, William.⁹⁰ A Stanford University Laboratory employee who worked on early NRO SIGINT systems in the 1960s.

RASPET, David Colonel, USAF.¹⁰² Developed advanced methods of integrating spacecraft into launch vehicles and provided crucial leadership that enabled sustained operation of reconnaissance satellites.

RATCLIFFE, Louis T. (Jack). Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

REBER, James Q. Deputy Director, NRO from 1 September 1965 to 30 June 1969. Had earlier served as Chairman, Committee on Overhead Requirements (COMOR).

REED, Thomas C. Director, NRO 9 August 1976 to 7 April 1977.

REED, (Lt Col, USAF). Member of Program D, 1970-72.

REESE, Edward H.⁶² General Electric's program technical director, led the development of the ground data system that integrated hardware and software to process digital imagery from electro-optical imaging satellites.

RICKS, Luin (Capt, USAF).⁶⁴ Member of the DMSP Program staff responsible for ground station support (tracking, command and control) in mid-1960s.

RIEPE, Quentin "Q" (Col, USAF). Worked on ground facilities for the WS-117L/Samos program at Vandenberg and elsewhere, and set up the remote tracking stations for the CORONA program. Served as first director of the MIDAS Program (1959-1961).

RINDSKOPF, M. H. (CAPT, USN). Director, Program C, 14 June 1966-12 September 1966.

RITLAND, Osmund (Maj Gen, USAF). Assistant to Richard Bissell for the overall CORONA Program. Later became Commander, AF Space System Division.

ROBERTS, Lee W. (Col, USAF).⁶² Directed improvements in an important Program A satellite reconnaissance effort that produced high-resolution imagery of the earth's surface.

ROBERTS, James F. (Capt, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

ROOT, L. Eugene. President, Lockheed Missile and Space Company at the initiation of Lockheed's effort on the Air Force's space programs.

ROSE, Vincent S.⁷⁹ At the Naval Research Laboratory he designed the first ELINT payload used in SIGINT reconnaissance satellites. His achievements enabled the earliest receivers to collect radar emissions across broad frequency ranges that produced "horizon to horizon" area coverage capabilities. His exceptional designs gave the U.S. its first space reconnaissance collection success, and he contributed to the development of advanced ELINT receivers, antennas, and associated elements for four decades.

ROSENBERG, Robert A., "Rosie." (Col, later Brig Gen, USAF). Served in SAF/SP in 1960s and early 70s. Acting Staff Director, SAF/SS, February-March, 1976; later served on the White House Staff, 1977-79.

ROSZAK, Joseph R. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

ROTULIUK, Luchy.⁹⁰ A TRW employee cognizant of NRO program activity.

ROTH, Charles.^{61, 62} Program Manager for the first electro-optical imaging satellite to be put into orbit.

ROWLETT, Frank B. Special Assistant to Director, National Security Agency (NSA).

ROY, Rob. The first CORONA launch controller at VAFB.

RUDEMAN, Malvin.⁹⁴ A member of the Drell Committee established by DDS&T Bud Wheelon.

RUEBEL, J.H. (Col, USAF).^{70, 71} A staff member of SAF/SP.

RUFFNER, Kevin C. CIA historian and editor of *CORONA: America's First Satellite Program*, 1995.

RUNGE, Fritz.³³ Worked for Lt Col Haig in the DMSP Program Office.

RUPERT, (Lt Col, USAF). Member of Program D, 1970-73.

RUZECK, Charles (COL, USA).⁷⁰ An original member of the first NRO staff (SAF/SS).

SABELHAUS, Anthony H.⁹⁰ A TRW employee cognizant of NRO program activity.

SAMFORD, John A. (Lt Gen, USAF). Director, NSA 1960.

SAMPSON, William F.⁹⁰ An Aerospace Corporation technical manager involved with NRO program activities.

SAUNDERS, Clason B. (Col, USAF). Director, Program D, from 15 July 1966-31 October 1967.

SAUNDERS, Edward R. CIA, Comptroller, 1960.

SAXTON, H. L. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

SCHALK, Louis. CIA A-12 pilot in the 1960s.

SCHOESSLER, Donald. Eastman Kodak. Liaison with the Kodak film manufacturing division, providing the interface necessary for communicating the CORONA program's film requirements and directing development of films to these unique requirements.

SELFER, (Capt, USAF). Member of Program D, 1970-72.

SCHRIEVER, Bernard A. (Gen, USAF). Commander, AF Ballistic Missile Division during the CORONA program. Later became Commander of the AF Research and Development and of the Air Force Systems Command.

SCOTT, Roderick M. Perkin-Elmer engineer who participated in the design of the U-2 and A-12 cameras.

SCOVILLE, Herbert Jr. Director of Program B from 1 March 1962 to 14 June 1963.

SCOVILLE, Herbert. CIA Office of Scientific Intelligence, 1960.

SEAL, Virginia Jane. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

SEAWELL, William T. Military Assistant to DEPSECDEF, 1960.

SEAY, J. S. (Col, USAF).⁷⁰ A staff member of SAF/SP.

SHARP, Dudley C. SECDEF, 1960.

SHELDON, Huntington D. CIA Director of Program B from 27 September 1965 to 13 January 1967.

SHELTON, William (Col, USAF). Commander, U-2 Detachment B.

SHEPPARD, William A. CORONA Program Office. Established the early processes and procedures that provided the transition between the unclassified Discoverer Program and the classified CIA activities. Interacted with senior Air Force leadership to maintain booster funding and also responsible for establishing the Autumn Leaves study to determine how conventional film could be modified to survive the space environment.

SHERILL, J.C. Executive Officer to Chairman, JCS, 1960.

SHIELDS, William L. Jr. (Brig Gen, USAF). NRO Staff Director (SAF/SS) from 18 March 1976 to 12 June 1978.

SHOVER, Harry T. (Sam). Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

SHURA, Carl Van. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

SIDES, Jack (Lt Col, USAF).⁷⁰ An original member of the first NRO staff (SAF/SS).

SIMMONS, Arthur B.⁹⁰ Eastman Kodak Director of Research and Engineering during the CORONA program.

SIMONTON, Jack, (Col, USAF).⁹⁰ Assigned to SAF/SP in the 1970s in the area of launch integration.

SINEX, Charles H. (Col, USAF).⁷⁰ An original member of the first NRO staff (SAF/SS).

SINGEL, Robert D. Deputy Director, NRO from 18 September 1972 to 15 July 1974.

SMITH, J. R. (Lt Col, USAF).⁶⁴ Deputy Program Manager, Defense Meteorological Support Program within SAF/SP.

SPOELHOF, Charles P.⁶² An Eastman Kodak official who collaborated on the design of the U-2, A-12, and SAMOS cameras, and directed efforts that led to the application of thin-based Mylar film in NRO reconnaissance satellites.

SPOKEN, Stanley.⁹⁰ CIA General Counsel who was cognizant of NRO/NRP activities.

SPRAGUE, Jay (ADM, USN). Director, Program C.

STARNES, Arthur (Lt Col, USAF).⁹⁰ A SAF/SP officer in the 1970s credited with inventing modern launch integration techniques and procedures.

STEARNS, Clifford B. (Lt. USAF), A SAF/SP officer assigned to DMSP in the mid 1960s.

STEININGER, Donald.⁹⁴ A retired Lieutenant Colonel who was a staffer to the President's Science Advisor in the early 1960s and supported the Drell Committee's investigation of ways to improve reconnaissance satellite capabilities.

STELLING, Henry, B (Hank) (Col, USAF).⁹⁰ Assigned to the SAF/SP office involved with NRO launch operations in the 1970s.

STEWART, James T. (Brig Gen, USAF).⁷⁰ Director of the NRO Staff (SAF/SS) from 3 August 1964 to 1 February 1967.

STIEG, Forrest H.⁶² A CIA engineer and spacecraft operations specialist in Program B who devised a process for selecting an optimum orbit that balanced signals collection with vehicle longevity.

STONE, Marvin S., Ph.D.⁶² Served as a TRW payload systems engineer and project manager on Program B electronic intelligence satellite programs.

STONER, James W.¹⁰² Pioneered techniques for near-real-time processing of electronic intelligence signals and whose algorithm prototyping and quality control were critical to satellite programmatic successes.

STONE, Richard. Eastman Kodak. Provided management and technical guidance for the development, integration, and quality assurance of Kodak ground handling equipment, for films and chemistries used in government facilities and for processing and duplication of the program films.

STRAND, John H. (Col, USAF). Member of SAFSS in 1964-65.

SUOMI, Verner.⁹⁴ Worked with Colonel Thomas Haig during development of the DMSP payload.

SWEENEY, Edwin F. (Col, USAF). Director of NRO Staff (SAF/SS) from 21 August 1970 to 31 May 1971.

TANG, Don F.⁶² A Lockheed spacecraft engineer in Program A who established a "collection scale" for determining what signals could be technically collected at affordable costs.

TAYLOR, Rufus L. (ADM, USN). Director Program C, 19 June 1963 to 14 June 1966.

TEVIS, Charles C.¹⁰² His advocacy for space-based signals intelligence collection resulted in the deployment of several innovative systems, and who was instrumental in the founding of the Defense Special Missile and Aeronautics Center.

TIDWELL, William A. CIA, Assistant Deputy Director for Intelligence 1960.

TOOL, Arthur Q. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

TORDELLA, Louis W. Deputy Director, National Security Agency, 1960-1980.

TRUAX, R.C. (CAPT, USN).⁷⁰ An original member of the first Air Force WS-117L staff and later a staff member of SAF/SP.

TSUTOMI, Janet. Secretary for the CORONA Recovery Group Commander.

TUKEY, John.⁹⁴ A member of Edwin Land's Technology Capabilities Panel Project Three that explored ways to improve the nation's intelligence capabilities in the 1950s.

TURNER, Richard (Maj, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

TURNER, Stanfield (ADM USN). DCI, 9 March 1977-27 January 1981.

TWINING, Nathan F. (Gen, USAF). Chairman, JCS, (CJCS) 1960.

URMAN, Wally. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

VAN MATER, Robert A. (Lt Col, USAF).⁷⁰ An original member of the first NRO staff (SAF/SS).

VELDERS, (Col, USAF). Member of Program D, 1970-73.

VOTAW, Martin J. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

WAKITSCH, Harold E. (Capt, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

WALD, Bruce. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

WALKER, Donald R. (Brig Gen, USAF). NRO Staff Director (SAF/SS), 6 February 1989-1992.

WALSH, James H. (Maj Gen, USAF). Assistant Chief of Staff, Intelligence, 1960.

WALTON, John.⁷⁹ Mr. Walton, as manager of the General Electric system integration organization for the first near-real-time electro-optical reconnaissance satellite, made possible the combined, successful operation of the earth and space-based program elements. He served as a key architect and leader in the system's definition, development, and deployment, and established and implemented management processes for the system integration and execution of this large, complex, multi-contractor acquisition program. Mr. Walton provided leadership to decision-making forums in defining and evaluating program cost, schedule, and performance data, and facilitated a cohesive government and contractor team. His revolutionary methodology addressed the entire life cycle of program events, and has been applied to other NRO programs.

WARNER, John S. CIA Legislative Liaison/Office of General Counsel, 1960.

WAYNE, James (Lt Col, USAF). A SAF/SP member of the DMSP program in the mid 1960s.

WEBB, Vernard H. (Curly) (Lt Col, USAF).⁶⁰ Deputy Chief of Operations, CIA'S Advanced Projects Integration Facility, 1960-1964. Played an important role in the test and acceptance of the CORONA camera systems and also in the on-orbit operations of the satellite.

WEBSTER, William H. DCI, 26 May 1987- ?

WEINSTEIN, Melvin (Lt Col, USAF). An SAF/SP officer assigned to DMSP in the mid 1960s.

WEISNER, Jerome.⁹⁴ The President's Scientific Advisor in the early 1960s who convinced NRO Founder Sidney Drell to join the Strategic Military Panel of the Presidents' Scientific Advisory Committee.

WELZENBACH, Donald E. (CIA Historian, retired). Author of *The CIA and the U-2*, among other published works.

WHEELER, Earle G. (GEN, USA). Army Chief of Staff, 1960.

WHEELER, Harold P. Jr. (Col USAF), NRO Staff Director (SAF/SS), 1 October 1974-17 March 1976.

WHELON, Albert D. (Bud). First CIA Director of DS&T (1963-66).

WEISENAND, James F. (MG, USA). Special Assistant to CJCS, 1960.

WHITE, Thomas D. (Gen, USAF). Air Force Chief of Staff, 1960.

WILCOX, Fred.⁹⁴ CEO of Fairchild Camera and Instrument Corporation in the 1950s.

WILHELM, Peter G.⁶² Chief spacecraft engineer at the Naval Research Laboratory who invented new techniques and devices that added capabilities and improved performance of signals intelligence satellites.

WILLEMS, John (MG, USA). Army Assistant Chief of Staff, Intelligence, 1960.

WILLIAMS, John R. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

WILLIAMSON, William. (Maj, USAF). Member of SAF/SS 1968-69.

WILLIS, Hal.⁹⁴ A TRW employee who worked with NRO Pioneer John Bennett on SIGINT systems for the NRO.

WILLIS, Irving E., CDR, USN.⁹⁴ A U.S. Navy officer mentioned in the memoirs of NRO Pioneer Mayo as participating in the GRAB ELINT satellite project.

WINFREE, Vance C. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

WINKLER, James G. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

WITHROW, William Edgar. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite radio control huts.

WOLFE, John. The first ITEK CORONA Program Manager.

WORTHINGTON, Roy (Col, USAF). CORONA Program Office. Managed development of the three-axis stabilized Agena space vehicle. Later served as the CORONA Program Manager. As Deputy Commander of the 6594th Aerospace Test Wing, directed the integration and launch of some 200 satellites from the Western Test Range.⁶²

WORTHMAN, Paul E. (Col, USAF). CORONA Program Office. Headed an Air Force Laboratory which developed aerial recovery; member, SAF/SS 1964-1970.

WULFHORST, John K. Lt, USN.⁹⁴ A U.S. Navy officer mentioned in the memoirs of NRO Pioneer Mayo as participating in the GRAB ELINT satellite project.

YATES, Donald N. OSD, Deputy Director for Research and Engineering, 1960.

YORK, Herbert F. OSD, Director for Research and Engineering, 1960.

YOST, William R. (Lt Col, Col, USAF). Member SAF/SS, 1966-71.

YOWELL, Grover M. (ADM, USN). Director, Program C from 1 July 1977 to 29 August 1981.

YUEN, Joseph Y. Associated with the Naval Research Laboratory's development of the GRAB ELINT reconnaissance satellite.

YUNDT, Robert W.^{62,69} Directed the Signals Intelligence Project Office in Program A, introducing a new, long-lived, multi-purpose signals intelligence satellite. In 1960, served as Deputy Director of the SAMOS program.