

CHAPTER TWO
ORGANIZATION OF COMMUNICATIONS

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CHAPTER TWO

ORGANIZATION OF COMMUNICATIONS

2000. DIRECTOR, NAVAL COMMUNICATIONS

2001. MISSION

- .1 The mission of the Director, Naval Communications, is to advise the Chief of Naval Operations concerning, and to coordinate within the Office of the Chief of Naval Operations, naval communications, Naval Security Group and frequency spectrum matters, and to implement other assigned functions concerning these matters, including the maintenance and operation of the Naval Communication System and the Naval Security Group.

2002. FUNCTIONS

- .1 The Director, Naval Communications, performs the following functions:
 - (a) Advises the Chief of Naval Operations on naval communications, Naval Security Group, and frequency spectrum matters.
 - (b) Coordinates, within the Office of the Chief of Naval Operations, matters pertaining to naval communications, the Naval Security Group, and the frequency spectrum.
 - (c) Formulates plans, policies and procedures to implement assigned responsibilities with regard to naval communications, Naval Security Group and frequency spectrum matters.
 - (d) Administers, maintains and operates the Naval Communication System, and in connection therewith, utilizes other governmental and commercial communications facilities as necessary to maintain effective service.
 - (e) Administers and provides for the maintenance and operation of the Naval Security Group, including the fulfillment of requirements originating within or imposed on the Naval Establishment with respect to:
 - (1) Communication Intelligence.
 - (2) Electronic Intelligence.
 - (3) Communications Security and Special Communications Security Matters.
 - (4) The Registered Publications System.
 - (5) The Armed Forces Courier Service.
 - (f) Procures, assigns and protects radio frequencies for all electronic requirements of the Naval Establishment, effecting coordination with civil and military agencies of the United States, and with other nations as necessary.
 - (g) Conducts continuing studies and initiates and prosecutes necessary action toward improvement of naval communications and the Naval Security Group.

2002.1 (Continued)

- (h) Formulates and guards operational requirements and prepares military and/or development characteristics for communications equipment and systems, including cryptographic, for naval communications and the Naval Security Group.
- (i) Supervises and follows-up the development, testing, service acceptance and procurement of communications equipment for naval communications and the Naval Security Group.
- (j) Provides budgetary support for programs relating to the maintenance, operation and improvement of the Naval Communication System and the Naval Security Group, including the procurement of communications equipment, commercial facilities and services, support of joint agencies, and public works.
- (k) Acts as budget activity manager for the annual appropriations for Service-wide Communications, and as such prepares budget estimates and justifications, and supervises the administration of funds appropriated therefor.
- (l) Exercises management control for the Chief of Naval Operations over activities of the Naval Communication System, and over assigned activities of the Naval Security Group, including the Naval Security Station, Washington, D.C.
- (m) Makes provision for the handling of such commercial communications as are authorized by law, under such rules and regulations as may be prescribed by the Secretary of the Navy.
- (n) Supervises merchant ship communications, and plans and provides adequate and secure wartime communication service to merchant ships.
- (o) Provides Navy representation on the Joint and Combined Communications-Electronics Committees, the U.S. Communications Security Board, the Telecommunications Planning Committee, the Interdepartment Radio Advisory Committee (IRAC) and, as required, on boards, panels and committees concerned with naval communications, Naval Security Group, and frequency spectrum matters.
- (p) Makes provision for cryptographic publications and equipment for the Naval Establishment, and prepares cryptographic allowances and related instructions.
- (q) Maintains liaison with joint and combined military agencies, civil government agencies and industry in matters affecting naval communications, and Naval Security Group operations, material, and research.
- (r) Coordinates and prepares naval publications pertaining to naval communications, Naval Security Group, and frequency spectrum matters.
- (s) Administers, within the Naval Communications Division, military (including Naval Reserve) and civilian personnel matters affecting naval communications and the Naval Security Group, maintains liaison with other personnel agencies, and makes nominations to the Bureau of Naval Personnel relative to the detail of military personnel to naval communications and Naval Security Group duties.

2002.1 (Continued)

- (t) Exercises technical control for the Chief of Naval Operations of the Naval Reserve Communications Networks.
- (u) Maintains liaison with amateur radio organizations and activities and coordinates matters relating to amateur radio operations.
- (v) Provides informational services for naval communications and Naval Security Group personnel.

2003. THE NAVAL COMMUNICATIONS DIVISION

- .1 The Naval Communications Division is the staff, within the Office of the CNO, assigned to the Director, Naval Communications to support him in the execution of his duties. The Division organization presently provides two Assistant Directors, one for Communications and the other for Naval Security Group matters, and five Special Assistants:
 - (a) Program Controller
 - (b) Assistant for Marine Corps Matters
 - (c) Technical Advisor
 - (d) Chief Communications Advisor
 - (e) Assistant for Administration
- .2 The Division is further broken down into three Branches, which include the following Sections:
 - (a) Plans and Policy Branch
 - (1) Coordinator for CED/JS, JCS, and TPC Matters
 - (2) Future Plans Section
 - (3) Frequency Allocation Section
 - (4) Aeronautical Communications Section
 - (b) Shore System Branch
 - (1) Plant Management Section
 - (2) Personnel Section
 - (3) Shore Equipment Section
 - (4) Plans and Readiness Section
 - (5) OPNAV Communication Office
 - (6) System Operations Section

2003.2 (Continued)

(c) Fleet Branch

- (1) Radio Section
- (2) Procedures and Doctrine Section
- (3) Visual Section
- (4) Plans and Readiness Section

2004. THE NAVAL SECURITY GROUP

- .1 The Naval Security Group consists of those personnel who, under the Chief of Naval Operations (DNC), engage in Communication Intelligence, Electronic Intelligence, Communication Security, administration of the Registered Publication System, and operation of specified Courier Transfer Stations in the Armed Forces Courier Service.
- .2 Additional information is contained in NWIP 16-1.

2010. THE NAVAL COMMUNICATION SYSTEM

2011. MISSION

- .1 The mission of the Naval Communication System is to provide and maintain adequate, efficient, reliable and secure rapid communication services for the exercise of command and to facilitate administration of the Operating Forces, Navy Department and Shore Establishment, wherever located.

2012. REQUIREMENTS

- .1 The requirements of the Naval Communication System, in support of its mission are the establishment, management, operation, maintenance and improvement of an adequate global communication system for command and administration:
 - (a) Between the Navy Department and the Operating Forces afloat and ashore.
 - (b) Between the Navy Department and activities of the Shore Establishment wherever located.
 - (c) Between the Operating Forces afloat, (surface, sub-surface, air and ashore) and activities of the Shore Establishment wherever located.
 - (d) Between activities of the Department of the Navy and activities of the Departments of the Army, Air Force and Coast Guard and Allied military services as required.
 - (e) Between commands in the Operating Forces in any ocean or area and those in any other location throughout the world.
 - (f) Provision of such other communication facilities and services as the Chief of Naval Operations may prescribe.

2013. OPERATIONAL REQUIREMENT

- .1 In accordance with the current directives involving the Research and Development Planning System for the Department of the Navy, the operational requirement under which all research and development plans for the Naval Communication System derive is number SC 06403: "Develop adequate, reliable and secure integrated shore based communication systems for support of Fleet Operations and administration of the Naval Establishment."

2014. OPERATIONS

- .1 Operationally, the Naval Communication System is a network of communication systems with their associated facilities and equipments, based ashore and integrated into a global Naval Communication System, serving the Operating Forces and the Naval Shore Establishment. The Naval Communication System should be considered as integral to weapons systems and combat operations by the Navy.

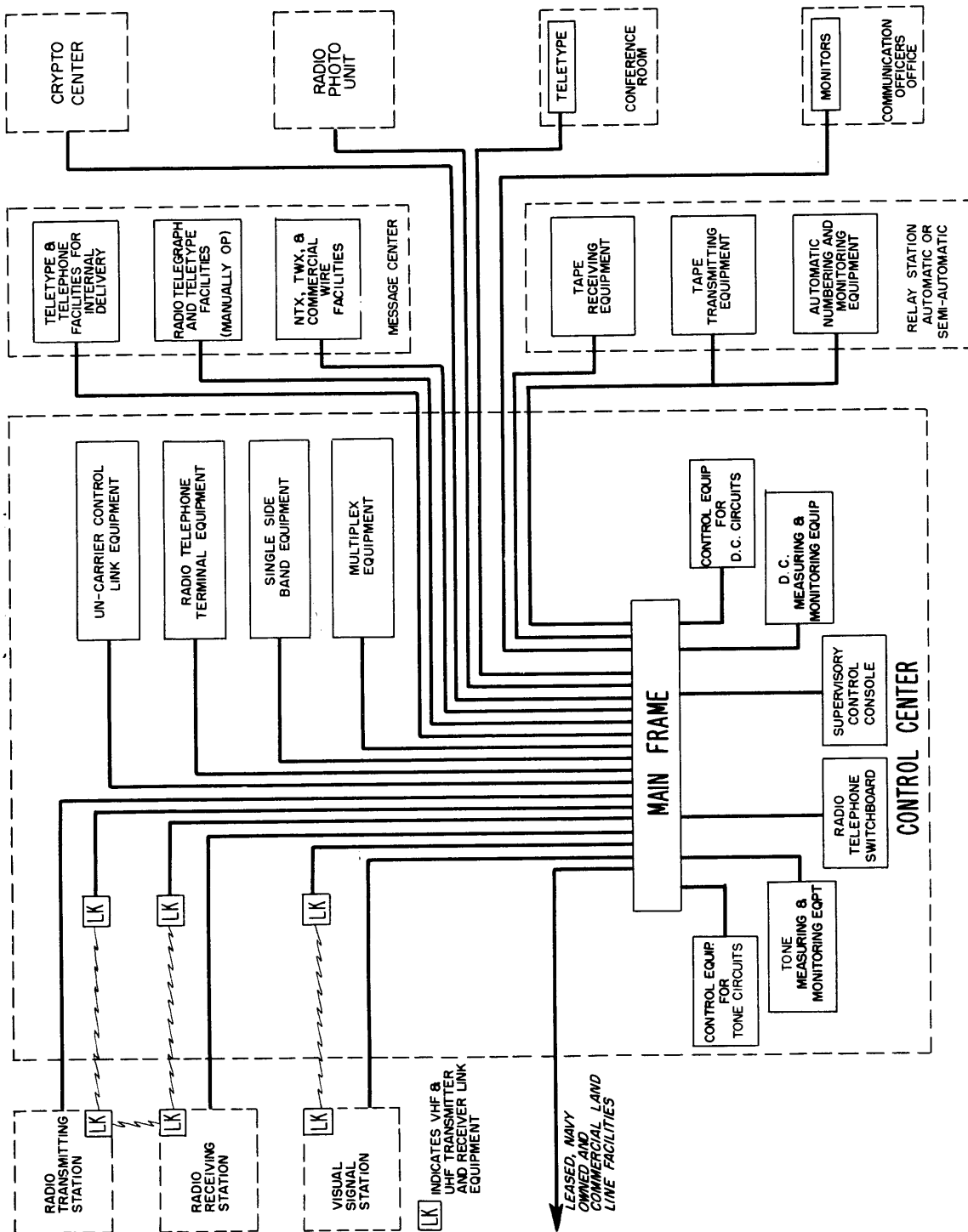
- .2 In support of the mission and in accordance with the requirements and doctrines which are applicable and germane, the Naval Communication System is planned, engineered and developed so that activities of the System are currently organized into one or more of the following operationally integrated components:
 - (a) Message Center
 - (b) Cryptocenter
 - (c) Relay Station
 - (d) Wire and/or Radio Center
 - (e) Radio Transmitting and Radio Receiving Stations
 - (f) Control Center
 - (g) Visual Signal Station as required
 - (h) Classified Relay Station (Interim)
 - (i) Facsimile Center

These components are operationally integrated and controlled at any geographical location by the Communication Center, the organization of which is shown on page 2-8.

- .3 Communication Centers are categorized as primary, major, minor, and tributary or user message centers.
- .4 There are six primary communication centers strategically located throughout the world, to furnish complete radio coverage of the major portions of the world's ocean areas. These six, indicated in chart below, form the nucleus of the Naval Communication System.

Location	Call Sign	Routing Indicator
Washington	NSS	RBEPG
San Francisco	NPG	RBWPC
Honolulu	NPM	RBHPC
Guam	NPN	RBMPG
Balboa	NBA	RBLPG
Port Lyautey	NHY	RBTPG

TYPICAL COMMUNICATION CENTER



2014.4 (Continued)

These centers are linked together by multi-channel radio teletypewriter, voice and facsimile trunk circuits. In addition, each maintains and operates:

- (a) A Fleet Broadcast for the delivery of traffic by the broadcast method to all U.S. Naval ships in the ocean area which that center serves. These broadcasts consist of a high power VLF or LF transmitter keyed simultaneously with high power HF transmitters.
 - (b) A Fleet Radioteletypewriter Broadcast, similar to the Fleet Broadcast except that a VLF transmitter is not employed.
 - (c) A General Broadcast, also similar to the Fleet Broadcast except that a VLF transmitter is not employed. These broadcasts provide time signals, weather (RATT and CW), hydrographic warnings and notices, press (RATT and CW), and merchant ship broadcast schedules.
 - (d) A Fleet Facsimile Broadcast, similar to the Fleet Broadcast, but with no VLF transmitter.
 - (e) A high power, high frequency ship-to-shore circuit, manually keyed.
 - (f) A high power, high frequency duplex or multiplex radioteletypewriter ship-to-shore circuit available for use with fleet commanders.
 - (g) Local MF, UHF manual, radioteletypewriter and voice ship-to-shore circuits as required.
 - (h) Multi-channel radio and/or landwire teletypewriter, voice and facsimile trunk circuits to major or minor communication centers throughout the world.
 - (i) Radio or landwire teletypewriter circuits to tributary or user activities.
 - (j) Other radio or landwire circuits as may be required to meet specific requirements.
 - (k) Radio and landwire link control circuits and facilities of the communication center at any one geographical location. See page 2-8.
 - (l) Visual signaling facilities as required.
- .5 Major communication centers maintain facilities and perform functions, to a limited extent and within their geographical spheres of influence, similar to the primary centers. They perform a limited fleet support function. Radio or landwire circuits, emanating from the primary communication centers, link the several major centers to the Naval Communication System. They maintain and operate:
- (a) Fleet broadcasts of limited area coverage.
 - (b) General Broadcasts of limited area coverage.
 - (c) High power HF ship-to-shore circuits as required.
 - (d) High power HF duplex or multiplex radioteletypewriter circuits for use with fleet or force commanders as required.

2014.5 (Continued)

- (e) Local harbor circuits.
 - (f) Multi-channel radio and/or landwire teletypewriter, voice, or facsimile trunk circuits to primary or minor communication centers throughout the world.
 - (g) Radio or landwire teletypewriter circuits to tributary or user activities.
 - (h) Radio and landwire link control circuits and facilities of the communication center at any one geographical location. See page 2-8.
 - (i) Visual signaling facilities as required.
- .6 Radio or landwire circuits emanating from the primary and major communication centers link the several minor centers to the Naval Communication System. Very limited fleet communication support is rendered from a few designated minor centers, as may be required. These centers maintain radio or landwire circuits to tributary or user activities.
 - .7 The Naval Communication System employs the tape relay method of traffic relay whereby messages are received and routed to their destination in teletypewriter tape form by means of automatic or semi-automatic relay equipment. Tapes are routed by means of routing indicators which are directional in character. These indicators are constructed and assigned in accordance with a definite plan. Tapes are routed in accordance with a routing doctrine, whereby the traffic flow over various circuits or channels and the responsibilities of the relay stations concerned are in accord with a specific prearranged plan. The various circuits or channels, equipment, procedures and routing indicators are engineered and coordinated within the System in such a manner that full benefits may be realized from the advantages, flexibilities, and speed of service of automatic or semi-automatic relay equipment. This method of traffic handling is designed to reduce in-station processing to a minimum.
 - .8 The Chief of Naval Operations (DNC) maintains a current list, in the JANAP 195 series, of all Navy radio circuits with the frequencies assigned to each circuit. In addition, the channel allocations, schedules, services rendered and other details are set forth for those circuits of the Naval Communication System. Charts are promulgated periodically showing the current arrangement of radio circuits and the area boundaries of the broadcasts of the Naval Communication System.

2015. FUNCTIONS AND RESPONSIBILITIES OF THE COMPONENTS OF A COMMUNICATION CENTER

- .1 The Control Center.
 - (a) Operates the radio and landwire link facilities for remote control of the facilities at the naval radio stations (T) and (R) by other components of the communication center.
 - (b) Operates the facilities for testing all circuits or channels when required, and the analysis of any malfunctions, taking remedial action and returning the circuit or channel to its appropriate terminal or user in the quickest possible time.

2015.1 (Continued)

- (c) Operates the facilities for patching circuits or channels to alternate terminals or users as required.
- (d) Operates the telephone switchboard and the associated facilities of the point-to-point radio telephone channels.
- (e) Operates the intercommunication system between the control center and the naval radio stations (T) and (R) and other components of the communication center and terminal users.
- (f) Maintains close surveillance over conditions existing on all circuits and channels.
- (g) Directs emergency changes or adjustments to all circuits, maintaining close coordination with distant stations and terminal users.
- (h) Operates and maintains the terminal equipment of all multi-channel radio circuits.
- (i) Operates all frequency measuring equipment in coordination with distant stations. Directs all frequency shifts.
- (j) Operates and maintains the facilities required for on-line operation.

.2 The Message Center.

- (a) Accepts messages via messenger, mail, pneumatic tube, etc. for rapid transmission, and time stamps copies.
- (b) Prepares messages for transmission.
 - (1) Authenticates releasing signature.
 - (2) Checks messages for security features.
 - (3) Prepares check copy for checking and retention in files.
 - (4) Affixes routing indicators, call signs and address groups as necessary; prepares heading and routes to the appropriate circuit terminal for transmission.
 - (5) Checks and files check copy.
- (c) Receives messages via electrical means for local delivery or further relay.
 - (1) Operates room or tributary circuits to and from the relay station.
 - (2) Scans messages received for garbles, and time stamps messages.
 - (3) Prepares incoming messages for further relay when required.
 - (4) Prepares check copy.
 - (5) Decodes call signs and address groups.
 - (6) Makes duplicate copies as necessary for internal distribution.
 - (7) Routes messages to delivery desk where they are logged for delivery by messenger pick-up, pneumatic tube, telephone, etc.

2015.2 (c) (Continued)

(8) Checks and files check copy.

(d) Maintains message files.

(e) Maintains service section for obtaining and making prompt corrections to messages.

(f) Maintains current message routing and information facilities to expedite routing of messages to proper circuit for transmission. Maintains close liaison with movement report center for ship locations.

.3 The Cryptocenter.

(a) Receives and encrypts messages and routes to message center for rapid transmission or transmits to relay station directly.

(b) Receives and decrypts messages and makes delivery to addressees and others in accord with the internal distribution.

.4 The Relay Station.

(a) Receives messages in tape form for further relay. Single address message tapes are distributed to the appropriate outgoing circuits in accordance with the routing indicators and the routing doctrine; multiple address tapes are distributed to the tape factory.

(b) Operates tape factory. The necessary number of tapes for the number of transmissions required is reproduced without alteration to the original incoming tape. The tapes thus reproduced are routed and distributed to the appropriate outgoing circuits in accordance with the routing indicators and routing doctrine.

(c) Relays messages in tape form in accordance with routing doctrine.

(d) Operates monitor section for purposes of monitoring and recording all outgoing circuit transmissions.

(e) Maintains service section for the purpose of obtaining and making returns, tape corrections, handling misroutes, etc.

(f) Maintains a file of monitor tapes for an appropriate period of time.

(g) Many of the aforementioned functions will be performed automatically in the near future as a result of the application of newly-developed automatic traffic switching equipment.

.5 The Wire and/or Radio Center operates those radio or landwire circuits which are off-net or not a part of the integrated tape relay network, such as:

(a) Circuits to commercial companies.

(b) Circuits to other government agencies.

(c) Fleet and General Broadcast.

(d) Certain ship to shore circuits.

(e) Cables, etc.

.6 The Facsimile Center operates the facsimile facilities as required for

2015.6 (Continued)

the transmission of pictures, photographs, weather maps, charts and material where the information to be conveyed is in graphic form.

- .7 The Visual Signal Station transmits and receives messages by means of flashing light, semaphore, flag hoist, etc.
- .8 The Classified Relay Station (Interim).
 - (a) There has been established, as an interim measure, a high command (on-line crypto) teletypewriter tape relay network consisting of classified relay stations linked by channels and circuits of the Naval Communication System, utilizing on-line crypto equipment for the handling of high command classified and unclassified traffic between those high commands served by the network.
 - (b) The methods, procedures, practices, techniques and functions of the classified relay stations are similar to those of the relay station.
- .9 The Transmitter Station.
 - (a) Provides the capabilities, through efficient operation and maintenance of all transmitting equipment and associated facilities, to meet the current and foreseeable operating requirements of the Naval Communication Station, Facility or Unit of which the transmitter station is a part.
 - (b) Assists the Supply Department in maintaining a complete and current plant account and history of all equipment and facilities provided for the station.
 - (c) Provides transmitting facilities to be remotely controlled by other naval activities as authorized by the Chief of Naval Operations (DNC).
- .10 The Receiver Station.
 - (a) Provides the capabilities, through efficient operation and maintenance of all receiving equipment and associated facilities, to meet the current and foreseeable operating requirements of the Naval Communication Station, Facility or Unit of which the receiver station is a part.
 - (b) Assists the Supply Department in maintaining a complete and current plant account and history of all equipments and facilities provided for the station.
 - (c) Provides receiving facilities to be remotely controlled by other Naval activities as authorized by the Chief of Naval Operations (DNC).

2016. ORGANIZATION OF NAVAL COMMUNICATION STATIONS, FACILITIES AND UNITS

- .1 The Communication Center, discussed in detail in Articles 2014 and 2015, is commonly part of a communication station, facility or unit. Stations, facilities, and units are each organized according to current Chief of Naval Operations (DNC) directives.
- .2 The functions of the communication station (NAVCOMMSTA) and facility (NAVCOMMFAC) are the same---the term station denotes an operation within the continental United States or its possessions and facility refers to a communications operation on foreign soil. The naval communication unit (NAVCOMMUNIT or NAVCOMMU) is assigned a limited or specialized functional mission and therefore is generally smaller in personnel and facilities than a NAVCOMMSTA.

2017. MANAGEMENT

- .1 From the standpoint of management, the Naval Communication System consists of all naval communication stations, all naval communication facilities and certain naval communication units, including the buildings, grounds, antenna systems, electronic and cryptographic equipment and systems, utilities and facilities and equipment. Supporting funds are provided for procurement, constructions, research and development, upkeep and civilian salaries as required for the operation, maintenance and improvement of the Naval Communication System.
- .2 The Chief of Naval Operations (DNC) is responsible for the management of the Naval Communication System and the Naval Security Group. The discharge of these responsibilities involves the performance of certain functions of management control, including the preparation of budget estimates and justifications, in support of the annual and projected program objectives and the supervision of the administration of the funds appropriated therefor. To facilitate the accomplishment of these functions, budget projects and budget programs have been established with provisions for continuous review and analysis of program progress in relation to the program objectives.
- .3 The Director, Naval Communications receives annual financial support for the management of the Naval Communication System and the Naval Security Group from the appropriation Service Wide Operations, Navy (SWON). This appropriation is divided into a number of budget activities, each of which provides the funds to support regularly established activities of the Navy such as the Naval Observatory, the Hydrographic Office, Naval stations, bases, etc.
- .4 Budget Activity #2, entitled "Service-Wide Communications", provides the support for the Naval Communication System and the Naval Security Group on an annual basis. The Budget Activity #2 is further divided into broad projects as follows:
 - (a) Budget Project #2A - Maintenance and operation of the Naval Communication System and the Naval Security Group. Budget programs under Budget Project #2A include:
 - (1) The cost of personal services; operation; administration; utilities; supplies, spare parts; and routine maintenance of equipment, grounds and buildings.
 - (2) The minor construction, alteration, and improvement of buildings and grounds within legal limitations.
 - (3) The cost of leased teletypewriter lines and associated equipment (NTX and TWX).

2017.4(a)(Continued)

- (4) The costs of installation and rehabilitation of electronic equipment.
 - (5) The procurement of non-passenger-carrying vehicles required for logistic support.
- (b) Budget Project #2B - Electronic equipment procurement for the Naval Communication System and Naval Security Group. Budget programs under Budget Project #2B include:
- (1) The procurement of cryptographic aids and devices required throughout the Naval Establishment.
 - (2) The procurement of special service electronic and communication equipments to support the assigned tasks of the Naval Security Group.
 - (3) The procurement of electronic and related communication equipments for the Naval Communication System, associated activities, and the communication departments of Naval stations under the management control of the Chief of Naval Operations.
 - (4) The first destination transportation costs of new equipment.
- (c) Budget Project #2C - Special commercial communications and leased services. Budget programs under Budget Project #2C include:
- (1) The leased tactical telephone lines.
 - (2) The commercial costs for official telegrams, cablegrams, and radiograms for the Naval Establishment.
 - (3) The leased flight control and weather information service.
 - (4) The cost of local telephone service; extra-local and long distance tolls for the Naval Communication System and associated activities, including communication, security and administration departments of Naval stations under the management control of the Chief of Naval Operations.
 - (5) The local telephone service for the other naval activities under the management control of the Chief of Naval Operations and served by an integrated switchboard.
- (d) Budget Project #2D - Support of other Naval Activities and Joint Agencies. Budget programs under Budget Project #2D include:
- (1) The maintenance and operation of the Naval Security Station.
 - (2) The maintenance and operation of the communication departments of certain naval activities not a part of the Naval Communication System.
 - (3) The communication support of joint activities and functions.
- .5 SWON funds are annual moneys which are available for obligation only in the fiscal year in which appropriated by Congress; they are available an additional two years for expenditure to liquidate obligations incurred during that fiscal year. Expenditures which arise thereafter as a result of obligations in a given fiscal year are liquidated out of a special fund account controlled at departmental level. The budget cycle requires submission of budgetary needs for a given fiscal year at least fifteen months before the beginning of that fiscal year. It is

2017.5 (Continued)

important to realize that once this original submission has been made that there is no "emergency" source of funds available to the Director, Naval Communications with which he can meet unanticipated requirements when they arise later. Such unanticipated requirements must be met by deferring something that had been budgeted for accomplishment.

- .6 The Director, Naval Communications receives further budgetary support from the Military Construction Program which consists of three components, one each for the Army, Navy and Air Force. The Navy component is divided into several classes:
 - (a) Class IX, entitled "Naval Communications", provides the support for the Naval Communication System and the Naval Security Group.
 - (b) The Naval Communications Military Construction Program provides for land acquisition and construction of new buildings and facilities for the Naval Communication System and Naval Security Group. It involves the development of operational requirements and their derivation into plans for physical facilities, the approval of such plans by the Director, Naval Communications, and the justification for the naval communications portion.
 - (c) Any construction item which will cost \$25,000 or over must ordinarily be included in the DNC submission of the Military Construction Program. If an unanticipated construction project which is in excess of \$25,000 and less than \$50,000 arises, such a project may, with approval of the Secretary of the Navy, be accomplished using annual moneys from SWON. If an unanticipated project costing between \$50,000 and \$200,000 arises, this may be accomplished using SWON money after obtaining approval of the Secretary of Defense. There is no mechanism to provide emergency treatment of a construction project which costs over \$200,000--such a project must be included in the next annual submission of the Military Construction Program. It is not mandatory that Military Construction money be obligated in the fiscal year for which it is authorized. However, inasmuch as Military Construction moneys are very limited, it is not advisable to include in the Military Construction Program any item which cannot be obligated in the fiscal year in which submitted. To this end, various review levels devote considerable attention to Military Construction items which have been funded and authorized in prior years and on which there are delays in awarding a contract. Generally, if an award has not been made within five years, the Military Construction authorization is rescinded.
- .7 The Director, Naval Communications has one further source of indirect budgetary support under the appropriation, Research and Development, Navy. This entire appropriation is administered by the Chief of Naval Research and, through the medium of various submissions and review levels, includes Research and Development requirements of Naval Communications.
- .8 In addition to the foregoing, the Chief of Naval Operations (DNC) performs other managerial functions in connection with the Naval Communication System and the Naval Security Group. These managerial functions are:
 - (a) The establishment of organizational structures, the determination, coordination and assignment of functions and the conduct of periodic reviews of such organizational structures.

2017.8 (Continued)

- (b) The coordination of the planning for, and the allocation of, civilian and military ceilings and allowances within the overall ceilings and allowances allocated.
- (c) The coordination of the civilian personnel ceilings with military personnel allowances.
- (d) The administration, in accordance with current instructions, of the Management Improvement Program, the Manpower Utilization Program, the Work Measurement Program and similar programs.

2018. IMPROVEMENT

- .1 The Chief of Naval Operations (DNC) is responsible for the improvement of the Naval Communication System. The discharge of this responsibility entails:
 - (a) The acquisition of detailed information and data regarding new developments in the broad field of communication electronics, the study and analysis of these new developments with a view to their application in the Naval Communication System, and the ultimate determination of their adoption and application.
 - (b) The initiation of actions involving research and development of new equipments, devices or systems in support of new or future requirements.
 - (c) The development of current and long range plans and programs for the improvement of the System together with budget and personnel actions in support thereof.
 - (d) The formulation and development of annual and projected program objectives. Annual program objectives are expressions of reasonably attainable goals which are planned for accomplishment during a particular fiscal year. They serve as the basis for the development of detailed requirements upon which budgetary estimates are prepared and for the development of the Basic Naval Establishment Plan. Projected program objectives, similar to the annual program objectives but encompassing a five year period, are revised annually. These projected program objectives delve more into the future and are based on that which is needed to develop and maintain a balanced and efficient Naval Communication System. Programs, to be self-sufficient and defensible, should contain:
 - (1) The objective.
 - (2) A method or scheme for the attainment of the objective.
 - (3) Time-phasing of the several stages.
 - (4) Determination of the funds and personnel to be allocated.
- .2 Where research and development is necessary in support of a program objective or a part thereof, the Research and Development Planning System of the Navy requires, as the first essential step toward attainment of the goal, the establishment of sound Planning Objectives which our research and development capabilities can attain.
 - (a) A Planning Objective is a statement in broad terms, of a scientific or operational problem which must be solved, or a function which must be performed in the future, which requires new scientific knowledge or the development of new equipment, devices or systems.

2018.2 (Continued)

- (b) The Operational Requirement derives from the Planning Objective and is a statement, in broad terms, of the estimated operational performance which should be attained in specific systems or equipment designed to solve, in whole or in part, an operational problem stated or implied in a Planning Objective. (Refer to Article 2013). Operational Requirements are based on strategical and tactical needs of the Navy and the Marine Corps derived from recommendations received from all possible sources both in response to statements of Planning Objectives and in response to changing potential enemy threats. Such suggestions will be analyzed and evaluated, particularly in respect to their applicability to the Chief of Naval Operations' or the Commandant of the Marine Corps' approved concepts of systems and system complexes, to determine the feasibility of their translation into military usefulness. On the basis of this evaluation, the Operational Requirements will be formulated by the Chief of Naval Operations and the Commandant of the Marine Corps in their respective fields of responsibility. Operational Requirements will indicate the importance of the requirement by assigning an Importance Classification Code. Operational Requirements shall be reviewed at least annually.
- (c) Technical Development Plan. A Technical Development Plan is a proposed approach to the fulfillment of an Operational Requirement. It is prepared by a Lead Bureau or Action Bureau within 90 days (or as otherwise stipulated) of the promulgation date of the Operational Requirement to which it responds, and is addressed to the originator of the Requirement with a copy to the Chief of Naval Research for technical review and correlation with associated and collateral developments. It indicates the proposed techniques, annual funding and time phasing for developments. It contains the technical information needed by the Office of the Chief of Naval Operations or Headquarters, Marine Corps for the preparation of implementing Development Characteristics. It may contain proposed Development Characteristics.
- (d) Development Characteristic. A Development Characteristic is a statement or description of a system, equipment or study which appears feasible and is desired by the Chief of Naval Operations or the Commandant of the Marine Corps toward the fulfillment, wholly or in part, of an Operational Requirement or toward the improvement of an existing system.
- (1) Development Characteristics which support an Operational Requirement will be appended to that Operational Requirement. Development Characteristics are required for each major system or equipment development. Each Development Characteristic will prescribe a date by which the required study and/or development will be completed and will indicate the importance of the assigned task in accordance by an Importance Classification Code.
 - (2) Development Characteristics will normally be written for one or more of the following purposes:
 - a. To initiate feasibility studies, leading to specific research on, or development of a system, equipment, weapon or technique.

2018.2(d)(1)(Continued)

- b. To initiate research leading to the development of a specific system, equipment, weapon or technique.
 - c. To initiate immediate development. In this case the development should be achievable with known techniques and the development should represent a sufficient functional and economic advance to warrant equipment procurement for service test and/or use.
- .3 An Electronic Equipment Replacement Program provides for the orderly replacement of obsolete or obsolescent electronic equipment at activities of the Naval Communication System. It is based upon recommendations submitted annually by the activities concerned. Equipment is normally recommended for replacement only after it has reached the end of its useful life, usually after fifteen years of service. Maintenance authorities (Industrial Managers) should be consulted as necessary, when endeavoring to determine whether a piece of equipment has reached the end of its life expectancy. Factors influencing this expectancy are the amount of usage received, the adequacy of preventive maintenance, and climatic conditions. Disposition instructions will be issued for each item of electronic equipment replaced and in no instance will disposition of such equipment be made without specific authority of the Chief of Naval Operations. The recommended schedules for the replacement of electronic equipment shall be in accordance with current instructions issued in the premises and shall be submitted to the Chief of Naval Operations via the cognizant maintenance authority (Industrial Manager or designated authority), and the Chief, Bureau of Ships.

2020. COMMUNICATIONS ASHORE

2021. COMMUNICATION DEPARTMENTS OF ACTIVITIES OF THE SHORE ESTABLISHMENT

- .1 The organization of the activities of the Shore Establishment generally provide for a Communication Department. The mission and functions of these departments are in support of the mission of the parent activity and normally involve the provision of local or intra-activity communication services. The facilities and equipments provided for use by the departments vary in amount and scope as may be necessary to meet the requirement of the activity concerned.
- .2 At certain locations, in addition to the provision of communication facilities and services in support of the activity concerned, the Communication Department discharges responsibilities for, and operates as a part of, the Naval Communication System. At these specific locations facilities are provided for limited Fleet support in the form of Fleet Broadcasts, local and intermediate ship-to-shore circuits, point-to-point radio or wire circuits, or for tape relay functions.
- .3 Normally the Communication Department of activities of the Shore Establishment provides for a small communication center, consisting of a Message Center and Cryptocenter, in support of the mission of the activity concerned. However, where required, it may also provide for a Relay Station, Wire and/or Radio Center, Control Center, Radio Transmitting and Receiving Facilities, and a Visual Signal Station.
- .4 Where radio transmitting and receiving facilities are required, it is the policy, in the interests of economy and efficient use of men, money and material, where practicable, to install the transmitting and receiving equipments in regularly established radio transmitter or receiver stations of the Naval Communication System and remotely control those facilities from the Communication Center of the activity concerned.

2021. (Continued)

- .5 Generally, activities of the Shore Establishment, except as noted above, are tributaries of the Naval Communication System, and, as such, the Naval Communication System budgets for and defrays the expenses of the circuit connecting the tributary into the System. Where an activity performs functions for and is an operating part of the Naval Communication System, provision of the necessary facilities to perform those functions is made by the System.
- .6 Communication departments of activities of the Shore Establishment other than those under the management control of the Chief of Naval Operations are under the management control of their respective Bureau or Office. The Chief of Naval Operations, however, exercises technical control over their operations.
- .7 In addition to the exercise of management control of the Naval Communication System and the Naval Security Group, the Chief of Naval Operations (DNC) performs certain managerial functions in connection with the communication departments of other activities of the Shore Establishment under the management control of the Chief of Naval Operations. These managerial functions are:
 - (a) The establishment of organizational structures and the determination and coordination of the assignment of functions.
 - (b) The coordination of the planning for and the allocation of civilian ceilings within the overall civilian personnel ceilings allocated.
 - (c) The coordination of the civilian personnel ceilings with military personnel allowances.
 - (d) The coordination, within the Office of the Chief of Naval Operations, of reviews of organizations when required.
 - (e) The preparation of budget estimates and justifications, in accordance with current directives, assisting as required in the justification of programs and estimates at all budget reviews. Makes recommendations for appeals as deemed necessary and allocates that portion of the final approved SWON funds made available.
 - (f) The administration, in accordance with current instructions, of the Management Improvement Program, the Manpower Utilization Program, the Work Measurement Program and similar programs.

2030. COMMUNICATIONS AFLOAT

2031. COMMUNICATION ORGANIZATIONS OF THE OPERATING FORCES

- .1 Every communication organization of the Operating Forces is an integrated unit of that command. Through the ship or staff organization, the commanding officer or commander has direct and positive control of communications; and in the transmission and reception of signals and messages, the communication organization participates in the exercise of command.

2032. THE OPERATIONS DEPARTMENT OF A SHIP

- .1 The Operations Department is one of the command departments of the ship. Its functions embrace all external communications, combat information center, control of aircraft in the air, and electronics repair.

2032. (Continued)

- .2 In a large ship, the Operations Department will contain signal and radio divisions. In a small ship these divisions may be combined, or there may be only an Operations Division.

2033. THE COMMUNICATIONS DEPARTMENT OF A STAFF

- .1 On a naval staff the communications organization is a staff department or division separate from the staff operations department.

2034. FLAGSHIP

- .1 On board flagships, ship and flag personnel may be combined into one communications organization, under flag supervision.

2035. COMMUNICATION SPACES

- .1 The number, size and arrangement of the communication spaces of a ship is dependent upon the size and the mission of the ship. In a large ship, the functions of the communication organization are carried out in the following spaces:
 - (a) Message Center - The shipboard message center contains personnel and equipment for the placing in proper form, write-up, internal routing, delivery and filing of messages. It is the duty station of the communication watch officer. All messages, other than operational messages received and sent direct from shipboard control stations, must clear the message center before internal routing or external transmission. In ships without space allotted for a message center, the functions of the message center are carried out in radio central.
 - (b) Radio Spaces - Radio central, also called main radio, is the largest and most completely equipped radio space on board ship. It contains operating positions for radiotelegraph, radiotelephone and facsimile. Normally, it is the location where transmitters, receivers and remote speakers and keying positions are selected and tied together to provide communication channels for the remote operating stations elsewhere in the ship. Radio central is located in close proximity to the message center and is the duty station of the supervisor of the watch and of most radio operating personnel. According to the size of the ship, there may be one or more additional spaces containing special equipment, additional equipment, or duplicate facilities. Depending upon their arrangement and intended use, such spaces may be designated as transmitter room, emergency radio room, auxiliary radio, or other appropriate functional titles.
 - (c) Remote Control Facilities - Remote stations, consisting of receiving outlets and transmitter keying positions, are established in battle control spaces where a need exists for direct radio communication. These remote stations are connected to radio central, where the desired receivers and transmitters are selected.
 - (d) Cryptocenter - The functions of the shipboard cryptocenter are the same as those of the cryptocenter ashore. Additional information pertaining to the cryptocenter is contained in Chapter 5, and in Chapter 4 of NWIP 16-1.
 - (e) Visual Signal Spaces - Equipment and spaces for visual communications are provided in the superstructure of the ship. Signal halyards run from the yardarm to flagbags at the foot of the mast for flaghoist signaling. Signal searchlights and semaphore platforms are located in positions where each will have the largest arc of vision and so that their total coverage will be 360°. Remote control keys for operating yardarm blinker, nancy, and searchlights are placed in convenient and protected positions.

