

**MANUAL OF
QUALIFICATIONS
FOR
LIMITED DUTY OFFICERS
U.S.N.**



**DEPARTMENT OF THE NAVY
BUREAU OF NAVAL PERSONNEL**



NAVPERS 18564A



DEPARTMENT OF THE NAVY

BUREAU OF NAVAL PERSONNEL

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From: Chief of Naval Personnel

To: All Ships and Stations

Subj: Manual of Qualifications for Limited Duty Officers U. S. N.,
NavPers 18564A; promulgation of

1. The Manual of Qualifications for Limited Duty Officers U. S. N., NavPers 18564A, is the official manual which defines qualifications for all limited duty officer categories and designators.

2. The manual formulates general and professional qualifications for limited duty officers in accordance with the recommendations of the Board to Study the Warrant Officer, Limited Duty Officer, and Master/Senior Chief Petty Officer Programs, as approved by the Secretary of the Navy on 5 June 1964. This manual has been designed to serve as a guide for individuals and commands concerned with:

- a. Selection of personnel for appointment to limited duty officer status.
- b. Determination of limited duty officer complements and allowances.
- c. Distribution and assignment.
- d. Development of training requirements and curricula.
- e. Career planning for both enlisted personnel and officers.

3. This manual is effective upon receipt, replacing the Manual of Qualifications for Limited Duty Officers U. S. N., NavPers 18564.

4. Comments and recommendations pertinent to the improvement of this manual are invited and should be submitted to the Chief of Naval Personnel (Pers-A3).

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Deputy Chief of Naval Personnel

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INTRODUCTION

A. PURPOSE

1. The Manual of Qualifications for Limited Duty Officers U.S.N., NavPers 18564A, promulgates qualifications for each designator and grade, and provides basic occupational data for the administration and training of all Limited Duty Officer (LDO) categories.

B. LIMITED DUTY OFFICER STRUCTURE

1. The LDO acts as a technical administrator, in contrast to the warrant officer as a supervisory technician, in a prescribed occupational area. Career development of an LDO is based upon increased administrative responsibility as he advances in grade. The Officer Personnel Act of 1947 as revised and reenacted in Title 10, United States Code, is the authority for administration of the LDO program (10 USC 5589 in conjunction with other provisions, such as 10 USC 5409, 5442, 5706-5707, and 5764). Eligibility requirements are contained in Article C-1101 of the Bureau of Naval Personnel Manual.

C. SCOPE OF MANUAL

1. This manual presents those duties which LDO's should be capable of performing and those knowledges and skills which they should acquire, in each grade and category, in order to carry out their professional and technical responsibilities. It does not present absolute or minimum standards which must be satisfied prior to selection.

D. WATCHSTANDING RESPONSIBILITIES

1. The contents of this manual should not be construed as a detailed listing of all the specific duties, responsibilities, and knowledges which may be required of an LDO. Watchstanding duties and collateral and additional duty assignments, which are a command prerogative, vary according to specific situations on individual ships and stations. Even though qualifications pertaining to these "extra" duties have not been included in this manual, LDO's are responsible for carrying out such assignments as required.

E. REPRESENTATIVE BILLET ASSIGNMENTS

1. Qualifications contained in this manual are based upon typical billet assignments and as such they should be considered representative only insofar as any composite or average may be deemed representative. They should not be considered exclusive or complete.

2. The source of the titles and code numbers for these billets is the official standardized reference for officer classification codes, the Manual of Navy Officer Classifications (NOC), NavPers 15839A.

F. ARRANGEMENT OF MANUAL

1. Qualifications contained in this manual are divided into two types: Executive and Operational.

2. The Executive Qualifications present requirements of a general nature applicable to all LDO's regardless of category, designator, or grade. Both line and staff LDO's should have basic qualifications in this area since it includes requirements for performance of their military duties as naval officers. These qualifications are expressed in terms of knowledges and abilities only.

3. The Operational Qualifications present specific requirements for professional duties and responsibilities, together with the knowledges and skills necessary for their performance. These qualifications are arranged by title, designator, and grade and include representative billet assignments.

G. PATHS OF ADVANCEMENT

1. The table on pages 2 and 3 illustrates the normal path of advancement from enlisted ratings to each limited duty category.

PATHS OF ADVANCEMENT

Enlisted Rating	Warrant Officer Category and Designator	LDO Category and Officer Designator
SD, CS, SH, SK, AK, DK	Supply Clerk (798X)	Supply (370X)
DM*, BU, SV, EA, CE, UT, EO, CM	Civil Engineer Corps Warrant (849X)	Civil Engineer (570X)
BM, QM*, SM*	Boatswain (713X)	Deck (600X)
QM*, SM*, RD*, ST*, RM*	Operations Technician (714X)	Operations (601X)
GMM, GMG, GMT*, GM	Surface Ordnance Technician (723X)	Ordnance (615X)
FT*, MT	Ordnance Control Technician (724X)	
TM, MN	Underwater Ordnance Technician (733X)	
LI, YN, PN, PC, JO*	Ship's Clerk (782X)	Administration (620X)
DP	Data Processing Technician (783X)	Data Processing (623X)
MU	Bandmaster (785X)	Bandmaster (626X)
OM, IM, MR, MM, BT, BR, EN	Machinist (743X)	Engineering (630X)
DC, SF, ML, PM	Ship Repair Technician (774X)	Hull (635X)
IC*, EM*	Electrician (754X)	Electrician (637X)
RD*, ST*, RM*, ET, DS, EM*, IC*, FT*	Electronics Technician (766X)	Electronics (640X)
CT	Communications Technician** (764X)	Cryptology (646X)
ABE, ABF, ABH, AB	Aviation Boatswain (760X)	Aviation Operations (660X)
JO*, PH, DM*, PT*	Photographer (831X)	Photography (663X)

* Normal Path in more than one category.
 ** Only CT ratings may apply in these categories.

Enlisted Rating	Warrant Officer Category and Designator	LDO Category and Officer Designator
AG	Aerographer (821X)	Meteorology (665X)
AO, GMT*	Aviation Ordnance Technician (721X)	Aviation Ordnance (670X)
AX, AT, AQ, AE, TD, AW	Aviation Electronics Technician (761X)	Avionics (680X)
ADJ, ADR, AME, AMH, AMS, PR, AZ, AD, AM, AS	Aviation Maintenance Technician (741X)	Aviation Maintenance (685X)
AC	Aviation Control Technician (745X)	Aviation Control (661X)
PT*	Air Intelligence Technician (762X)	Air Intelligence (662X)

* Normal Path in more than one category.
 ** Only CT ratings may apply in these categories.

SECTION I
EXECUTIVE QUALIFICATIONS

LIMITED DUTY OFFICER
EXECUTIVE QUALIFICATIONS

Executive knowledges and abilities are general qualifications applicable to all limited duty officers regardless of category.

1. Principles and techniques of leadership as applied to motivation of personnel, maintenance of morale, acceptance of responsibility, and delegation of authority.
2. Organization and functions of the major components of the Department of Defense, with particular reference to the assigned missions of the military services.
3. Organization and functions of the Department of the Navy, including fleet and force commands.
4. Nature and scope of information contained in U. S. Navy Regulations.
5. General content, scope, and application of the Uniform Code of Military Justice, the Manual for Courts-Martial, and the Manual of the Judge Advocate General (JAGINST 5800.7).
6. General content, scope, and use of the following Navy publications: Navy-Marine Corps Standard Subject Classification System, Correspondence Manual, Bureau of Naval Personnel Manual, Uniform Regulations, Department of the Navy Safety Precautions for Shore Activities (NAVSO P-2455), Landing Party Manual, Enlisted Transfer Manual, NWP 50, and NWIP 50-1.
7. Duties, authority, and responsibilities of a division officer as contained in U. S. Navy Regulations.
8. Duties, authority, and responsibilities of a battalion officer as contained in the Landing Party Manual.
9. Procedures for preparing, revising, and applying a watch, quarter, and station bill, and a battle bill.
10. Methods and procedures for preparing and maintaining enlisted personnel records affecting advancement in rating, Navy enlisted classifications, enlisted evaluation reports, and transfers.
11. Function and use of officer and enlisted classification codes, and personnel accounting procedures.
12. General requirements for advancement, extension of enlistment, discharge, and reenlistment of enlisted personnel, including appointment to officer status.
13. Duties, authority, and responsibilities of an officer of the deck afloat and of a watch officer at a naval shore establishment.
14. Regulations and procedures for classifying, handling, stowing, and accounting for classified matter as contained in the Department of the Navy Security Manual for Classified Information.
15. General training principles and techniques, including lesson planning, instruction and presentation methods, use of training aids, instructor training, testing, and training evaluation and revision.
16. Scope and purpose of the Navy Directives System.
17. Forms, regulations, and procedures for drafting naval messages and directives.
18. Standard voice procedure for transmitting and receipting for messages by radio and interior communications.

19. Familiarity with visual signalling methods and their utilization.
20. Nature and scope of information contained in the U. S. Naval Communication Instructions (DCN(5)).
21. Nature and scope of information contained in the Watch Officer's Guide, * Knight's Modern Seamanship, * and the Division Officer's Guide. *
22. United States naval history, customs, traditions, and etiquette.
23. Methods and procedures for disaster control, and nuclear, biological, and chemical (NBC) warfare defense.
24. Safety regulations and precautions in the handling and use of small arms.
25. Emergency first-aid procedures and techniques.
26. Methods and procedures for practical damage control and shipboard firefighting as contained in the Bureau of Ships Manual.
27. Types, purposes, and methods of operation of common Navy firefighting equipment.
28. Procedures and methods for procuring and disposing of naval stores, equipment, and repair parts.
29. Procedures for preparation and submission of budget requests and for management of quarterly allotments.
30. General organization and operation of officer and chief petty officer (CPO) messes ashore and afloat.
31. Procedures for conducting material, personnel, and safety inspections.
32. Welfare agencies and services available to naval personnel.
33. Regulations and procedures for the control of registered publications, providing guard mail and officer messenger mail service, and developing a divisional destruction bill for classified equipment and publications.

Not official U. S. Navy publications.

SECTION 2
OPERATIONAL QUALIFICATIONS

PART I, LINE

LIMITED DUTY OFFICER, DECK (600X)
ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Deck (600X) are operational specialists in seamanship and navigation, with practical naval experience in these areas.

Ensigns and Lieutenants Junior Grade (600X) plan and supervise activities of deck and navigation personnel; plan, develop, and administer deck and navigation training programs; assist in organizing, scheduling, and supervising seamanship, navigation, combat information center (CIC), and tactical communications exercises and drills; assign and coordinate activities of personnel under their command.

They may serve in, but are not limited to, the following billets: boatgroup officer in amphibious operations; officer in charge yard and harbor craft; first lieutenant, weapons officer, navigator, anti-submarine warfare (ASW) officer, operations officer, CIC watch officer, deck division officer, signal officer, or lookout and recognition officer. Ashore, they fill billets at various training activities, and operational and administrative billets at major shore commands.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Serve as boat division officer in amphibious ships.
2. Direct and control individual boat or boat group consisting of small amphibious craft in execution of operation plan.
3. Control boat movements by visual and/or radio communication, keeping all concerned informed of boat disposition.
4. Supervise CIC watch personnel.
5. Review and evaluate operational information flowing through CIC.
6. Direct operation, maintenance, and test of deck machinery and minesweeping gear.
7. Provide technical advice to commanding officers concerning antisubmarine operations.
8. Assist in evaluating underwater contacts and direction of antisubmarine attacks.
9. Schedule drills and exercises to train personnel in antisubmarine operations.
10. Analyze the combat and operational information concerning air and surface situation.
11. Direct preparation of periodic reports required of deck department.
12. Direct deck force in performance of seamanship evolutions, such as mooring, anchoring, docking, fueling, and transfer of cargo or personnel at sea.
13. Plan, coordinate, and schedule operational employment of ship in accordance with directives from commanding officer or higher authority.
14. Assist Officer of the Deck (OOD) in maintaining station, advising of course and speed changes needed to change or resume station to avoid navigational hazards.
15. Assign boats and boat crews in compliance with ship's boat schedule.
16. Schedule classes and drills in deck seamanship, boat handling, and marlinspike seamanship.

17. Coordinate operational and logistic services required by the several departments in support of operations.
18. Obtain necessary clearances and operating area assignments incident to operations of ship, and submit movement reports in accordance with current instructions.
19. Under the executive officer, coordinate, integrate, and schedule training in ship evolutions, drills, competitive exercises, and operational readiness.
20. Supervise and direct electronic and visual exterior communications.
21. Supervise preparation and dissemination of meteorological information and service and intelligence information.
22. Supervise preparation and submission of operational reports required by operation plans, orders, and other directives.
23. Maintain accurate plot of ship's position, course, and speed.
24. When anchored, provide the OOD with copies of harbor charts showing berthing and all commonly used boat landings.
25. Supervise preparation and maintenance of the deck log, standing orders, or instructions to the OOD, and the captain's night order book.
26. Maintain official records of observations and computations made for the purpose of navigating the ship.
27. Determine the daily error of master gyro and standard magnetic compass when underway.
28. Prepare, post, and maintain at compass locations corrected deviation tables.
29. Ensure that chronometers are wound daily, comparisons made, and rates of errors determined and recorded.
30. Supervise the care, calibration, and operation of navigation equipment such as steering gear (less engines and motors), degaussing equipment, pitometer log, and navigational lights and aids.
31. Supervise the rendering of appropriate honors and ceremonies in accordance with U. S. Navy Regulations.
32. Supply arriving ships with information on port regulations, facilities, and services.
33. Direct operations of boat pool to provide transportation for naval personnel between ships and other activities.
34. Conduct routine inspection of boats and survival equipment to ensure readiness, directing repair or replacement as necessary.
35. Direct preservation of weather decks, ship's exterior, running gear, and ground tackle.
36. Instruct lookouts in recognition features of ships and aircraft, and assist in identification of enemy units.
37. Instruct lookouts in duties involving relative bearing, range, methods of night and day scanning, and sound powered phones.
38. Supervise preparation and execution of cargo-handling plans on board naval auxiliary ships.

39. Requisition, stow, preserve, issue, survey, and account for supplies or equipment for the deck department.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Types, functions, and uses of boats, rafts, floats, and survival equipment.
2. Principles and techniques for replenishing at sea; lowering, hoisting, and stowing boats; anchoring and mooring operations; loading, stowing, securing, and offloading cargo; towing, rescue, and salvage operations afloat; rigging, inspecting, and operating booms, cranes, davits, and minesweeping gear.
3. Principles and techniques for control of flooding, repairing hull damage, and combating fire.
4. Methods, procedures, and safety precautions for operating and controlling dual purpose and anti-aircraft batteries.
5. Procedures in amphibious operations and landing craft techniques.
6. CIC methods, general organization, and operating procedures.
7. Mission of the Naval Communication Service.
8. Naval communication procedure, including precedence, use of operating signals and procedures, and standard communication terms and publications.
9. Arrangement and use of current signal publications.
10. Symbols and procedures used in CIC for maintaining geographic summary and surface plots.
11. Functions and organization of deck, navigation, and operations departments.
12. International Regulations for Preventing Collision at Sea and Pilot Rules for certain Inland Waters (Rules of the Road).
13. Principles of shiphandling, including effect of rudder, screws, wind, current, and use of anchor and mooring lines.
14. Duties, authority, and responsibility of OOD, including rendering honors.
15. Procedures for preparing and maintaining the ship's deck log.
16. Cloud formations and significance in forecasting; interpretation of synoptic weather maps and messages; significance of dew point, relative humidity, atmospheric pressure, and wind relative to shiphandling and navigation; laws of cyclonic storms, including determination of location and probable path of storm center.
17. Methods and procedures for determining ship's position by celestial observations, piloting, and electronics navigation.
18. Preparation and submission of deck, navigation, or operations records, reports, notices, correspondence, and instructions.
19. Methods and procedures for inspecting and testing repair work on deck equipment.
20. Methods and procedures for requisitioning, surveying, preserving, and accounting for deck, navigation, or operations department equipment and materials.

21. Procedures in preparing material histories and Current Ship's Maintenance Projects (CSMP).
22. Regulations and procedures for preparing and submitting work requests.
23. Procedures for controlling expenditure of materials, allotments, and funds in deck, navigation, or operations department.
24. Common terms used in fleet formation and general maneuvering.
25. Purpose and capabilities of command control systems such as the Naval Tactical Data System and the Operational Control Center.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Naval Science	3270	NAVSCOL
Boat Group Officer	9212	ACD
Commanding Officer, Afloat	9222	IX
First Lieutenant, Afloat	9242	ASR, AGS, ARL, CGN
Military Department Officer	9266	MSTS
Ship's Boatswain	9278	CA, CAG, CC, CG, CGN, CLG
First Lieutenant, Ashore	9442	COMMSTA, PHIBASE
Communication Officer, Ashore	9510	NUWPNTRACEN

LIMITED DUTY OFFICER, DECK (600X) LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Deck (600X) are operational specialists in seamanship and navigation, with practical naval experience in these areas.

Lieutenants (600X) plan, supervise, and direct activities of deck and navigation personnel in performance of operational and maintenance functions; plan, develop, and administer deck and navigation training programs; assist in organizing, scheduling, and supervising seamanship, navigation, and CIC exercises and drills; assign and coordinate activities of personnel under their command.

They may serve in, but are not limited to, the following billets: executive officer, first lieutenant, weapons officer, navigator, CIC officer, or cargo officer. Ashore they fill instructor billets at various training activities and operational billets at shore commands.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Supervise embarkation, berthing, messing, and debarkation of passengers in naval transports.
2. Inspect buildings, grounds, vehicles, and boats, and supervise maintenance and upkeep of buildings and equipment assigned.
3. Coordinate arrangements for logistic support and harbor services to ships under naval control at ports where naval port control offices exist.
4. Command small shore activity or base component providing direct services to operating forces.
5. As commanding officer, establish policies and procedures for operation of command.
6. Plan, direct, and supervise practices and procedures for the operation and preventive maintenance of CIC and ASW equipment.
7. Supervise and direct preparation of required reports and coordinate ships' activities with shore loading authorities.
8. Direct and supervise allocation of space and quarters.
9. Prescribe routes of convoys in accordance with routing plan of higher authority.
10. Maintain master plot and record of ships' movement in area.
11. Organize convoy conferences, publish rules, and assist in execution of convoy procedures and routing systems.
12. Direct assignment of security watch personnel to ensure security and safety of station.
13. Administer shipboard training instructions for officers of the deck, and practical navigation instructions for junior officers.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Methods of detecting NBC contamination, and identifying chemical warfare gases.
2. Decontamination procedures used in NBC warfare defenses.

LIMITED DUTY OFFICER, DECK (600X)
LIEUTENANT COMMANDER QUALIFICATIONS

3. Bridge procedures and standard commands.
4. Procedures for the operation and preventive maintenance of CIC and ASW equipment.
5. Elements of naval operations, including formations and their maneuvers, relative movement, vector diagrams and maneuvering, CIC and command relations, screens, single and multiship attack, and operation orders and plans.
6. Principles and instruments of navigation, including charts, projections, directions, distances, magnetic compass, dead reckoning, navigational aids, and scope and use of publications used by the navigator.
7. Navy convoy systems and rules, routing procedures, and methods of organizing allied convoy conferences.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Technical	3250	FLETRACEN
First Lieutenant, Afloat	9242	AD, AE, AF, AFS, AGC, AK, AKA, AKS, AO, APA, AR, ARC, ARDM, ARG, AS, LPD, LSD
Drydocking Officer	9430	ARDM
First Lieutenant, Ashore	9442	HQSUPPACT

I. SCOPE

Limited Duty Officers, Deck (600X) are operational specialists in seamanship and navigation, with practical naval experience in these areas.

Lieutenant Commanders (600X) direct the administration of a department of a naval activity, including organization and methods, budget control, space planning, work-progress reporting, and communications.

They may serve in, but are not limited to, the following billets: department head or CIC officer afloat; operating head of a training facility; branch, section, or unit head in the Navy Department, district headquarters, naval shipyard, major staff command, or naval station.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Administer shipboard routine for all transport passengers.
2. Plan and direct loading and unloading of combat troops and cargo in accordance with tactical requirements.
3. Issue directives and instructions to cargo and embarkation officers to ensure expeditious handling of cargo.
4. Control ship traffic in harbor waters.
5. Schedule movements of fleet units, merchant ships, and yard craft; assign anchorages and berths.
6. Assign pilots to ships entering or leaving harbor.
7. Act as custodian for, and control use of, cryptographic material.
8. Act as liaison officer between ship's captain and passengers, and between ship and outside agencies.
9. Initiate action for procurement of emergency services required by ships in the harbor.
10. Supervise instruction in safety precautions, damage control, or other emergency drills, and use of facilities.
11. Exercise military command of naval personnel assigned to the ship.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Organization of U. S. Government, mission of Department of Defense and its components, and the United Nations.
2. Regulations and services existing in domestic and typical foreign harbors.
3. Principles of management and administration, including organization, planning, staffing, controlling, coordinating, reporting, and budgeting.
4. Rules and regulations concerning MSTs.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

NOBC ACTIVITY

TITLE	NOBC	ACTIVITY
Commanding Officer, Afloat	9222	ARS, AGS
Executive Officer, Afloat	9228	AO, AE, AF, AGTR, AGS
First Lieutenant, Afloat	9242	AOE, CVA
Operations Officer, Afloat (General)	9274	APA, AKA
Boat Pool Officer	9410	NAS
Operations Officer, Ashore	9466	NS, NSYD
Naval Port Control Officer	9472	NS

LIMITED DUTY OFFICER, DECK (600X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Deck (600X) are operational specialists in seamanship and navigation, with practical naval experience in these areas.

Commanders (600X) direct the activities of a department afloat, and of a division, branch, section, or unit ashore.

They may serve in most operation or administrative billets afloat or ashore.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Ensure safety, well being, and efficiency of command, including detailed duties of the commanding officer as established by U. S. Navy Regulations, general orders, customs, and traditions.
2. Aid the commanding officer in carrying out the mission of the ship in matters such as morale, discipline, training, welfare, ship's work, exercises, safety, and rights and privileges of individuals within the command.
3. Formulate policies and prepare long- and short-range plans and programs for a division, branch, section, or unit of the Navy Department or other shore establishment.
4. Administer planning, coordinating, and scheduling of operations of ship and assigned components, including logistic services.
5. Direct the employment and maintenance of the armament and ordnance equipment of the ship, and the procurement, handling, stowage, and issuance of ammunition and pyrotechnics.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Ship's tactical doctrine and characteristics, and tactical and administrative publications.
2. Procedures for evaluating operational information and intelligence.
3. Standard weapons doctrines for surface, air, and shore bombardment actions.
4. Procedures for employment and maintenance of the armament and ordnance equipment, and the procurement, handling, stowage, and issuance of ammunition and pyrotechnics.
5. Location, use, capabilities, and limitations of all engineering equipment aboard ship.
6. Scope, content, and use of damage control book, draft diagrams, and purpose, procedures, and techniques for making all types of damage control tests and inspections.
7. Strategic importance of world regions, comparison of Mercator's and gnomonic charts, and geographic influence on strategy and logistics.
8. Principles of nuclear and conventional warfare, including maintenance of objectives, offensive action, surprise, concentration, economy of force, logistics planning, security, mobility, morale, and training.
9. Fundamentals of industrial relations.

10. Principles of international relations, international law, and the foundations of our national power as reflected in natural and human resources.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Staff Disaster Control Officer	2715	HQ ND
Security Officer, Shore Activity	2775	HQ ND
Staff Operations and Plans Officer	9065	COMFOR
Commanding Officer, Afloat	9222	AGTR, AGS, AK, ARC, ARG
Executive Officer, Afloat	9228	AD, AOE, AR
Operations Officer, Ashore	9466	FLEACT
Naval Port Control Officer	9472	NS

LIMITED DUTY OFFICER, OPERATIONS (601X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Operations (601X) specialize in the employment and application of techniques and procedures associated with communications, antisubmarine warfare (ASW), and combat information center (CIC) operations, with practical experience in these areas.

Ensigns and Lieutenants Junior Grade (601X) plan, organize, supervise, and direct the activities of communication, CIC, and ASW personnel in performance of duties; advise and assist command in operational and tactical employment of pertinent facilities; assist in coordination of CIC, ASW, and communication planning, operations, and functioning; and develop and administer training programs, supervise training services, and conduct training sessions in these areas.

They may serve in, but are not limited to, the following billets: CIC officer, communication officer, operations officer, signal officer, communication watch officer, or CIC watch officer; assistant to staff operations and plans officer; instructor at training activities; or fill operational billets at shore commands.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Advise commanding officer on matters concerning communications, CIC, and ASW operations.
2. Assign personnel to stations and duties to meet operational and administrative requirements; supervise and direct performance of assigned personnel.
3. Plan, develop, and administer training programs for the operations department.
4. Develop and direct equipment operational and preventive maintenance programs and schedules.
5. Assist in planning, scheduling, and coordinating operational and training employment.
6. Assist in preparation of operation orders and plans.
7. Schedule and supervise training exercises and drills in appropriate areas, and prepare and submit reports and evaluations.
8. Instruct and enforce safety programs and safe operating procedures.
9. Direct, control, enforce, and instruct in the security of classified matter.
10. Serve as an instructor of subjects in CIC, ASW, and communications at a training activity.
11. Assume custody and management control of assigned material, property, and equipment.
12. Direct, control and supervise the operation and employment of ASW equipment, and supervise performance of assigned personnel.
13. Conduct antisubmarine search, evaluate contacts, and direct antisubmarine attacks. Relay appropriate information to cognizant stations.
14. Direct, control, and supervise the operation and employment of CIC equipment, and supervise performance of assigned personnel.
15. Supervise the collection, display, evaluation, and dissemination of combat, operational, and tactical information and intelligence relative to the air, surface, and subsurface situations.

16. Advise conning officer during maneuvering and tactical operations including necessary change in course and speed.
17. Maintain a navigational plot of position to assist in safe navigation and in movements to carry out operational mission or function.
18. Control aircraft, boats, and ships when appropriate to mission and assignment.
19. Plan, control, direct, and supervise participation in search and rescue operations.
20. Direct personnel engaged in electronic countermeasures (ECM) and electronic counter countermeasures (ECCM) functions and equipment operation; and develop ECM and ECCM procedures and prepare doctrines for local application.
21. Control and supervise collection and display of information on the location, movements, status, and conditions of ships and craft; and disseminate information and prepare local directives to implement procedures and systems.
22. Plan and direct movements of ships and boats within an assigned area; and assign and coordinate servicing units and services.
23. Direct, control, and supervise an organization's communication services, facilities, and personnel.
24. Develop and prepare communication plans and frequency plans for local application and issue procedural instructions.
25. Designate communication circuits to be monitored, visual communication methods to be employed, and control and security limitations (and requirements) in effect.
26. Conduct traffic studies to provide adequate radio and landline facilities and circuits to meet requirements; and maintain current communication guard lists of forces afloat.
27. Assume custody and control of publications and other matter distributed through the Registered Publication System (RPS); issue publications to required users; supervise and instruct in use, custody, handling, and security of publications; and maintain files and records, and prepare required reports.
28. Control, direct, and serve on cryptoboard; and instruct cryptoboard members in procedures, methods, and functioning.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Functions, organization and administration, mission, and responsibilities of operations department and components.
2. Operational and preventive maintenance procedures, standards, and requirements appropriate to CIC, ASW, and communications equipments.
3. Theory and principles of radio wave and sound wave propagation, transmission, and reception; and of conditions such as attenuation, doppler, and reflection affecting radio and sound waves.
4. Capabilities, limitations, operating characteristics, and operating techniques and procedures pertinent to CIC, ASW, and communication equipment.
5. Safety regulations and precautions applicable to CIC, ASW, and communication equipment and spaces.

6. Mission, role, and composition of naval communications.
7. CW, voice, teletype, and visual communication procedures and doctrine; and methods and techniques of communications.
8. General content, scope, and use and application of communication publications, instructions, and regulations.
9. Regulations and procedures applicable to the security of classified matter, as specified in Security Manual for Classified Information (OpNav Instruction 5510.1 series) and other sources.
10. Format, general content, use and application of communication annexes to operation plans and orders, and of frequency plans.
11. CIC plotting, methods, procedures, techniques, symbols, and information display.
12. CIC standard doctrines, techniques, procedures, and methods of accomplishing CIC missions and functions.
13. General content, scope, and use of appropriate tactical and operational publications and pertinent maneuvering, cruising, and operating instructions.
14. Means and methods of solving maneuvering-board type problems normal to ship operations.
15. Basic elements and application of the various type formations, dispositions, and operations.
16. Capabilities and limitations of antisubmarine weapons, and appropriate application and use of weapons.
17. Basics of submarine capabilities and limitations, operating and tactical procedures, and submarine offensive and defensive tactics.
18. Antisubmarine warfare doctrines, procedures, and techniques; and operations, methods, and procedures of antisubmarine search, patrols, and attacks.
19. Regulations, instructions, and procedures concerned with procurement, custody, use, and disposition of equipment, material, and supplies; and means and methods of budget preparation and control of funds.
20. Types, frequency, and manner of preparation and maintenance of logs, records, material histories, and reports.
21. Basic methods and techniques for preparing, developing, and presenting instructional and training material in operations area.
22. Procedures, techniques, and equipments related to ECM and ECCM.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Staff Operations and Plans Officer	9065	TYCOM
(Assistant) CIC Officer	9216	CA, CG
CIC Watch Officer	9220	CVS
Communication Officer, Ashore	9510	ADCOM, COMMSTA
Communications Watch Officer	9525	Any Staff
Communication Officer, Afloat	9582	AS, CVAN, MCS
Communications Traffic Officer	9595	COMMSTA

LIMITED DUTY OFFICER, OPERATIONS (601X) LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Operations (601X) specialize in the employment and the application of techniques and procedures associated with communications, antisubmarine warfare (ASW), and combat information center (CIC) operations, with practical experience in these areas.

Lieutenants (601X) assist and advise command in tactical and operational planning, direction, and control, and in the employment and utilization of communication, CIC, and ASW facilities and installations; plan, direct, organize, supervise, and coordinate performance, functioning, and administration in communications, CIC, and ASW; direct and control specialized functions in these and related fields; and assist in operation and administration of training programs, facilities, and services.

They may serve in, but are not limited to, the following billets: operations officer, communication officer, or CIC officer on ships; assistant in staff operations and plans; instructor at training activities or operational billets at shore commands.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Advise command on employment, utilization, capabilities, limitations, and reliability of communication, CIC, and ASW equipment, installations, and facilities.
2. Assist and advise on tactical and operational employment and planning, and on operations and functions necessary to accomplish assigned mission.
3. Plan, or assist in planning, communication, CIC, and ASW functions in support of a command's functions, responsibilities, and missions.
4. Coordinate, direct, and supervise administration, operation, and functioning of operations department facilities and personnel.
5. Plan, direct, coordinate, and conduct training programs and services in communications, CIC, ASW, and related areas; and direct and evaluate group operational training.
6. Direct and coordinate ship movements within an assigned area, issue movement orders, assign servicing units and operating areas, and coordinate other services.
7. Evaluate tactical, operational, and combat information and intelligence received, and control and direct dissemination to cognizant control stations.
8. Assist in direction, control, and supervision of measures, systems, and organizations designed to provide and promote greater communication security and reliability.
9. Assist staff commander in establishing and administering programs to develop and maintain prescribed standards of readiness in operations areas.
10. Evaluate operational and administrative performance and condition in operations areas, and prepare reports of evaluations.
11. Assist in preparation of operation orders, plans, and other directives and annexes relating to communications, CIC, and ASW.
12. Develop standard doctrines for performance of operational and tactical functions in communication, CIC, and ASW.

13. Control and coordinate elements employed to detect air, surface, and underwater units; direct collection, display, evaluation, and dissemination of information.
14. Coordinate routing and movements of merchant ships; maintain shipping plots and records; prepare convoy communication plans; and effect liaison on naval shipping control matters.
15. Schedule and coordinate equipment repair, maintenance, and overhaul periods with operating schedules and tactical commitments.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Fundamentals of naval operations, including mission, role, and aims of naval forces; basic tactics and maneuvers; and formations and cruising instructions.
2. Antisubmarine tactics and operations, including screening formations, patrols and searches, and airborne and submarine antisubmarine search, detection, and attack equipment.
3. Basic concepts of air operations, aircraft armament, aircraft limitations and capabilities, and elements of aircraft tactics and operations.
4. Concepts of air defense, including control of interceptor aircraft, air defense doctrine, weapons control, and air target acquisition and designation systems and methods.
5. Basic concepts of various formations and dispositions, such as offensive, defensive, logistic, support, replenishment, air operations, and amphibious operations.
6. Basic concepts of role, mission, and functioning of area defensive organizations.
7. Role, mission, and functioning of convoy operations and convoy planning, and of the Naval Control of Shipping Organization.
8. Operational employment, utilization, procedures, and techniques of communication, CIC, and ASW systems and installations; and interrelationship and coordination of systems and installations.
9. Techniques, procedures, and equipment in ECM and ECCM areas.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Staff Antisubmarine Officer	9040	COMASWFOR
CIC Officer	9216	CA, CAG, CC, AAWTRACEN
Naval Tactical Data System - CIC Officer	9217	CGN
Communication Officer, Ashore	9510	COMMSTA, DCA
(Assistant) Radio Officer	9565	Any Staff
(Assistant) Staff Communications Officer	9590	Any Staff

I. SCOPE

Limited Duty Officers, Operations (601X) specialize in the employment and the application of techniques and procedures associated with communications, antisubmarine warfare (ASW), and combat information center (CIC) operations, with practical experience in these areas.

Lieutenant Commanders (601X) plan, direct, and control tactical and operational employment of units and facilities; direct, administer, coordinate, and supervise functioning of major communication, CIC, and ASW facilities and installations; develop and evaluate performance standards, training needs, and new operational techniques and procedures; direct, supervise, and administer an operations department of a naval activity.

They may serve in, but are not limited to, the following billets: operations officer, communication officer, or CIC officer on ships or in staff operational billets; fill billets at training activities, or operational and administrative billets at shore commands.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Plan phases or portions of a naval operation or mission.
2. Prepare operations orders and plans and appropriate annexes.
3. Assist command in evaluating tactical and operational situation, and recommend action to be followed.
4. Direct and control portions or phases of a naval operation or a tactical situation, such as screening operations and gunfire support missions.
5. Develop standards and criteria of operational readiness, and evaluate performance of individual ships and units.
6. Plan and schedule training exercises and operations.
7. Direct and administer large communication centers.
8. Administer, direct, and control search and rescue facilities and operations; coordinate naval operations with those of other services.
9. Direct and administer the operations department of a large ship.
10. Assist in operational and logistic planning and scheduling, and arrange for supporting services.
11. Control, direct, and administer a training activity; develop curricula, evaluate methods and results, and determine training needs.
12. Develop communication plans, allocate channels for operational and administrative needs, and coordinate utilization and assignment of frequencies, equipment, and services.
13. Represent the Navy in interservice affairs and on various boards, committees, and agencies.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Fundamentals of operational planning and logistic planning.
2. Broad knowledge of maneuvering and naval tactics, and naval operational requirements.
3. Basic concepts of joint operations and tactics requirements, and basic concepts of needs, limitations, capabilities, and reliability of equipment and facilities of other services.
4. Fundamentals of operational and tactical procedures and techniques of other services (in joint operations fields).
5. Readiness and training standards and criteria to meet operational requirements, readiness and training evaluation methods, and procedures and techniques for improving state of training and level of readiness through operational exercises, drills, and broad training programs.
6. Knowledge of operational and administrative communication requirements; and of military and nonmilitary communication procedure, equipment, needs, and services.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Staff CIC Officer	9042	Any Staff
Staff Operations and Plans Officer	9065	Any Staff
CIC Officer	9216	CVA, CVS
Operations Officer, Afloat (General)	9274	APA, AKA
Operations Officer, Ashore	9466	Any Shore Station

I. SCOPE

Limited Duty Officers, Operations (601X) specialize in the employment and the application of techniques and procedures associated with communications, antisubmarine warfare (ASW), and combat information center (CIC) operations, with practical experience in these areas.

Commanders (601X) direct and administer operational, equipment, and personnel planning, utilization, and evaluation functions; direct and administer training facilities and programs; and assist staff commander in direction and coordination of administrative and operational functions.

They may serve in operational or administrative billets afloat or ashore.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Coordinate development and evaluation of new operational tactics, techniques, and procedures.
2. Coordinate development and evaluation of new equipment and systems associated with communications, CIC, and ASW areas.
3. Coordinate dissemination and implementation of new procedural and doctrinal matter.
4. Schedule and coordinate developmental and evaluation tests and projects to determine operational feasibility of equipment and procedures.
5. Act as liaison with joint and combined agencies and groups, coordinating U. S. naval operations, procedures, and equipment concepts with those of other services and nations.
6. Direct, control, and administer a shipboard department, a staff or department, section or unit of shore activity.
7. Prepare operating budgets and administer allotments.
8. Develop manning levels, and personnel ceilings and requirements.
9. Plan and coordinate long- and short-range training and operational schedules.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Principles of war, including maintenance of objectives, offensive action, surprise, concentration, economy of force, security, mobilization, simplicity, morale, and training.
2. Strategic importance of world regions and geographic influence on strategy and tactics.
3. Tactical characteristics and operational requirements of naval vessels.
4. Principles of management and administration, including planning, staffing, controlling, and financial planning and control.
5. Basic concepts of long-range requirements in terms of personnel facilities, equipment, and operations.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Staff Operations and Plans Officer	9065	Large Staff
Staff Readiness Officer (General)	9067	Large Staff
Operations Officer, Afloat (General)	9274	CA, CVA, CVS
Communication Plans Officer	9515	COMMSTA

LIMITED DUTY OFFICER, ORDNANCE (615X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Ordnance (615X) are operational and technical specialists in the field of ordnance equipment, material, and components, with practical experience in the areas of operation and maintenance.

Ensigns and Lieutenants Junior Grade (615X) plan, organize, supervise, and direct the activities of personnel in the operation and maintenance of surface and underwater ordnance, including missiles and ordnance control; supervise installation, repair, alteration, and testing of ordnance equipment and material; supervise and control stowage, issue, procurement, security, and preservation of ordnance equipment, material, and components. They may assist in supervision and direction of deck personnel and functions.

They may serve in, but are not limited to, the following billets: weapons officer or assistant weapons officer; fire control officer or fire control plotting room officer; antisubmarine officer; mining officer; ordnance repair officer of a tender or repair ship. Ashore, they may fill various ordnance billets in the Bureau of Naval Weapons field activities and in special weapons units, and instructor billets in ordnance training facilities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Supervise, organize, and administer a division within a weapons or deck department, or a ship-board weapons department.
2. Plan, develop, and administer training programs for ordnance personnel; evaluate ordnance operational drills and exercises, report results of evaluation, and make necessary recommendations.
3. Organize, supervise, and direct ordnance safety programs, and enforce safety precautions and regulations pertaining to the operation, repair, maintenance, and handling of ordnance equipment, including ammunition and explosive type items.
4. Direct preparation and maintenance of ordnance equipment histories, logs, Current Ship's Maintenance Project (CSMP), Performance, Operational, and Maintenance Standards for Electronic Equipment (POMSEE), and the Standard Navy Maintenance and Material Management System (3M System).
5. Direct preparation and maintenance of a job order system for equipment and installations.
6. Direct preparation and distribution of technical reports and information pertaining to ordnance repair, installation, operation, and maintenance.
7. Direct the control and maintenance of ordnance equipment and material inventories; develop procedures for requisitioning, procuring, issuing, storing, and surveying ordnance equipment, repair parts, material, and explosive type items.
8. Direct the casualty analyses of ordnance equipment and determine the need for replacement or repair of defective parts.
9. Direct repair, alteration, modification, and installation of ordnance equipment.
10. Direct boresighting, battery alignment, and like procedures appropriate to installed ordnance systems.

11. Furnish technical information and advice concerning the use, capabilities, limitations, and reliability of installed ordnance.
12. Direct preparation of ordnance installations for firing or launching.
13. Direct operations of gun batteries and missile batteries; assume control of batteries, under designated control method, and exercise control of batteries as specified in pertinent doctrines; designate targets to be taken under fire (if appropriate), issue loading and firing orders, and determine and apply corrections.
14. Direct operations and procedures concerned with tactical employment of underwater ordnance systems and installations; assume control of designated weapons and issue necessary orders; advise conn on tactics and maneuvers to reach firing/launching position.
15. Prepare and submit postfiring analyses and reports of ordnance equipment performance.
16. Direct preparation of impulse and saluting charges and the firing of salutes.
17. Direct stowage and security of explosives, ammunition, missiles, and special weapons items in magazines and handling rooms; direct operation and maintenance of handling and hoisting type equipment and systems.
18. Direct handling, transporting, issuing, storing, preserving, and testing special weapons, ammunition, and explosives; assist in administration and direction of activities concerned with storage, handling, issuing, and servicing of special weapons, ammunition, and explosives.
19. Assist in direction, control, and administration of operations and functions of ordnance repair and material facilities and installations.
20. Establish procedures for, and direct operations of, pistol, rifle, and machinegun ranges; instruct in the use of small arms and related safety precautions.
21. Observe and take part in ordnance test and evaluation projects; assist in establishing test limits, scope, and conditions; review observed data and prepare reports of observations and recommendations.
22. Direct operational tests and adjustments of control equipment and systems, and compute and apply initial system and component corrections prior to firing.
23. Assist in direction of target acquisition and designation functions of CIC and ordnance control stations.
24. Advise command on the operational and tactical employment and utilization of control and missile equipments and systems; assist command in operational control and direction of missile and control installations.
25. Assist in direction and control of shore-based antisubmarine detection, attack, and control activities.
26. Assist in planning phases of operations in underwater ordnance areas, such as mining operations and antisubmarine operations; assist in preparation of operational orders and plans, and pertinent annexes.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Organization, mission, functions, and relationships of the Bureau of Naval Weapons and other technical bureaus, Bureau field activities, and the operating forces.
2. General content, nature, and scope of the Bureau of Naval Weapons publications, directives, and manuals.
3. Administrative organization of a weapons department, and the responsibility, authority, duties, and functions of a weapons department and weapons personnel.
4. Regulations, policy, and procedures for preparing, maintaining, and submitting pertinent ordnance records, files, and reports, such as Performance, Operational, and Maintenance Standards for Electronic Equipment (POMSEE), Standard Navy Maintenance and Material Management System (3M System), OrdAlt records, Current Ship's Maintenance Project (CSMP) records, equipment histories and logs, and training exercise reports.
5. Regulations and procedures for controlling expenditure of material and funds, and for the procurement, issue, stowage, accountability, and survey of material and equipment.
6. Regulations and procedures relating to the handling, custody, stowage, classification, and destruction of classified ordnance matter.
7. Safety precautions and procedures appropriate to ordnance equipment, systems, installations, and spaces.
8. Safety precautions and procedures appropriate to handling, stowing, transporting, issuing, testing, inspecting, and reworking explosive type material.
9. Methods, procedures, and equipment for electrical, hydraulic, and mechanical tests and inspections of ordnance equipment and components.
10. Methods and procedures for operational tests and inspections of ordnance equipment, and for inspecting and testing the repair, installation, or alteration of ordnance equipment.
11. Methods, techniques, and procedures for accomplishing ordnance repair, installation, and alteration, and the scope and limitations of ordnance repair facilities.
12. Construction of magazines, handling rooms, and the like, and the operation and maintenance of magazine flooding and sprinkling systems, and other protective systems.
13. Types, composition, characteristics, and limitations of explosives, propellants, projectiles, fuses and exploder mechanisms, and pyrotechnic ammunition.
14. Types, characteristics, operation, maintenance, capabilities, and limitations of naval guns, rocket and missile launchers, small arms, torpedoes, mines, and depth charges, and of supporting systems such as control systems, loading systems, and ammunition handling systems.
15. Types, functional relationships, operation, maintenance, capabilities, and limitations of gun and launcher mounts and turrets, firing systems and circuits, firing cutout cams, recoil and counterrecoil systems, sight systems, training and elevating systems, and electrical, hydraulic, and mechanical systems and units.
16. Methods and procedures for preparing an installation for firing or launching, and testing and inspecting the system prior to firing.
17. Standard doctrine and procedures for surface, air, and shore bombardment; control methods and procedures; target acquisition and designation procedures; standard weapons orders and terminology.

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18. Methods and procedures for conducting battery alignment, boresighting, and similar checks, and for determining and applying roller-path data.
19. Techniques and procedures of troubleshooting and casualty analysis, checking components, and tracing circuits from diagrams and prints.
20. Types, uses, and methods of setting demolition charges.
21. Types, characteristics, and employment of aerial ordnance.
22. Special weapons stowing, handling, inspecting, and testing requirements and procedures, special weapons components, and special weapons assembly procedures.
23. Types, functions, theory, use, operation, and maintenance of ordnance control equipment and subsystems, such as servosystems, gyroscopic equipment, rangekeepers, computers, and radar systems.
24. Types, functions, capabilities, limitations, operation, and maintenance of ordnance control, missile control, and submarine detection and tracking systems.
25. Methods and means of missile in-flight data collection.
26. Organization, operations, and functions of shore based antiship and antisubmarine detection and attack facilities, and procedures, equipment, and methods of detection, plotting, and attack.
27. Underwater ordnance assembly and construction methods, procedures, and techniques.
28. Doctrine, policy, procedures, and tactics of operational employment and utilization of shipboard underwater ordnance.
29. Basic concepts of operational and tactical planning, and of preparation of operation orders and plans.
30. Tactical and strategic limits, capabilities, and delivery techniques of special weapons.
31. Instructor techniques and methods, and procedures for developing lesson plans and for observing student and group progress.
32. Operational knowledge of seamanship evolutions such as anchoring, mooring, fueling, and replenishment operations at sea.
33. Regulations, procedures, and customs pertinent to firing salutes.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOEC</u>	<u>ACTIVITY</u>
Instructor, Naval Science	3270	NAVSCOL
Antisubmarine Weapons Officer	9206	CLG, CVS, DD, DE
Division Officer, Weapons Department (General)	9250	CVS, AE
Special Weapons Unit Officer	9289	NS
Special Weapons Assembly Officer (General)	9296	CVA, CVAN

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LIMITED DUTY OFFICER, ORDNANCE (615X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Ordnance (615X) are operational and technical specialists in the field of ordnance equipment, material, and components, with practical experience in the areas of operation and maintenance.

Lieutenants (615X) supervise and direct the operation and maintenance of ordnance installations and equipment; assist and advise command in operational and tactical employment of ordnance installations and equipment, and in ordnance material and readiness programs; assist in planning, administering, and supervising training programs and facilities; assist in administration and supervision of production, planning, allocation, and repair and alteration of ordnance material, equipment, and systems. They may assist in phases of equipment and system development and applied research, and in the operations of special weapons units.

They may serve in, but are not limited to, the following billets: weapons officer or assistant weapons officer, main battery officer, automatic weapons officer, fire control officer, surface-launched guided-missile officer, ordnance material officer, weapons readiness officer, or mine warfare officer. Ashore, they may fill various billets in the Bureau of Naval Weapons field activities and in special weapons units, and instructor billets in ordnance training facilities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Assist in budget preparation and in control of allocated funds.
2. Maintain records of usage data and estimate future replacement needs.
3. Assist in developing ordnance equipment allowance lists and in controlling allocation, procurement, distribution, and stocking of ordnance equipment, materials, and supplies.
4. Assist in logistic and mobilization planning in support of operating forces; maintain liaison with operating and support staffs and other agencies; advise on types, kinds, and numbers of facilities, equipment, material, and personnel required; maintain necessary records.
5. Assist in control, direction, and review of reports and records pertaining to ordnance equipment, systems, and installations.
6. Direct or conduct tests and inspections of ordnance equipment, material, and components to determine acceptability of manufactured, repaired, and installed items.
7. Assist in installation, alteration, and repair of ordnance equipment, installations, and systems; inspect condition of work in progress and schedule work to be accomplished.
8. Assist in direction, planning, and control of the production, repair, and alteration of ordnance equipment and components; analyze design of items and units to determine economy and feasibility of production and interchangeability; assist in scheduling, coordinating, and expediting production, repair, and alteration; assist in developing improved methods and techniques, and improving operations of facilities and plants.
9. Represent the Navy and the Bureau of Naval Weapons at commercial industrial facilities; interpret directives and regulations, and ensure compliance with contracts and specifications.
10. Assist in planning for, and preparation of, ordnance technical manuals, instruction books, bulletins, and other similar material.

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11. Assist in developing and promoting plans and programs directed towards increased safety, and towards elimination of accidents and hazardous conditions.
12. Assist in service testing, trials, and evaluations, and in experimental testing, of ordnance equipment, material, systems, installations, and procedures; control specific areas of testing and evaluations; assist in scheduling, analyzing results, and recommending equipment and procedure changes.
13. Assist in developing the application of equipment, material, systems, and procedures to operational needs.
14. Direct, administer, and supervise training and instruction in ordnance areas; develop course material and simulated operational problems; observe personnel in training, evaluate performance, and recommend further training and procedure changes to attain desired performance level.
15. Direct, organize, and administer a shipboard weapons department or department subdivision, including ordnance control, missile, and underwater ordnance operations and programs.
16. Advise command on the capabilities, limitations, and operational utilization of surface and underwater ordnance and ordnance control installations; assist command in the tactical and operational employment of ordnance systems and installations.
17. Assist in planning, scheduling, directing, and controlling mining operations, antisubmarine operations, and torpedo action operations.
18. Assist in preparation of operation orders or annexes relating to underwater ordnance operations, and in analysis and evaluation of in-progress and completed operations.
19. Direct, supervise, and administer a facility employed in detection of, and attack on, enemy underwater and surface craft; direct and supervise the operation and maintenance of detection equipment; control and coordinate attacking units and destruction equipment.
20. Assist staff commander in establishing and administering programs, policies, and procedures for the evaluation, maintenance, and improvement of material condition and combat readiness of ordnance installations and systems.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Principles and techniques of administration and management, and pertinent regulations and directives relating to administration of Bureau of Naval Weapons activities.
2. Methods, techniques, and procedures pertaining to ordnance repair, overhaul, installation, and production; knowledge of production equipment and machinery; knowledge of the capabilities and limitations of the various types of ordnance repair or production facilities.
3. General knowledge of contract specifications format, contract liabilities and responsibilities, and regulations pertaining to civilian contractors producing naval ordnance material.
4. Knowledge of budget preparation, funding and allotment control, and basic accounting procedures.
5. Basic concepts of mobilization and logistic requirements, and methods and procedures for future planning.
6. Procedures, regulations, and methods pertinent to procurement, issue, and distribution of ordnance material and equipment; concepts of ordnance material stocking levels, supply points, and procurement sources and times; concepts of determining operational requirements.

7. Knowledge of standards for operating and testing equipment, common weaknesses in ordnance equipment and systems, and inspection and test methods, techniques, procedures, and equipment.
8. Basic concepts of industrial quality control standards, procedures, and methods.
9. Knowledge of testing and evaluation procedures and techniques, methods of obtaining test and evaluation data, and methods and procedures for evaluating, reporting, and applying data.
10. Material inspection procedures and standards, and methods of improving overall material conditions.
11. Knowledge of types, capabilities, limitations, characteristics, and tactical and operational utilization of naval guns and gun systems, missiles and launching systems, ordnance control and guidance systems, and countermeasures systems.
12. Location, scope, and capabilities of facilities for the repair, overhaul, installation, test, and evaluation of underwater ordnance; test and evaluation procedures for underwater ordnance.
13. Knowledge of types, capabilities, limitations, characteristics, and tactical and operational utilization of underwater ordnance and systems, such as torpedo types and firing and control systems.

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IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Nuclear Weapons Instructor	3271	NUWPNTACEN
(Assistant) Ammunition Material Officer	6083	NAD
Guided Missile Type Project Officer (General)	6280	BUWEPS
Fire Control Repair Officer	6457	AS
Mine Assembly and Test Officer	6516	DRILMINE
Torpedo Repair Officer	6540	SUBASE, WPNSTA
Weapons Distribution Officer	6702	MAGAZINE
Nuclear Weapons Specialist	6919	COMSERVRON
Weapons Facilities Officer	6928	ORDFAC
Weapons Logistics Officer	6942	COMSERVRON
Staff Weapons Officer (General)	9053	COMSERVRON
Staff Readiness Officer (Weapons)	9069	PHIBOPTRAUN
Fire Control Officer (Surface-to-Air Missiles)	9238	DDG, CVA
Surface Weapons Officer	9264	CA, CAG

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<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Special Weapons Technical Repair Officer	9292	AS
Special Weapons Assembly Officer (General)	9296	NS, NAS

LIMITED DUTY OFFICER, ORDNANCE (615X)
LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Ordnance (615X) are operational and technical specialists in the field of ordnance equipment, material, and components, with practical experience in the areas of operation and maintenance.

Lieutenant Commanders (615X) direct the operation and maintenance of ordnance installations; plan and supervise ordnance exercises, and coordinate these exercises as part of an overall training schedule; assist in planning and directing installation, modification, and repair of ordnance equipment and systems; control and coordinate aspects of ordnance equipment and material production, allocation, and development; assist operational planning and direction of ordnance installations and systems.

They may serve in, but are not limited to, the following billets: weapons officer on large ships; operations, readiness, material, or training billets in the Navy Department, naval shipyards, or on major staffs.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Administer and control phases of ordnance procurement, supply, and distribution programs.
2. Assist in direction and control of programs to apply research developments to operational equipment, systems, and procedures.
3. Assist in direction and control of operational and logistic planning programs.
4. Represent the Navy and the Bureau of Naval Weapons at civilian ordnance industrial establishments, and assist in production and liaison matters.
5. Assist in planning and scheduling ordnance repair, alteration, and installation, and in allocating funds and equipment and establishing priorities.
6. Direct and conduct inspection and test programs and procedures; review and analyze inspection records to determine need for design changes and equipment modifications.
7. Assist in direction and administration of an ordnance shore activity.
8. Serve as technical advisor to special inspection boards, and assist in general inspections of ordnance shore establishments.
9. Serve as technical advisor and observer of ordnance test and evaluation projects.
10. Advise command on operational, tactical, material, and policy matters related to the ordnance field; plan, direct, and control tactical and operational employment of ordnance installations; plan, direct, and control training employment of ordnance installations; develop standard procedures and doctrines.
11. Develop and supervise training and instructional programs in ordnance field.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Allotment and appropriation control and records; and regulations, directives, and policy relating to appropriation and allotment expenditures.
2. New equipment and systems production schedules, and fleet and operational requirements of equipment and systems.

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3. Administrative inspection procedures, and regulations and policy relating to special inspection boards.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Guided Missile Test Officer	6275	GMU
Mine Repair Officer	6520	COMSERV
Underwater Munitions Project Officer (Advanced Underseas Weapons)	6586	NAD
Weapons Maintenance Officer (General)	6704	NAD
Weapons Procurement Officer (Underwater Weapons)	6712	BUWEPS PROD QUAL
Naval Inspector of Weapons	6914	WPNQUALASSURO, BUWEPSREP
(Assistant) Weapons Installation and Repair Superintendent	6940	NSYD
Weapons and Ammunition Production Officer	6968	NAD
Weapons Repair Officer	6978	AS
Fire Control Officer (General)	9237	CLG
Weapons Officer	9258	CA, CC, DLG

LIMITED DUTY OFFICER, ORDNANCE (615X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Ordnance (615X) are operational and technical specialists in the field of ordnance equipment, material, and components, with practical experience in the areas of operation and maintenance.

Commanders (615X) direct, coordinate, and control ordnance procurement, production, and repair activities and facilities; direct and supervise ordnance testing and experimental facilities; coordinate ordnance operational planning and direction; assist in direction, coordination, and formulation of policy in ordnance areas.

They may serve in operational and administrative billets afloat and ashore in the weapons field.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Direct a section, branch, or division of the ordnance shore establishment concerned with production, procurement, repair, or material planning; control assigned programs and projects; interpret and implement policy and directives.
2. Direct ordnance test, evaluation, production, and repair facilities.
3. Direct a section or division of a commander's staff concerned with ordnance matters; control programs and activities in pertinent areas; interpret policies and directives and advise on new policy and directives.
4. Direct a section, branch, or division concerned with ordnance matters within the naval shore establishment.
5. Command an ordnance shore facility or activity.
6. Coordinate planning and direction of operations and tactics in ordnance areas.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Knowledge of projected plans and future requirements in the areas of ordnance equipment and installation, material, and personnel.
2. Knowledge of future operations, and operational and strategic plans.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Weapons Officer	9258	CA, CLG, CVA, CVS, LPH

LIMITED DUTY OFFICER, ADMINISTRATION (620X)
ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Administration (620X) specialize in naval administration and personnel management.

Ensigns and Lieutenants Junior Grade (620X) assist in directing administrative division of naval activity or command, or serve as executive assistants to the operating head, performing a combination of administrative duties such as personnel administration, organization and methods, budget and fiscal control, space planning, and work-progress reporting; conduct personnel administration of a naval activity; and direct staff office organization and routine.

They may serve in, but are not limited to, the following billets: administrative or personnel officer; administrative assistant, postal officer, or assistant to flag secretary; assistant to the head of a secretariat or as branch, section, or unit assistant in the Bureau of Naval Personnel, and Office of the Chief of Naval Operations; and in administrative or secretarial billet in other offices of the naval shore establishment.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Organize and direct personnel of administration office at a naval activity.
2. Advise and assist command in administration of naval personnel affairs.
3. Supervise preparation and distribution of manuals, handbooks, safety precautions, and training aids.
4. Supervise preparation of, review, and sign correspondence pertaining to personnel administration.
5. Conduct or direct administration of naval personnel in transit, awaiting orders, or billeted in receiving stations, barracks, yards, depots, and embarkation or staging areas.
6. Develop classification coding and rating structures, and prepare reports, billet descriptions, and manuals.
7. Interview and assign personnel on basis of qualifications and billets available.
8. Effect discharge and reenlistment of personnel, and provide for transfers and changes in assignments.
9. Supervise preparation of personnel rosters, strength reports, correspondence, and the maintenance of naval and civilian personnel service records.
10. Apply laws, regulations, and directives regarding dependency, such as family allowances, quarters and subsistence, transportation, and allotments.
11. Supervise preparation of orders, leave requests, and endorsements on orders; and certify availability of government quarters and/or messing facilities on TAD orders.
12. Supervise preparation and distribution of regulations, instructions, and directives necessary to maintain good order and discipline of naval personnel ashore.
13. Advise and assist command in matters pertaining to confinement of naval personnel.
14. Arrange for notification of next of kin in event of death or serious injury.

15. Schedule or conduct introductory instruction in naval administration, customs, occupations, and discipline.
16. Plan and administer educational services programs in nonmilitary and vocational subjects aboard ship or at shore stations.
17. Conduct surveys and studies on allocation of personnel.
18. Supervise selection, procurement, maintenance, and utilization of training aids.
19. Supervise preparation and submission of records and reports on educational and training matters.
20. Maintain availability records based on school quotas, enlistment, officer procurement, and transfer statistics.
21. Train and advise personnel assigned to civil readjustment duties.
22. Plan and direct program for supplying leisure-time activities for naval personnel, and supervise receipt, custody, and issue of welfare and recreation gear.
23. Supervise control of registered publications, perform cryptoboard duties, and provide guard mail service.
24. Organize and direct operation of Navy or fleet post office.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Regulations and procedures for administration of naval personnel attached to unified commands.
2. Content and scope of service publications pertaining to personnel administration.
3. Regulations and procedures for procurement of Navy publications, both registered and non-registered.
4. Principles of report writing.
5. Regulations and procedures for receipt and transfer of officer and enlisted personnel.
6. Regulations for assignment, distribution, and rotation of officer and enlisted personnel.
7. Principles of interview procedures, and knowledge of current career appraisal statistics.
8. Regulations and procedures governing enlistments, reenlistments, and extension of enlistments.
9. Regulations and procedures for preparation and submission of officer fitness reports.
10. Regulations for implementation of Armed Forces Leave Act as reenacted in U. S. Code (10 USC 701-703, 37 USC 501-504).
11. Regulations pertaining to service obligations under pertinent statutory provisions.
12. Provisions and application of the Soldiers and Sailors Relief Act.
13. Court-martial procedures under the Uniform Code of Military Justice, including regulations and procedures contained in the Manual for Courts-Martial and the Manual of the Judge Advocate General (JAGINST 5800.7).

14. Application of government insurance laws, social security, and death benefit provisions applicable to service personnel.
15. Elements of veterans' rights and benefits to which members of the naval service may become entitled.
16. Elements of rights and benefits to which dependents of members of the naval service are entitled.
17. Regulations and procedures governing transfers to the fleet reserve and retired list.
18. Regulations for voting by absentee ballot.
19. Procedures for control and administration of quarterly allotment at department level.
20. Organization and mission of the Navy Department, Operating Forces, Shore Establishment, and Naval Reserve; naval organization as contained in General Orders 5 and 19.
21. Nature, scope, duties, and responsibilities of members of naval boards and committees.
22. Application of regulations issued by fleet and type commanders.
23. Regulations and procedures for preparation of budget estimates.
24. Regulations pertaining to honors, ceremonies, and protocol.
25. Duties and responsibilities of communication officer and communication watch officer, including RPS holder and custodian responsibilities, changes and corrections, custodial files, loss, and compromise.
26. Regulations and procedures for classification, security, accountability, dissemination, and transmission of classified and registered material.
27. Regulations and procedures for organization and administration of a naval post office.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Administrative Assistant	2605	Any Staff, NS
Administrative Officer	2615	NS, NAVSCOL
Postal Officer	2617	SERVON, SUPPACT, NS
Personnel Officer	3965	CVA
Staff Personnel Officer	3985	COMDESRON
Staff Administration Officer	9034	PHIBRON
(Assistant) Aide and Flag Secretary or Staff Secretary	9082	TYCOM

LIMITED DUTY OFFICER, ADMINISTRATION (620X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Administration (620X) specialize in naval administration and personnel management.

Lieutenants (620X) direct or assist in direction of the administrative division of a naval activity or command, or serve as executive assistants to the operating head, performing a combination of administrative duties such as personnel administration, organization and methods, budget and fiscal control, space planning, work-progress reporting, and supplying office services; conduct or direct personnel administration of a naval activity; and direct staff office organization and routine.

They may serve in, but are not limited to, the following billets: administrative officer, postal officer, personnel officer, aide and flag secretary, or administrative assistant on a ship, staff, or station; administrative, secretarial, or personnel billets such as section or unit head in the Bureau of Naval Personnel and Office of the Chief of Naval Operations, or other offices of the naval shore establishment involved in planning, research, and administration of procurement, selection, classification, distribution, training, performance, separation, welfare, and records of naval and civilian personnel.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Conduct studies for purpose of determining duties performed, and knowledges and skills required, in Navy billets.
2. Conduct organizational analyses and work-simplification studies.
3. Plan and administer promotional programs for officer and enlisted personnel procurement.
4. Administer distribution of officer and enlisted personnel in accordance with planning directives and established allowances.
5. Administer function of area postal officer on staff of area or force commander, involving postal support for forces afloat and coordination of area postal activities.
6. Interpret and apply naval and Civil Service Commission regulations with respect to procurement, hiring, classification, assignment, retention, promotion, and separation of civilian personnel.
7. Organize and administer a program of training for civilian personnel at shore establishments.
8. Supervise personnel selection, training and assignment, test construction, evaluation, and career development.
9. Coordinate processing of discharges at separation activity to provide a systematic flow.
10. Advise and assist the commander of a large personnel activity in administration of naval discipline.
11. Review court-martial actions from standpoint of personnel policy.
12. Assist command by coordinating staff activities and maintain liaison with other services.
13. Review applications and assist in selecting applicants for appointment to commissioned grade in Regular Navy or Naval Reserve, and supervise writing of commissions, acceptances, and cancellations.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Methods of conducting occupational analysis, including technical conferences, use of questionnaires, incumbent interviews, and observation.
2. Techniques of organizational analysis and methods of conducting work-simplification studies.
3. Techniques of preparing and presenting promotional material for procurement.
4. Types and uses of personnel reports prepared for and utilized by personnel distribution commands.
5. Base rights or status of force agreements with foreign governments as they affect movement of military mail and establishment of military postal facilities.
6. Navy Civilian Personnel Instructions (NCPI) and Civil Service Commission regulations pertaining to procurement, hiring, classification, assignment, promotion, and separation of civilian personnel.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Administrative Assistant	2605	AS, CVS, OPNAV, NS, Any Staff
Administrative Officer	2615	Any Staff
Personnel Officer	3965	CA, CAG, CC, CGN, CLG, NS, TYCOM
Staff Personnel Officer	3985	SUBRON
Staff Administration Officer	9034	SUBRON, FAIR
(Assistant) Aide and Flag Secretary or Staff Secretary	9082	COMFOR

LIMITED DUTY OFFICER, ADMINISTRATION (620X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Administration (620X) specialize in naval administration and personnel management.

Lieutenant Commanders (620X) direct or assist in direction of administrative division of a naval activity or command, or serve as executive assistants to the operating head, performing a combination of administrative duties such as personnel administration, organization, and methods, budget, and fiscal control, space planning, work-progress reporting, and supplying office services; conduct or direct personnel administration of a naval activity; and direct staff office organization and routine.

They may serve in, but are not limited to, the following billets: administrative officer, postal officer, or personnel officer at shore establishment; staff member of force, type, area, or fleet personnel offices; operating head of a training facility; section or unit head in the Bureau of Naval Personnel, Office of the Chief of Naval Operations, or in administrative or secretarial billets in other offices of the naval shore establishment, involved in planning, research, and administration of procurement, selection, classification, distribution, training, performance, separation, welfare, and records of naval and civilian personnel.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Supervise preparation and implementation of training schedules and exercises for ships in force, type, area, or fleet commands.
2. Coordinate staff activities concerned with administrative plans, public information, records, publications, and similar administrative services.
3. Plan and administer basic training program for personnel upon entry into the naval service.
4. Evaluate effectiveness of instructions given at a naval school and make recommendations for improving curriculum and training.
5. Plan and administer a program for instruction of naval personnel in teaching methods and techniques.
6. Supervise administration of peacetime naval reserve training.
7. Plan and administer program for providing facilities and equipment required to support training of naval personnel.
8. Originate and supervise preparation of instructions to guide naval commands in administering naval justice based on law and regulations.
9. Establish and issue allocation of school quotas to personnel distribution agencies.
10. Advise and assist reserve unit commanders in interpreting regulations and in morale, discipline, and training matters.
11. Direct activities concerned with distribution of both officer and enlisted personnel.
12. Supervise processing of requests from fleet and shore commands for officer personnel, and distribute officer personnel by grade, classifications, and qualifications to satisfy such requests.

13. Organize and direct operation of a fleet, force, or area post office.
14. Organize and direct operation of a registered publications issuing office.
15. Plan and administer program for advising personnel being released from the naval service, and coordinate work of a civil readjustment department with that of other departments of a separation activity.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Geography and its effect on war strategy.
2. Current basic and subsidiary Navy Logistics Plans (NCL).
3. Importance of naval intelligence and naval research, missions, and organizations; connection between naval intelligence and CIA.
4. Techniques of evaluating training programs.
5. Procedures for establishing a Navy post office.
6. Regulations of the Postmaster General and operating procedures as given in postal manual.
7. Regulations for the administration of registered publications issuing offices.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Administrative Officer	2615	Any Staff
Postal Officer	2617	Any Staff, OPNAV
Personnel Officer	3965	NAVBASE, NS NAVSCOL, NTC
Staff Administration Officer	9034	SUBFLOT, NAVSCOL
Aide and Flag Secretary or Staff Secretary	9082	Any Staff

LIMITED DUTY OFFICER, ADMINISTRATION (620X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Administration (620X) specialize in naval administration and personnel management.

Commanders (620X) direct or assist in direction of administrative division of a naval activity or command, or serve as executive assistants to the operating head, performing a combination of administrative duties such as personnel administration, organization and methods, budget and fiscal control, space planning, work-progress reporting, and supplying office services; conduct or direct personnel administration of a naval activity; direct staff office organization and routine.

They may serve in any administrative billet ashore or afloat.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Perform or direct planning of personnel requirements for fleet and shore establishments.
2. Review naval plans and policies, and develop training programs to meet these requirements.
3. Serve as executive officer or commanding officer of personnel activities such as receiving stations, training centers, separation centers, and service school commands.
4. Conduct or direct procurement of civilians for appointment to commissioned grade in the Regular Navy or Naval Reserve.
5. Evaluate applications and recommend acceptance or rejection of officer candidates.
6. Direct transfer of officers between commands.
7. Prepare budget requirements and control allocation of funds for major training programs.
8. Administer bureau or staff divisions concerned with preparation of curriculum, standards, and instructional material.
9. Determine qualifications for and assign officers to key billets.
10. Establish and administer sea/shore rotation policies.
11. Establish and maintain schedule of reserve cruises; allocate assigned equipment and space to various programs.
12. Plan, develop, and interpret mobilization and demobilization policies.
13. Establish and supervise preparation and maintenance of mobilization plans for district headquarters, mobilization stations, and distribution centers.
14. Establish and distribute procedures and instructions governing mobilization centers.
15. Prepare plans, and supervise operations of, the Navy postal service in the Office of the Chief of Naval Operations.
16. Prepare, or assist in preparation and issuance of, requirements for qualifications for medals and awards.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Organization of the U. S. Government, mission of the Department of Defense and its components, and the United Nations.
2. Principles of management and administration, including organization, planning, staffing, controlling, coordinating, reporting, and budgeting. Case study method of solving problems related to management and personnel administration.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Administrative Officer	2615	Any Staff, HQ SUPPACT, NSYD
Staff Personnel Officer	3938	COMFOR
Staff Administration Officer	9034	COMFOR
Aide and Flag Secretary or Staff Secretary	9082	COMFLT, TYCOM

Limited Duty Officer, Data Processing (623X) Ensign/Lieutenant Junior Grade Qualifications

I. Scope

Limited Duty Officers, Data Processing (623X) are operational and technical specialists in the field of automatic data processing (ADP) utilizing both electric accounting machine (EAM) and electronic digital computer (EDP) equipment.

Ensigns and Lieutenants Junior Grade (623X) plan, direct the installation of equipment, and administer the operation and maintenance of data processing installations; and serve as technical advisors concerning the capabilities, limitations, and reliability of automatic data processing equipment; and perform systems analysis for ADP applications.

They may serve in, but are not limited to, the following billets: data processing systems administrator; machine processing officer; data processing systems analyst; assistant officer in charge of data processing or programming schools.

II. Operational Duties and Responsibilities

1. Organize and direct the operation of a data processing division within a ship, shore installation, or staff.
2. Analyze data processing requirements and assist in the design of operating systems.
3. Advise and assist command in the selection of automatic data processing equipment.
4. Supervise the site preparation and installation of automatic data processing equipment.
5. Coordinate and supervise the maintenance and repair of automatic data processing equipment.
6. Develop detailed flow charts and programs to process complex data processing problems.
7. Maintain liaison with equipment manufacturer relative to the development of new equipment, operating systems, and software.
8. Coordinate total ADP requirements of command and maintain liaison with all users. Establish priorities for processing data.

9. Develop production run manual for each ADP application.
10. Assign appropriate programming language and operating system for all data processing requirements. Develop work measurement reports and standards for programmers and analysts.
11. Supervise flow, distribution, and maintain quality control over input and output data.
12. Maintain technical library of ADP publications.
13. Assist in the preparation and justification of budget requirements to support data processing installation; maintain inventory control over consumable supplies; and establish procedures for reporting cost and time utilization of equipment.
14. Enforce proper security standards over equipment and production data.
15. Develop and administer training program for indoctrination of all equipment operators, programmers, clerical personnel (data conversion), and analysts.
16. Interpret and apply instructions and regulations pertaining to automatic data processing.

III. Operational Knowledges and Abilities

1. General organization and functions of an automatic data processing installation ashore and afloat.
2. Principles and techniques involved in the installation, operation, maintenance, and repair of both electric accounting machine (EAM) and electronic digital computer (EDP) equipment.
3. Principles and techniques of systems analysis, systems design, and programming.
4. Scope, content, and use of all instructions, manuals, and handbooks pertaining to automatic data processing.
5. Principles of electricity and electronics applicable to ADP equipment.

6. Procedures for maintaining and reporting equipment utilization and cost.
7. Procedures for requisitioning, surveying, inventorying, stowing, preserving, and accounting for ADP equipment, materials, and spare parts.
8. Procedures for control and administration of department/division allotment.

9. Procedures for preparation of budget estimates.
10. Regulations and procedures for classification, security, accountability, dissemination, and transmission of classified and registered material.
11. Procedures for developing and administering training program.

IV. Representative Billet Assignments

*Title	*NOBC	Activity
Data Processing Systems Administrator	2628	AS, CVA, VQ, NAVSUPPACT, ASWTRACEN, ASWGRU
Machine Processing Officer	2630	FLTCOMPUTER- PROGCEN, BUPERS, PAMI, NAVCOSSACT, OPCONCENTER, FLEET STAFF, NAVINTLPROCESYS- UPACT, DEFENSE INTL AGENCY, SECURGRPACTY
Data Processing Systems Analyst	2635	BUPERS, PAMI, OPCONCENTER, FLEET STAFF, FLTWKSTUDYGRP, NAVRECONTECH- SUPPCEN, FAGLANT

* These NOBC Titles and Codes are under study for possible revision.

Limited Duty Officer, Data Processing (623X) Lieutenant Qualifications

I. Scope

Limited Duty Officers, Data Processing (623X) are operational and technical specialists in the field of automatic data processing (ADP) utilizing both electric accounting machine (EAM) and electronic digital computer (EDP) equipment.

Lieutenants (623X) plan, direct the installation of equipments, and administer the operation and maintenance of data processing installations; serve as technical advisors to command concerning the utilization of automatic data processing equipment and procedures; and perform systems analysis and systems design for staffs of ADP installations, afloat and ashore.

They may serve in, but are not limited to, the following billets: data processing systems administrator; machine processing officer; data processing systems analyst; officer in charge of data processing and/or programming schools.

II. Operational Duties and Responsibilities

1. Coordinate the analysis of data processing requirements, and design operating systems.
2. Evaluate the reliability of automatic data processing equipment and advise command in the selection of processing hardware.
3. Establish and maintain liaison with equipment manufacturers relative to development of hardware and technological changes to existing ADP system.
4. Assist in the development of software.
5. Coordinate total ADP requirements of command and monitor utilization of all ADP equipment.
6. Prepare and justify budget requirements.

7. Develop procedures for maintaining ADP equipment and effect their implementation.
8. Review drafts of ADP manuals, instructions, and other publications for content and technical accuracy.
9. Interpret and apply broad policy regulations concerning employment and utilization of ADP equipment.
10. Conduct a continuous program for evaluating and projecting ADP requirements, and advise in the premise of equipment and manpower needs.
11. Prepare and evaluate technical curricula for training ADP personnel.

III. Operational Knowledges and Abilities

1. General organization and functions of an automatic data processing installation at all levels of command.
2. Regulations and procedures for requisitioning data processing equipment.
3. Procedures for manpower validation and submission of requests for manpower changes.
4. Navy enlisted classification system and procedures for identifying personnel by special skills.
5. Procedures and regulations pertaining to the Navy's enlisted rotation and training program.
6. General methods and procedures for the administration of contracts for automatic data processing equipment and material.
7. Procedures for handling proprietary information provided by contractors.

IV. Representative Billet Assignments

*Title	*NOBC	Activity
Data Processing Systems Administrator ...	2628	SUBSCOL, INTLCEN, POLARIS MAT OFF, SECGRU, FLTWKSTUDYGRP, FLTCOMPUTERPROGCEN, COMFAIRKEFLAVIK, RVAH-3, TYPE CDR STAFF, DP SCHOOL

*These NOBC Titles and Codes are under study for possible revision.

Title	NOBC	Activity
Machine Processing Officer	2630	BUPERS, PAMI, OPCONCENTER, NAVCOSSACT, HDQTRS USEUCOM, DEFINTLAGCY, ASTROGRU, ASO, FINANCE CENTER, NATLMILCOMDSYSACTY, NIPSSI, FLEET STAFF
Data Processing Systems Analyst	2635	BUPERS, PAMI, OPCONCENTER, FLEET STAFF, EXAMCENTER, FLTINTLCEN, NAVYRECONTECHSUPCEN, SUPP CEN, NAS, DEFINTL AGENCY

Limited Duty Officer, Data Processing (623X) Lieutenant Commander Qualifications

I. Scope

Limited Duty Officers, Data Processing (623X) are operational and technical specialists in the field of automatic data processing (ADP) utilizing both electric accounting machine (EAM) and electronic digital computer (EDP) equipment.

Lieutenant Commanders (623X) plan, organize, coordinate, and direct the activities of automatic data processing installations; and provide technical assistance and advice pertaining to all aspects of automatic data processing.

They may serve in, but are not limited to, the following billets: data processing system administrator; assistant department head for ADP in staffs and major shore installations; officer in charge, ADP center; officer in charge, ADP schools.

II. Operational Duties and Responsibilities

1. Exercise management control over and direct the operation of an automatic data processing installation.
2. Plan and establish equipment and manpower requirements to support ADP operation.
3. Develop operating and maintenance procedures and techniques to support ADP equipment.
4. Evaluate ADP operations and requirements and advise command in the procurement of hardware.
5. Review technical training curricula and recommend training requirements.
6. Participate in planning and administering experimental and development programs for research, design, test, and evaluation of ADP equipment and procedures.

IV Representative Billet Assignments

*Title	*NOBC	Activity
Data Processing Systems Administrator ..	2628	PAMICONUS, EURINTLCEN, NAS, SUPPLY CEN, EXAMCEN, FINANCE CENTER, HDQTRS USEUCOM, ASTROGRU, NAVAL ACADEMY FORCE STAFF, NATLMILCOMDSYSACTY
Data Processing Systems Analyst	2635	BUPERS, OPCONCENTER, ASO, DOD AGENCY, FLEET STAFF

7. Direct acceptance and inspection test of ADP equipment, software and related technical manuals and publications.
8. Coordinate and submit budget estimates to support ADP requirements.
9. Administer expenditure of allotment funds to support ADP operations.
10. Coordinate and direct the field installation of ADP equipment.
11. Coordinate and report to higher authority total ADP equipment inventory, cost of operation, and time utilization.

III. Operational Knowledges and Abilities

1. Methods and procedures for conducting and evaluating studies, surveys, and tests of ADP equipment.
2. Rules, regulations, and administrative procedures for the conduct of projects involving civilian suppliers and contractors related to ADP production and equipment.
3. Procedures for developing and issuing technical directives pertaining to ADP.
4. Sources of information concerning new developments and procedures in ADP.
5. Function and responsibility of an ADP officer below the Fleet and force staff level.
6. Rules, regulations, and statement of policy concerning the employment of ADP practices in the Navy.

* These NOBC Titles and Codes are under study for possible revision.

**Limited Duty Officer, Data Processing (623X)
Commander Qualifications**

I. Scope

Limited Duty Officers, Data Processing (623X) are operational and technical specialists in the field of automatic data processing (ADP) utilizing both electric accounting machine (EAM) and electronic digital computer (EDP) equipment.

Commanders (623X) plan, organize, coordinate, and direct the activities of automatic data processing installations, supervise the test, research, evaluation and acceptance of ADP equipment; and provide technical assistance and advice pertaining to automatic data processing and related activities.

They may serve in, but are not limited to the following billets: data processing systems administrator; staff ADP department head; commanding officer, PAMI.

II. Operational Duties and Responsibilities

1. Formulate and advise on policies concerning automatic data processing.
2. Prepare long-range studies for procurement, installation, maintenance and operation of ADP equipment.
3. Coordinate and direct total ADP operation for Fleet units and/or ADP center.
4. Analyze the manpower, equipment, and physical requirements for proposed ADP installation.
5. Coordinate the budget submissions of field commands to support ADP operations.

6. Develop and issue planning information for ADP applications in the field.
7. Analyze and develop ADP manpower requirements for annual manpower submissions.
8. Represent command in planning conferences concerning long-range development of ADP equipment and/or applications.
9. Review development reports of ADP equipments to determine practical application.
10. Direct the development of training curricula, standards, methods, and training materials to meet Fleet requirements.

III. Operational Knowledges and Abilities

1. New developments in equipment, techniques, and procedures for automatic data processing.
2. Procedures for developing and issuing policy statements concerning ADP operations.
3. Methods and procedures for conducting evaluations of ADP requirements.
4. Principles and practices of management and administration, including the interrelationships of organizing, planning, staffing, controlling, coordinating, reporting, and budgeting.
5. Application of ADP principles in areas of manpower, supply, intelligence, information, 3M, research, and aviation.

IV. Representative Billet Assignments

*Title	*NOBC	Activity
Data Processing System Administrator.....	2628	FLEET STAFF, PAMI, BUPERS, OPCONCENTER, NAVCOSACT, NATLMILCOMDSYSACTY, DOD AGENCY, ASO

*This Title and Code is under study for possible revision.

**LIMITED DUTY OFFICER, BANDMASTER (626X)
ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS**

I. SCOPE

Limited Duty Officers, Bandmaster (626X) are specialists in the field of music and in the administration of the Navy Music Program.

Ensigns and Lieutenants Junior Grade (626X) supervise, administer, or conduct a Navy band; procure, and supervise maintenance of, musical equipment; instruct, or supervise instruction, in music; provide information and administrative assistance in music matters.

They may serve in, but are not limited to, the following billets: music director of a Navy band; in the Music Branch of the Bureau of Naval Personnel; instructor at the School of Music.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Supervise day-to-day operation of a Navy band.
2. Supervise enlisted personnel in the preparation of band and orchestra arrangements and the copying of instrumental parts from a score.
3. Organize, train, and maintain marching, concert, and dance bands, and small instrumental ensembles.
4. Advise and assist command in music matters.
5. Maintain liaison with civilian or government agencies requesting engagements by Navy bands and orchestras to ascertain music requirements, potential audience, and most effective and appropriate methods of presentations.
6. Select appropriate music for engagements, honors, and ceremonies.
7. Procure, account for, and survey musical equipment.
8. Ensure periodic inspection and maintenance checks of musical equipment.
9. Interpret and apply directives pertaining to bands, orchestras, and musician personnel participating in public events, honors, and ceremonies.
10. Interpret and apply copyright laws pertaining to music and music performance.
11. Assist in the development and utilization of music training equipment and audio-visual training aids.
12. Provide research and technical information required in the preparation of music manuals, texts, materials, and training aids utilized in the training and direction of bands and musician personnel.
13. Prepare periodic evaluation of instructors as to teaching proficiency.
14. Detail and assign bands, orchestras, and musician personnel for engagements, honors, and ceremonies.
15. Assist in the preparation and justification of budget requirements.
16. Conduct auditions, instrumental examinations, and testing of musician personnel.

LIMITED DUTY OFFICER, BANDMASTER (626X)
LIEUTENANT QUALIFICATIONS

17. Train and indoctrinate instructors in classroom presentation, and advise instructors regarding teaching methods.
18. Prepare lectures, class outlines, assignment sheets, book lists, and theoretical examinations, and conduct classroom instruction as directed.
19. Adapt departmental instructional program and methods to conform to training syllabus, and recommend changes to improve curriculum.
20. Confer with students and instructors to determine cause of student failure; determine subject matter of, and schedule for, remedial training.
21. Plan and administer in-service training programs for musician personnel.
22. Schedule and maintain service school instruction in accordance with prescribed standards.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Organization and scope of the Navy Music Program.
2. Principles of music theory.
3. Principles of conducting a band or orchestra.
4. Principles and techniques of recording bands, orchestras, and instrumental and vocal groups.
5. Procedures pertaining to formations, movements, and general utilization of a marching band.
6. Copyright laws pertaining to music and music performance.
7. Methods and procedures for repairing, maintaining, and inspecting musical instruments and equipment.
8. Regulations pertaining to the methods of procuring music, musical instruments, supplies, and accessories.
9. Directives pertaining to bands, orchestras, and musician personnel participating in public events and ceremonies.
10. Principles of music aptitude testing and evaluation.
11. Principles of testing and evaluating instrumental proficiency.
12. Basic principles of curriculum development and the techniques of technical instruction pertaining to music and music performances.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Music Director	3520	NAV BAND

I. SCOPE

Limited Duty Officers, Bandmaster (626X) are specialists in the field of music and in the administration of the Navy Music Program.

Lieutenants (626X) supervise or administer one or more Navy bands; conduct Navy bands; supervise research in music matters; provide information and administrative assistance in music matters.

They may serve in, but are not limited to, the following billets: music director of Navy bands; in the Music Branch of the Bureau of Naval Personnel; Executive Officer or School Administrator at the School of Music.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Supervise research, authentication, arranging duplication, distribution, and control of national anthems and ceremonial music.
2. Supervise research, preparation, and distribution of music training texts and training courses.
3. Prepare replies to congressional inquiries.
4. Supervise preparation of the budget and justification of funds for the Navy Music Program.
5. Prepare general correspondence concerning fiscal, supply, and administrative matters.
6. Assist in planning overall personnel requirements for the Navy Music Program, determining requirements and developing plans for the rotation and employment of bands and musician personnel.
7. Supervise assignment and rotation of enlisted musician personnel; supervise preparation of transfer directives, personnel reports, and related correspondence.
8. Assist in directing specialized training at the School of Music.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Methods of, and sources of information on, estimating costs of repair or overhaul of musical equipment.
2. Principles of personnel and logistic planning.
3. Principles, methods, and techniques of planning, organizing, and presenting technical material, including report writing.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290	SCHMUSIC
Music Director	3520	NAV BAND

I. SCOPE

Limited Duty Officers, Bandmaster (626X) are specialists in the field of music and in the administration of the Navy Music Program.

Lieutenant Commanders (626X) supervise or administer one or more Navy bands; conduct Navy bands; supervise or administer research in music matters; develop training curriculum and direct training; provide information on music matters.

They may serve in, but are not limited to, the following billets: officer in charge and leader, Navy band; Executive Officer, School of Music.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Administer project for the research, test, and evaluation of musical equipment, and maintain liaison with manufacturers in matters concerning technical specifications of musical equipment.
2. Establish test procedures for the acceptance of musical equipment.
3. Manage and administer activities of Navy bands, including musical performances and participation in events.
4. Develop plans and policies to meet the requirements of the School of Music.
5. Exercise administrative control over the School of Music as delegated by the Commanding Officer.
6. Plan for the procurement and distribution of music for Navy bands.
7. Direct planning of overall personnel support requirements for the School of Music.
8. Direct preparation of budget and justification of funds required for the School of Music.
9. Develop training curriculum at the School of Music to ensure inclusion of all phases of instruction, proper sequence of classes, and efficient use of all facilities available.
10. Direct specialized training at the School of Music.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Trends of maintenance costs, and plans for repair, overhaul, or procurement of musical instruments and music training equipment.
2. Principles, methods, and techniques of administration, coordination, and supervision applicable to music organizations.
3. Techniques of evaluating training programs for musician personnel.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Music Director	3520	NAV BAND

LIMITED DUTY OFFICER, BANDMASTER (626X)
COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Bandmaster (626X) are specialists in the field of music and in the administration of the Navy Music Program.

Commanders (626X) exercise technical and managerial supervision over, and develop plans and policies for, the Navy Music Program; develop plans for, and monitor programs supporting, the Navy Music Program, including personnel and supply programs; direct overall training program for musician personnel; provide information on music matters.

They may serve in, but are not limited to, the following billets: Head, Music Branch, Bureau of Naval Personnel; Commanding Officer, School of Music.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Exercise technical supervision over Navy bands and the School of Music.
2. Manage and administer activities of the U. S. Navy Band, including musical performances, participation in events, and concert tours.
3. Develop plans and policies to meet requirements, including personnel requirements, of the Navy Music Program.
4. Develop plans, determine requirements, initiate procurement, prepare and maintain specifications, and monitor programs for the purchase and distribution of music equipment for Navy bands.
5. Provide technical information and advice concerning capabilities, limitations, and employment of bands, orchestras, and musician personnel.
6. Conduct studies to improve the overall proficiency and effectiveness of Navy bands and the Navy Music Program.
7. Represent the Department of the Navy on a Joint Armed Forces Committee or Ad Hoc Committee, and with other governmental agencies, in connection with musical matters.
8. Maintain liaison with music associations, publishers, manufacturers, educators, and professional tradesmen and musicians.
9. Conduct inspections of Navy bands, School of Music, and other music activities.
10. Direct preparation of budget and justification of funds required for the Navy Music Program.
11. Evaluate and approve or disapprove applications for enlistment in the Navy for duty as a musician.
12. Develop plans concerning the qualifications and advancement of musician personnel.
13. Establish and administer sea/shore rotation policies for enlisted musician personnel.
14. Control assignment, including school assignment, and rotation of Bandmasters and enlisted musician personnel.

15. Direct preparation and distribution of training materials for musician personnel.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. New developments and technological advances in areas of musical equipment, bands, orchestras, and related fields.
2. Principles of management and administration, including organization, planning, staffing, controlling, coordinating, reporting, and budgeting.
3. Capabilities, limitations, and employment of bands, orchestras, and musician personnel.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Music Director	3520	BUPERS
Officer in Charge, Naval Shore Activity	9420	SCHMUSIC

LIMITED DUTY OFFICER, ENGINEERING (630X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Engineering (630X) are operational and technical specialists in the field of marine engineering, including maintenance and repair of main propulsion (nuclear, diesel, and steam) and auxiliary machinery, refrigeration systems, and instruments and optical equipment.

Ensigns and Lieutenants Junior Grade (630X) plan, administer, and supervise installation, operation, maintenance, and modification or alteration of engineering equipment and machinery, including electrical equipment and systems. When assigned as damage control assistant they will direct control of damage, firefighting, and NBC warfare defense teams. They formulate, direct, and execute training programs for personnel under their cognizance.

They may serve in, but are not limited to, the following billets: main propulsion assistant or assistant engineer officer, engineering division officer, damage control assistant, and engineer officer on appropriate type ships; engineer officer and repair officer at naval stations; material and logistic officer on small craft staffs; maintenance officer at a shore station; assistant in the production department at a naval shipyard; instructor at an engineering school; officer in charge of a fleet engineering school; engineering instructor observer at a fleet training command.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Direct installation, maintenance, repair, and replacement of main propulsion (nuclear, diesel, or steam) equipment in accordance with Bureau of Ships and other technical manuals.
2. Plan and direct the operation, maintenance, and repair of boilers, main propulsion machinery, auxiliary machinery, and piping and electrical systems.
3. Inspect propellers, shafting, sea valves, zincs, strut and stern tube bearings, and stern tube stuffing gland packing for defects and direct corrective action.
4. Supervise and analyze balancing of rotors, impellers, propellers, fans, and armatures, and prescribe necessary repairs or adjustments.
5. Plan and direct inspection, maintenance, and repair of heating and air-conditioning and refrigeration equipment, diesel engines, and electrohydraulic and other auxiliary machinery.
6. Supervise and direct maintenance and operation of machinery repair shop; determine method of repair in unusual or difficult cases.
7. Plan and direct inspection of engineering equipment for defects and direct replacement or repair.
8. Direct emergency repairs to engineering equipment and associated piping.
9. Provide technical advice on all matters concerning pipes, valves, and fittings.
10. Supervise maintenance, repair, and adjustment of gauges, motors, watches, clocks, office machines, navigation and ordnance optical and nonoptical equipment, and submarine periscopes.
11. Direct installation, adjustment, and maintenance of dead-reckoning equipment, alidades, gyro-compass, and associated equipment.
12. Supervise cleanliness and upkeep of evaporators, ensuring that water supply is maintained at prescribed levels.

13. Direct procurement, storage, and use of fresh water and ensure operation, maintenance, and security of applicable potable and feed water systems.
14. Direct stowage and expenditure of fuel oil and boiler feed water; direct fueling operations at sea and in port; direct procurement, stowage, and use of bunker fuels, and ensure operation, maintenance, and security of applicable fuel systems.
15. Direct prescribed tests of safety valves, speed and pressure regulators, and overspeed trips, and correction of settings.
16. Direct preparation and maintenance of engineering machinery and equipment histories, logs, records, reports, and Current Ship's Maintenance Project (CSMP).
17. Coordinate preparation of work requests and prepare work lists from CSMP, in preparation for shipyard or tender availability.
18. Direct preparation of requisitions for supplies.
19. Make recommendations for changes to items of the ship's allowance lists.
20. Inspect work and endorse completed job orders as to adequacy of work.
21. Coordinate testing of firefighting equipment, and carry out prescribed tests of watertight compartments and spaces.
22. Assign personnel and render technical assistance on shop and shipboard repair work in progress.
23. Supervise organization and training of personnel in NBC warfare defense.
24. Organize and train an engineering damage control party.
25. Direct shipboard damage control, gas defense, and radiological warfare defense during drills and emergencies.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Principles and techniques involved in the operation, maintenance, and repair of auxiliary and main propulsion machinery and equipment (nuclear, diesel, and steam).
2. Principles involved in the functions, maintenance, and repair of propellers, shafts, bearings, governors, and safety valves.
3. Principles and techniques in operation, maintenance, and repair of refrigeration and air-conditioning systems, steering systems, distilling plants, gas-generating plants, and air compressors.
4. Types, functions, operation, maintenance, and repair of machine tools, hand tools, portable power tools, and precision measuring instruments.
5. Safety regulations and precautions for operation, maintenance, and repair of an industrial gas-generating plant and equipment.
6. Theory of operation and characteristics of a. c. and d. c. power systems, circuits, and equipment.
7. Content, scope, and maintenance procedures for Current Ship's Maintenance Project, and engineering department logs, records, accounts, and reports.

8. Organization and administration of naval supply and fiscal systems applicable to operation and maintenance of engineering and repair departments.
9. Principles of lenses and prisms in optical navigational and ordnance instruments.
10. Principles and techniques involved in collimation, maintenance, and repair of optical and non-optical navigational instruments.
11. Principles and techniques involved in operation, maintenance, and repair of jeweled instruments, mechanical measuring instruments, and office machines.
12. Types, functions, operation, maintenance, and repair of test equipment used in optical and instrument repair shops.
13. Principles and techniques, as they relate to damage control, of shipboard systems such as fire main, drainage, flooding, ballasting, fresh water, ventilation, compressed air, gasoline, fuel, built-in CO₂, emergency portable pumping, and emergency washdown systems.
14. Principles and techniques involved in operation, maintenance, and repair of degaussing systems, servosystems, generators, switchboards, gyrocompasses, interior communication systems, and electrical distribution systems, including power and lighting.
15. Regulations and procedures for requisitioning, handling, stowing, and the expenditure of fuels and lubricants, including methods, procedures, safety regulations, and precautions for fueling at sea and in port.
16. Regulations and procedures for requisitioning, stowing, surveying, accounting for, and preservation of engineering and repair department equipment and repair parts.
17. Nature and scope of information contained in engineering and repair department equipment manufacturers' instruction books and Bureau of Ships Manual, Journals, and Instructions and Notices.
18. Nature and scope of information contained in Navy Standard Stock Catalog, Bureau of Ships Material Directory and Requisitioning Guide, and Bureau of Ships Individual Ship's Allowance Lists.
19. Scope, content, and use of draft diagrams, Booklet of General Plans, Tank Capacity Tables, and Damage Control Book.
20. Purpose and application of flooding effect diagram, liquid loading diagram, and inclining experiment data.
21. Duties, authority, and responsibilities of the engineering officer of the watch and officer in charge of a damage control party.
22. Purpose and capabilities of command control systems such as the Naval Tactical Data System and the Operational Control Center.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Nuclear Systems and Components	7249	AS
Repair Officer, Ship	9063	COMDESDIV, COMINRON
Staff Material Officer	9302	CVA
Auxiliary Machinery Officer	9305	CC, CVA
Boiler Officer	9341	DD, DDG, DL, DLG, AP
Main Propulsion Assistant (Steam)	9362	AGS, ARL, LST, AK, APD, ARC, AVB, YAG
Ship's Engineer Officer (General)	9384	CAG
Main Engine Officer (Steam)		

LIMITED DUTY OFFICER, ENGINEERING (630X) LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Engineering (630X) are operational and technical specialists in the field of marine engineering, including maintenance and repair of main propulsion (nuclear, diesel, and steam) and auxiliary machinery, refrigeration systems, and instruments and optical equipment.

Lieutenants (630X) plan, supervise, and direct the installation, operation, maintenance, and repair of main and auxiliary propulsion machinery and electrical equipment and systems.

They may serve in, but are not limited to, the following billets: main propulsion assistant or assistant engineer officer; engineering division officer and damage control assistant on large ships; engineer officer or ship repair officer on ships lighter than cruisers; engineer officer and material officer at a naval station or on small staffs; assistant drydocking officer at a naval shipyard; instructor at an engineering school or training center.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

- Supervise operation of main engines upon getting underway, coming to anchor, or at other times requiring unusual care.
- Review maintenance problems and direct corrective or repair action as necessary.
- Review proposed installation, alteration, repair, or overhaul of electrical units and systems on naval ships at naval shipyards.
- Supervise preparation of estimates of manpower and materials, cost, and time required to complete work requests.
- Direct electrical maintenance, operation, and efficiency of ship equipment.
- Provide technical advice on operating procedures, allowance lists, and contents of instruction books and pamphlets.
- Direct or conduct machinery inspection for ships and craft owned by, or made available to, the Navy.
- Administer ship's engineering division.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

- Theory of operation and characteristics of nuclear, diesel, and steam propulsion engines, and various auxiliary machinery.
- Shipyard organization and repair procedures.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Technical	3250	FLESUBTRAFAC
Machinery Installation and Repair Superintendent	7241	AS, NSYD, SUBASE
Staff Machinery Material Officer (Diesel)	7286	ACR
(Assistant) Technical Material Inspection Officer	7387	AS
Ship Type Planning and Estimating Superintendent (General)	7420	NS
Ship Construction and Repair Superintendent (General)	7936	NYSD
Damage Control Assistant	9308	CVS
Main Propulsion Assistant (Steam)	9341	CC, CLG, CVS, LPH
Ship's Engineer Officer (General)	9362	EAG, AE, AGB, AS, AD, AF, AGC, AGS, APA, ARG, AGTR, AKS, AO, AR, AV, LPD, LPH, MCS

LIMITED DUTY OFFICER, ENGINEERING (630X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Engineering (630X) are operational and technical specialists in the field of marine engineering, including maintenance and repair of main propulsion (nuclear, diesel, and steam) and auxiliary machinery, refrigeration systems, and instruments and optical equipment.

Lieutenant Commanders (630X) plan and administer installation and repair of ship's engineering plant, electrical system, and auxiliary machinery. They provide technical assistance and advice pertaining to suitability of ships to meet operational demands, and make ship's alterations or design modifications.

They may serve in, but are not limited to, the following billets: engineer officer; main propulsion assistant; damage control assistant; repair officer on tenders and other repair ships; material inspection officer at naval stations; assistant repair superintendent at naval shipyards.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Direct machinery repair activities undertaken by tender, repair ship, or minor repair facility.
2. Serve as member of boards concerned with coordinating ship designs and facilities with operating needs.
3. Develop and direct material test and inspection of ship machinery.
4. Direct material maintenance of ship machinery under cognizance of Bureau of Ships.
5. Direct or conduct final machinery inspection, post repair tests, and preliminary or acceptance trials.
6. Develop improved procedures and methods at naval shipyard or repair facility.
7. Direct shop production, including inspection of facilities and development of improvements.
8. Conduct studies and make recommendations concerning complement, battle stations, and damage control.
9. Review work requests and alteration orders, and make recommendations for repair, labor, and material requirements.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Effect of oceanography and geography on engineering operations.
2. Principles of management and administration, including organization, planning, staffing, controlling, coordinating, reporting, and budgeting.
3. Case study method of solving problems related to management and personnel administration.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Staff Machinery Material Officer (General)	7285	COMSERVRON
Inspector of Naval Material	7352	SUPINSMAT
Ship Repair Officer.	7976	AD, AS, PHIBASE
Main Propulsion Assistant (Steam).	9341	CVA
Repair Division Officer	9348	AR, AD
Ship's Engineer Officer (General)	9362	AGMR, CA, CAG, CLG, CG, CC, AOE, AFS
Ship Salvage Operations Officer	9375	COMSERVRON

LIMITED DUTY OFFICER, ENGINEERING (630X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Engineering (630X) are operational and technical specialists in the field of marine engineering, including maintenance and repair of main propulsion (nuclear, diesel, and steam) and auxiliary machinery, refrigeration systems, and instruments and optical equipment.

Commanders (630X) plan, organize, and control industrial shop production; develop and administer policy and procedures for regulating work at auxiliary or repair facilities.

They may serve in, but are not limited to, the following billets: engineer on carriers; repair officer on tenders and other repair ships; division head at naval shipyards, Navy Department, major repair facilities, or staff commands; member of inspection and survey boards.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Analyze prototype suitability to meet operational demands and make recommendations for ship alterations or design modification, whether nuclear or conventional type.
2. Administer shipyard or industrial shop engaged in manufacture and assembly of materials used in construction and repair of ships.
3. Establish shop policy and procedure for regulating shop work at Navy shipyard or naval base.
4. Direct administration of a production analysis division or planning department of a naval shipyard or repair facility.
5. Serve as fleet liaison officer, in technical bureau, on material problems of ship alteration, maintenance, repair, and construction.
6. Assist in preparation of machinery repair and alteration budgets.
7. Prepare or assist in preparation of annual shipbuilding program for planning and budgetary purposes.
8. Exercise technical supervision over tender, shipyard, and ships' force repairs.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Content, scope, and application of U. S. Navy Public Information Manual.
2. Principles of logistics planning.
3. Principles of international relations, international law, and the foundations of our national power as reflected in natural and human resources.
4. Elements of nuclear warfare.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Machinery Inspection Officer	7238	SUBINSURV
Ship Repair Officer	7976	AD, ARG, NS
Ship's Engineer Officer (Steam)	9369	CVA, CVS, LPH

LIMITED DUTY OFFICER, HULL (635X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Hull (635X) are specialists in the field of practical and theoretical damage control and are experienced in maintenance and repair of ship's hull, structure, and associated fittings.

Ensigns and Lieutenants Junior Grade (635X) plan, supervise, and direct installation, repair, alteration, maintenance, and operation of all damage control and firefighting equipment; plan, develop, and administer damage control and repair party training programs; direct damage control, firefighting, disaster control, and NBC warfare defense teams; provide technical assistance and advice on matters pertaining to damage control and repair; assign, train, supervise, and coordinate activities of damage control and repair force personnel.

They may serve in, but are not limited to, the following billets: damage control assistant; assistant ship superintendent or assistant docking officer at naval shipyard; assistant inspection officer at industrial manager's office; inspection officer at inspector of naval material office; assistant to officer in charge of ship and small boat repair facilities, floating drydocks, and salvage and diving operations.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Plan and direct shipboard damage control organization.
2. Direct damage control repair party personnel in preservation of ship's watertight integrity.
3. Plan and direct maintenance and repair of damage control, firefighting, NBC warfare equipment, watertight fittings, and powerboat hulls.
4. Direct preparation of damage control bills and records concerned with hull maintenance.
5. Establish and administer training program for repair party personnel in damage control procedures.
6. Inspect damage control equipment to ensure proper operation, maintenance, and stowage.
7. Control list, trim, and draft of ship, using prescribed damage and casualty control procedures.
8. Determine steps to be taken by firefighting personnel in combating various types of fires.
9. Instruct and direct damage control personnel in firefighting techniques and practices.
10. Enforce all safety precautions associated with firefighting.
11. Direct emergency repairs to engineering equipment and associated piping.
12. Direct stowage and preservation of NBC warfare defense equipment, including protective clothing, detection kits, and instruments.
13. Review weekly hull reports, initiate corrective action, and conduct followup inspections to ensure that discrepancies have been corrected.
14. Direct preparation of prescribed hull and material condition reports.
15. Review work requests, assign priority, and direct appropriate shop to complete work.

16. Direct installation, alteration, and modifications of shop machinery, ship's hull and fittings, and damage control, emergency pumping, and firefighting equipment.
17. Provide technical advice on matters concerning pipes, valves, and fittings.
18. Direct activities of foundry, welding, blacksmith, metalsmith, carpenter, and pattern and pipe-fitter shops in maintenance, alteration, and repair of ship's hull, small boats, watertight fittings, piping systems, and damage control equipment.
19. Organize and conduct lectures and classes of instruction on general and emergency bills pertaining to hull or engineering functions.
20. Supervise sounding of voids, compartment and leakage inspections, and air tests; direct repairs as necessary.
21. Direct safety program involving regulations and precautions in the operation, installation, maintenance, and repair of power tools and ship repair, damage control, patternmaking, and foundry equipment.
22. Direct prescribed tests of safety valves, speed and pressure regulators, and over-speed trips; initiate and supervise correction of settings.
23. Direct preparation and painting of engineering and repair department spaces.
24. Supervise setting of blocks and drydocking of ships in floating drydocks.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Purposes, procedures, and techniques for conducting damage control tests and inspections.
2. Duties, authority, and responsibilities of an officer in charge of a damage control repair party.
3. Principles and techniques, as related to damage control, in the use and operation of shipboard systems such as fire main, drainage, flooding, ballasting, fresh water, ventilation, compressed air, gasoline, fuel, built-in CO₂, emergency portable pumping, and emergency washdown systems.
4. Purpose and application of shipboard plans and diagrams such as flooding effect diagram, liquid loading diagram, inclining experiment data, and damage control systems diagrams.
5. Methods of detection of biological and radiological contamination, and detection and identification of chemical warfare gases.
6. Decontamination procedures used in NBC warfare defense.
7. Principles and techniques in the operation, maintenance, and repair of shallow water diving equipment, smoke generating and emergency pumping and power equipment, oxygen breathing apparatus and smoke respirators, and NBC warfare defense clothing and equipment.
8. Regulations and procedures for requisitioning, stowing, surveying, accounting for, and preservation of repair department equipment and repair parts.
9. Content and scope of repair department equipment manufacturers' instruction books, Bureau of Ships Manual, Bureau of Ships Journals, Bureau of Ships' Instructions and Notices, and damage control books, diagrams, and compartment checkoff lists.
10. Organization and administration of Navy supply and fiscal systems applicable to operation and maintenance of repair departments.

11. Principles in the function, maintenance, and repair of safety valves, speed regulators, pressure regulators, over-speed trips, and boilers and associated piping.
12. Content, scope, and maintenance procedures for Current Ship's Maintenance Project, and repair department logs, records, accounts, and reports.
13. Scope of appropriate stock catalogs, Bureau of Ships Material Directory and Requisitioning Guide, and Bureau of Ships Individual Ships Allowance List.
14. Theory of operation and characteristics of a. c. and d. c. power systems, circuits, and equipment.
15. Types, functions, operation, maintenance, and repair of machine tools, hand tools, portable power tools, and precision measuring instruments.
16. Safety regulations and precautions for operating paint storage compartment in ship.
17. Procedures for setting all material conditions of readiness.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Ship Repair Officer	7976	MCFTSUPPUN
Repair Division Officer	9348	CA, CC, CG, CGN, CLG, CVS

LIMITED DUTY OFFICER, HULL (635X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Hull (635X) are specialists in the field of practical and theoretical damage control and are experienced in maintenance and repair of ship's hull, structure, and associated fittings.

Lieutenants (635X) plan, supervise, and direct installation, operation, maintenance, and repair of all damage control and firefighting equipment; provide technical advice on damage control and firefighting equipment; train, supervise, and coordinate activities of damage control and repair party personnel.

They may serve in, but are not limited to, the following billets: damage control assistant on large ships; first lieutenant at major shore stations; assistant repair officer on tenders and at repair facilities; ship superintendent at naval shipyards; technical instructor or officer in charge of a technical school at a training facility.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Direct or conduct studies of current shop methods, layout, and related problems.
2. Direct preparation and maintenance of work status records in production shop.
3. Direct, supervise, or perform inspection of ship hulls and hull components at naval and private shipyards and repair facilities.
4. Direct preparation of work drydocking schedules.
5. Direct and conduct machinery inspection for ships and craft owned, operated, or made available to the Navy.
6. Direct preparation of estimates for manpower and material requirements.
7. Prepare arrival conference and departure reports.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Shipyard organization and repair procedures.
2. Theory of operation and characteristics of nuclear, steam, and diesel propulsion engines, and various auxiliary machinery.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Hull Inspection Officer	7140	SUBINSURV
Ship Repair Officer	7976	AD, AR, ARL, AS
Damage Control Assistant	9308	CA, CAG, CC, CG, CLG, CVS
Main Propulsion Assistant (Steam)	9341	CVS

LIMITED DUTY OFFICER, HULL (635X)
LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Hull (635X) are specialists in the field of practical and theoretical damage control and are experienced in maintenance and repair of ship's hull, structure, and associated fittings.

Lieutenant Commanders (635X) plan and administer installation and repair of ship's hull, structure, and associated fittings. They provide technical assistance and advice pertaining to suitability of ships to meet operational demands, ship's alterations, or design modifications.

They may serve in, but are not limited to, the following billets: damage control assistant on large ships; repair officer on tenders and repair ships; officer in charge of ship and small boat repair facilities; inspector of naval material at private industrial plants.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Serve as member of board concerned with coordinating ship designs and facilities with operating needs.
2. Assist in supervising development of improved procedures and methods at naval shipyard or repair facility.
3. Assist in superintending shop production, including delegating authority, inspecting facilities, and directing improvements.
4. Compute weight, moment, and space involved in the addition or removal of equipment and ship alteration.
5. Conduct studies and make recommendations concerning firefighting and damage control from standpoint of structural design, equipment, and personnel.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Principles of management and administration, including organization, planning, staffing, controlling, coordinating, reporting, and budgeting.
2. Case study method of solving problems related to management and personnel administration.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Technical	3250	NAVSCOL
Staff Hull Material Officer	7187	TYPE COMMANDS
Ship Construction and Repair Superintendent (General)	7936	NSYD
Damage Control Assistant	9308	CVA
Repair Division Officer	9348	AD

LIMITED DUTY OFFICER, HULL (635X)
COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Hull (635X) are specialists in the field of practical and theoretical damage control and are experienced in maintenance and repair of ship's hull, structure, and associated fittings.

Commanders (635X) plan, organize, and control industrial shop production; develop and administer policy and procedures for regulating work at auxiliary or repair facilities.

They may serve in, but are not limited to, the following billets: repair officer on tenders, at naval shipyards, at major repair facilities, or on staff commands; member of inspection and survey boards.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Analyze prototype suitability to meet operational demands and make recommendations for ship alterations or design modification.
2. Prepare annual shipbuilding program for planning and budgetary purposes.
3. Direct hull, machinery, and electrical repair work on all types of naval vessels.
4. Manage inspection program to ensure scheduled delivery of acceptable materials and services to Armed Forces.
5. Direct division of naval shipyard production department concerned with ship construction, alteration, and repair.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Content, scope, and application of U. S. Navy Public Information Manual.
2. Principles of logistics planning.
3. Principles of international relations, international law, and the foundations of our national power as reflected in natural and human resources.
4. Elements of nuclear warfare.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Hull Superintendent	7165	NSYD
Staff Readiness Officer (Damage Control)	9072	TYPE, FORCE, and AREA COMMANDS
Ship's Engineer Officer (Steam)	9369	CVA, CVS, LPH

LIMITED DUTY OFFICER, ELECTRICIAN (637X)
ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Electrician (637X) act as electrical maintenance engineers, specializing in all phases of maintenance and operation of electrical equipment and systems.

Ensigns and Lieutenants Junior Grade (637X) administer and supervise installation and maintenance of electrical equipment and systems; execute training programs for electrical personnel; prepare, maintain, and submit necessary records and reports; provide technical advice and assistance to operational and command personnel.

They may serve in, but are not limited to, the following billets: junior electrical officer or electrical material officer on large ships; engineer officer on small ships; electrical repair officer on tenders or repair ships or at minor shore repair facilities; shore facilities electrical maintenance officer.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Prescribe methods and procedures for coordination of maintenance and repair programs with operational employment of equipment.
2. Participate in arrival conferences, schedule electrical repairs for vessels, and confer with hull, machinery, and ordnance shops in deciding sequence of tasks.
3. Direct testing of all electrical safety devices.
4. Direct operations and upkeep of an electrical repair unit, shop, or activity.
5. Collect, prepare, and disseminate technical information pertaining to operation, maintenance, and repair of electrical equipment; direct attention to and compliance with directives, publications, and instructions.
6. Direct taking of generator rotor clearances and initiate corrective action.
7. Direct electrical division personnel in operation, testing, maintenance, and repair of lighting, power distribution, degaussing, and interior communication systems, and of gyrocompasses, steering gear, and associated equipment.
8. Direct installation, adjustment, repair, overhaul, alteration, modification, and maintenance of electrical systems and equipment.
9. Direct operation and control of electrical distribution and interior communication systems and circuits under battle and battle damage conditions.
10. Supervise use and maintenance of shop equipment used in testing, maintenance, and repair of lighting, power distribution, degaussing, interior communication, and associated equipment.
11. Direct work of yard electrical crews, ensuring efficiency, use of proper materials, adherence to schedule, and observance of safety precautions.
12. Inspect electrical systems and make job order requests for necessary shutdowns with activities affected.
13. Inspect and approve completed job orders.
14. Serve as engineering officer of the watch or as junior engineering officer of the watch.

15. Assist in formulating and maintaining standards and procedures for maintenance, repair, and operation of machinery and equipment under cognizance of electrical division.
16. Investigate causes of electrical power and equipment failures and casualties, and recommend remedial measures.
17. Render technical assistance on ship and shipboard electrical repair work in progress.
18. Determine time, labor, and material requirements for maintenance and repair of motors, generators, gyrocompasses, main propulsion motors, and auxiliary equipment.
19. Determine necessity for and direct preparation and submission of requisitions and survey requests for electrical equipment and repair parts; advise engineer or repair officer of desired changes in allowances.
20. Administer ship's engineering department, including engineroom, boilerroom, carpenter shop, paint locker, and electrical and other engineering spaces.
21. Direct operation and maintenance of main propulsion and auxiliary machinery, operation and maintenance of electric power boat equipment, repair of hull and appurtenances, and damage control operations.
22. Direct preparation and maintenance of Current Ship's Maintenance Project and histories, logs, records, and reports of electrical and engineering machinery and equipment.
23. Keep an engineering journal.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Types, uses, capabilities, limitations, and functional relationships of electrical systems and related equipment.
2. Principles and techniques in operation, maintenance, and repair of power and lighting distribution systems, including switchboards and associated equipment.
3. Construction, operation, maintenance, and repair of electrical components of electric drive propulsion systems.
4. Theory of operation of steering gear equipment; types, construction, operation, maintenance, and repair of their electrical components.
5. Types and characteristics of electrical equipment lubricants and lubricating systems; safety precautions and procedures for their use.
6. Principles and techniques in operation, testing, adjustment, maintenance, and repair of gyrocompasses and associated equipment.
7. Principles and techniques in operation, testing, adjustment, maintenance, and repair of interior communication systems and equipment.
8. Principles of magnetism, and construction, theory of operation, testing, adjustment, maintenance, and repair of degaussing systems and associated electrical components.
9. Operation, control, maintenance, and repair of casualty and emergency electrical distribution and interior communication systems and equipment; techniques and procedures for damage control.

10. Theory of a.c. electrical networks, including single and polyphase a.c. equipment; relations of phase sequence, load balancing, and power factors.
11. Theory, construction, operation, and characteristics of d.c. power systems, circuits, and equipment.
12. Types, construction, purposes, capabilities, limitations, maintenance, and repair of batteries.
13. Methods and techniques of time and materials estimation.
14. Methods and techniques of development of standards and procedures.
15. Characteristics of materials used in electrical systems and equipment.
16. Types, functions, capabilities, limitations, operation, maintenance, and repair of main propulsion equipment and associated systems and equipment.
17. Types, frequency, preparation, and distribution of engineering and repair department records, logs, reports, and accounts.
18. Content, scope, and maintenance of equipment history, field change, ship alteration cards, and Current Ship's Maintenance Project.
19. Regulations and procedures for inventorying, requisitioning, surveying, stowing, and preservation of electrical equipment.
20. Nature and scope of information concerning electrical equipment contained in operating and maintenance manuals and Bureau of Ships Manual, Instructions, and Notices.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Ship's Electrical Officer	9353	AP
Ship's Engineer Officer (Diesel)	9363	MSO, MSC
Inspector, Technical	9965	NAS

LIMITED DUTY OFFICER, ELECTRICIAN (637X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Electrician (637X) act as electrical maintenance engineers, specializing in all phases of maintenance and operation of electrical equipment and systems.

Lieutenants (637X) plan, administer, and supervise alteration or repair, installation, and inspection and testing of electrical systems and equipment; plan and administer operation of electrical systems and equipment; supervise preservation of electrical systems and equipment during deactivation of vessels; administer electrical phase of material and maintenance program of an activity.

They may serve in, but are not limited to, the following billets: electrical officer on major ships; nuclear reactor electrical systems repair officer on tenders or repair ships or at minor repair facilities; staff electrical material officer; electrical planning and estimating superintendent, electrical-dehumidification officer, and landline officer at various shore activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Administer electrical phase of material and maintenance program for command, consulting with and advising unit commanding officers and engineering officers on all electrical matters.
2. Plan and administer operation and use of landline facilities, analyzing communication traffic, coordinating communication plans, providing communication circuits, and installing communication security systems.
3. Direct operation of shipboard electrical systems; plan inspection and testing of systems; schedule necessary repairs, estimating time and material required.
4. Plan and schedule electrical work on new construction.
5. Direct, coordinate, and plan alteration, repair, and overhaul of electrical systems and equipment on vessels at shipyard or facility, correlating planning with production, inspection, and ship movements.
6. Develop, supervise, or perform tests and inspections, including periodic inspections and post-repair trials, of electrical equipment; review test data and make recommendations.
7. Establish methods, procedures, and standards required for work on nuclear reactor electrical systems.
8. Direct work of shops engaged in repair of nuclear reactor electrical systems.
9. Conduct preliminary inspections, estimating type and extent of work to be done.
10. Exercise technical supervision of repairs required by ships of command.
11. Review designs, specifications, and job orders to ensure conformance with Bureau of Ships directives.
12. Direct packaging, establishment of dehumidification measures, and application of anticorrosion materials aboard deactivated vessels, ensuring proper control of humidity and circulation of air by means of electrical and mechanical equipment and by prescribing use of desiccants and rust preventive compounds.

13. Coordinate efforts of Reserve Fleet subgroup departments and ship's company personnel in preservation functions during activation or deactivation of vessels; conduct periodic inspections of deactivated ships to ensure effectiveness of preservation processes.
14. Provide technical assistance to electrical contractor, authorizing and reporting minor variations from designs, accumulating data on equipment as required, and witnessing and approving final tests.
15. Prepare budgetary estimates and justifications, authorizing payment of civilian firms for services.
16. Advise on supply and maintenance of electrical stocks and spare parts; direct shipboard requisitioning as necessary.
17. Prepare correspondence, operating and maintenance manuals, and instructions.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Principles, procedures, and techniques of operation, installation, alteration, maintenance, repair, and overhaul of electrical systems and equipment.
2. Procedures and techniques for installation and operation of landline facilities, including communication security systems.
3. Procedures and techniques for testing and inspecting electrical systems and equipment.
4. Theory and principles of nuclear reactor electrical systems.
5. Principles and techniques of packaging, preservation, and dehumidification.
6. Principles and techniques of workload planning, estimating, organizing, and scheduling.
7. Principles and techniques in development of standards, procedures, and methods.
8. Principles and techniques of budgetary estimation and justification.
9. Supply procedures for electrical equipment.
10. Principles and techniques of stock control for electrical equipment and parts.
11. Principles and techniques in preparation of correspondence, operating and maintenance manuals, and instructions.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Ship Electrical Repair Officer	7085	AS
Special Weapons Assembly Officer (Electrical-Electronic)	9297	CVA
Ship's Electrical Officer	9358	CVA, CVS

LIMITED DUTY OFFICER, ELECTRICIAN (637X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Electrician (637X) act as electrical maintenance engineers, specializing in all phases of maintenance and operation of electrical equipment and systems.

Lieutenant Commanders (637X) direct and coordinate operation, alteration, maintenance, repair, assembly, inspection, and testing of electrical equipment and systems; direct design, production, and distribution of electrical systems or equipment; conduct or administer engineering studies and research, development, design, and testing projects.

They may serve in, but are not limited to, the following billets: electrical officer or engineer officer on large ships; electrical material officer on major staffs; electrical planning and estimating superintendent, interior and fire-control communication systems officer, ship electrical inspection officer, nuclear power research project officer, and nuclear powerplant engineering officer (shore construction) at various shore activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Recommend research, development, and tests of electrical communication systems, advising and assisting in technical aspects.
2. Direct design, production, and distribution of electrical communication and fire-control systems.
3. Administer projects involving electrical aspects of nuclear power for shore installations.
4. Review general specifications for interior communication and fire-control systems, recommending changes and modifications based on operating or engineering developments.
5. Establish and administer comprehensive shipboard maintenance program.
6. Direct engineering operations when getting under way and coming to anchor, and during general quarters.
7. Conduct and administer electrical aspects of engineering studies and research, development, design, and testing projects involving nuclear power of propulsion plants.
8. Correlate results of research, development, and design work by contractors and shipbuilders, providing for exchange of information among all groups working on a project.
9. Represent Navy on interservice boards and committees dealing with nuclear propulsion or nuclear power.
10. Act as naval liaison officer on projects sponsored by Armed Forces or civilian agencies.
11. Review progress reports from nuclear engineering and construction contractors, correlating and directing their efforts and providing for liaison and exchange of information.
12. Establish requirements, initiate procurement, and control production of electrical interior communication and fire-control systems, maintaining quality and inspection standards.
13. Establish allowance lists and issue procedure to control distribution of electrical equipment, setting up installation methods and procedures.

14. Direct and supervise procurement, stowage, issue, and use of fuel, lubricants, machine shop material, tools, spare parts, and other engineering equipment.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Performance standards and test procedures for electrical communication systems.
2. Methods and procedures for development of maintenance programs for electrical systems and equipment.
3. Preparation of specifications for electrical equipment and systems.
4. Supply procedures for all types of engineering equipment.
5. Methods and techniques of determining requirements for electrical equipment and systems.
6. Methods and techniques of procurement and distribution of electrical equipment.
7. Preparation of material allowance lists.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Electrical Planning and Estimating Superintendent	7015	NSYD
(Assistant) Staff Electrical Material Officer	7097	SUBINSURV
Naval Engineering Trials and Survey Officer	7966	INSURV
Damage Control Assistant	9308	CVA, LPH
Ship's Engineer Officer (Steam)	9369	CA, CAG, CLG, CG, CC, AOE, AFS

LIMITED DUTY OFFICER, ELECTRICIAN (637X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Electrician (637X) act as electrical maintenance engineers, specializing in all phases of maintenance and operation of electrical equipment and systems.

Commanders (637X) plan and direct engineering studies, and projects concerning design, development, testing, production, and distribution of electrical systems and equipment; advise and assist type commanders and bureau type control officers on electrical problems involved in construction and maintenance of ships; administer a ship's engineering department.

They may serve in, but are not limited to, the following billets: engineer officer on major ships; electrical material officer on major staffs; nuclear powerplant engineering officer (shore construction); interior and fire-control communication systems officer, ship electrical planning and design officer, and ship type electrical engineering officer at various shore activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Originate and direct programs for planning and design of marine electrical systems and equipment.
2. Establish maintenance and replacement procedures for all electrical systems and equipment.
3. Direct development and design of electrical power and lighting systems.
4. Direct preparation of contract plans and specifications for new electrical designs.
5. Direct technicians on assigned research projects and inspect designs to ensure accuracy and adequacy.
6. Direct development and modifications of electrical designs and specifications for ships.
7. Develop performance and test criteria for electrical systems and components.
8. Maintain liaison with research, design, and test activities and coordinate and integrate their efforts in connection with new electrical designs.
9. Maintain liaison with ship's personnel or private contractors concerning progress and inspection of all work.
10. Advise manufacturers on performance requirements.
11. Advise on installation, operation, and maintenance of newly developed electrical systems and equipment.
12. Advise and assist type commanders and bureau type control officers on electrical problems involved in construction and maintenance of ships.
13. Formulate administrative policies and disseminate information regarding such policies throughout electrical research group.
14. Review and recommend bureau or staff action on alteration requests and correspondence from fleet dealing with electrical problems.

15. Recommend research, development, and testing programs to improve existing equipment and evaluate new materials and applications.

16. Direct stock and inventory control and disposition of electrical equipment.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. New developments and technological advances in the field of electricity.
2. Basic principles of electrical engineering.
3. Principles, methods, and techniques of administration.
4. Principles and techniques of procedures writing.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Electrical Systems Planning Officer	7075	NSYD
Ship Type Electrical Engineering Officer	7095	BUSHIPS
Ship's Engineer Officer (Steam)	9369	CVA, CVS, LPH

LIMITED DUTY OFFICER, ELECTRONICS (640X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Electronics (640X) specialize in the maintenance and operation of electronic equipment and systems used in communications, detection and tracking, recognition and identification, countermeasures, and navigation.

Ensigns and Lieutenants Junior Grade (640X) administer installation and maintenance of electronic equipment and systems; conduct training programs for electronics personnel; prepare, maintain, and submit necessary records and reports; provide technical advice and assistance to operational and command personnel.

They may serve in, but are not limited to, the following billets: electronics material officer on cruisers and destroyers; technical officer with guided missile units and special weapons units; assistant ship repair officer (electronics) on repair ships and tenders; electronics material officer at service school commands and communication stations or facilities; staff electronics material officer on destroyer and submarine squadrons or division staffs; technical officer in various special projects; instructor at fleet training groups and Navy service school commands.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Direct installation, maintenance, calibration, alignment, and sensitivity checks of electronic equipment.
2. Supervise a comprehensive preventive maintenance program covering all assigned electronic equipment and systems, and ensure that preventive maintenance records and reports are maintained and submitted.
3. Evaluate material and performance status of electronic equipment and components.
4. Supervise expenditure of quarterly allotment for an electronic maintenance facility.
5. Organize work within an electronics maintenance shop, approve work orders, establish work priorities, and assign work; direct the Performance, Operational, and Maintenance Standards for Electronics Equipment (POMSEE) and Standard Navy Maintenance and Material Management System (3M System).
6. Submit recommendations for design or engineering field changes; supervise accomplishment of field changes.
7. Evaluate defective electronic equipment and components and direct or recommend repair or replacement.
8. Analyze mechanical and operational failures of electronic equipment and prescribe local corrective actions.
9. Ensure adequate security of electronics spaces, equipment, facilities, and publications, and instruct enlisted personnel in, and supervise compliance with, current security regulations and directives relative to electronics.
10. Ensure that periodic inspection and checks of electronic equipment, including antenna systems and structures, are performed properly and when required.
11. Ensure stocking of adequate quantities of supplies and spare parts for maintenance and repair of assigned electronic equipment.

12. Direct preparation and submission of requisitions and survey requests for equipment, parts, and other items of supply.
13. Maintain electronic equipment inventories, determine adequacy of equipment allowances, and recommend changes in allowances.
14. Direct preparation, maintenance, and submission of such electronics maintenance records, logs, and reports as failure and discrepancy reports, usage data records, and status and availability reports.
15. Determine need for outside assistance when requirements for repair of electronic equipment are beyond the capabilities of electronics shops.
16. Direct dissemination of, instruction in, and compliance with safety precautions and current regulations for installation, maintenance, and operation of electronic equipment.
17. Advise operating personnel concerning availability, capability, limitations, reliability, and operational uses of assigned electronic equipment and systems.
18. Organize enlisted personnel assigned to an electronics maintenance shop to accomplish required electronics maintenance.
19. Determine adequacy of personnel allowances relative to current and future electronics maintenance commitments, and recommend changes in terms of numbers and rates of men required.
20. Recommend changes in Navy enlisted classifications to assure assignment of required skills to maintenance activity.
21. Conduct and supervise electronics familiarization programs and on-the-job training programs.
22. Direct maintenance of a complete and up-to-date library of technical and professional publications on operation and maintenance of assigned electronic equipment and operation of an electronics maintenance shop.
23. Ensure that subordinate personnel are thoroughly familiar with special aspects of first aid and with personal safety measures applicable to electronic and electrical accidents.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. General principles, laws, and formulas of physics, mechanics, and mathematics applicable to electric and electronic equipment including sound wave propagation, reproduction, absorption, and attenuation; doppler reflection, refraction, and reverberation; radio wave propagation, reproduction, diffraction, polarization, and refraction; and ground, sky, and direct waves.
2. Operating principles and functions of radio direction finders, navigation beacons, loran, and electronic countermeasures equipment.
3. Mission and capabilities of electronics maintenance shops and facilities.
4. Principles and techniques of workload planning and scheduling.
5. Nomenclature systems, standard references, designations, and symbols used in electronics publications, specifications, and diagrams.
6. Types, characteristics of operation, and applications of electronic and electrical circuits, components, and accessories.

7. Types, applications, characteristics, and uses of test and associated equipment employed in maintenance of electronic equipment.
8. Procedures and requirements for calibration and compensation of electronic equipments.
9. Safety regulations and precautions applicable to maintenance and operation of electronic equipment and systems as prescribed in current instruction manuals, directives, and other publications.
10. Regulations, directives, and instructions governing procurement and maintenance of technical and nontechnical publications required for an electronics maintenance facility.
11. Uses, capabilities, and limitations of assigned electronic equipment.
12. Approved methods and specifications used in installation of electronic equipment and systems, including antenna systems and structures.
13. Application of specified standards in determining whether defective electronic equipment should be repaired or replaced.
14. Procedures for submission of recommendations for design or engineering changes to electronic equipment systems.
15. Appropriate methods and procedures for maintenance and repair of electronic equipment as prescribed in manuals, handbooks, and instructions.
16. Nature, scope, and use of information contained in instruction books, parts lists, allowances, bulletins, changes, and other types of maintenance publications, directives, and instructions pertaining to electronic equipment and systems.
17. Preparation and distribution of reports, logs, and records required of an electronics maintenance shop.
18. Bookkeeping and accounting procedures necessary to administer the electronics quarterly allotment.
19. Navy electronics supply system and procedures for preparation and maintenance of required records, reports, and forms.
20. Use of equipment histories to determine stocking levels of battle or emergency spare parts for assigned electronic equipment.
21. Regulations pertaining to handling, stowage, security, and destruction of classified electronic equipment and publications.
22. Basic principles of curriculum development, and methods and techniques of technical instruction.
23. Special first aid actions and personal safety measures for electrical and electronic accidents.
24. Provisions of current regulations pertaining to classified matter, applications to electronic equipment and publications, and current classifications of assigned electronic equipments and publications.
25. Purpose and capabilities of command control systems such as the Naval Tactical Data System and the Operational Control Center.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Electronic Data Processing Systems Maintenance Officer (Naval Tactical Data Systems)	5937	DLG
Electronic Equipment Installation, Maintenance, and Repair Officer.	5977	COMMSTA, DE, MOTU, NAAS, NAS
Staff Electronic Material Officer.	5996	COMDECORON
Ship's Electronic Material Officer.	9283	CA
Staff Communications Officer	9590	COMCORTON

LIMITED DUTY OFFICER, ELECTRONICS (640X) LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Electronics (640X) specialize in the maintenance and operation of electronic equipment and systems used in communications, detection and tracking, recognition and identification, countermeasures, and navigation.

Lieutenants (640X) plan and administer installation and maintenance of electronic equipment and systems; develop training programs for electronics personnel; prepare, maintain, and submit necessary records and reports; provide technical advice and assistance to operational and command personnel.

They may serve in, but are not limited to, the following billets: electronics material officer on cruisers; assistant to repair officers on repair ships and tenders; electronic material officer at service school commands and communication stations or facilities; technical officer in various special projects; instructor at Navy training commands and Navy service school commands; staff electronics officer on destroyer and submarine flotillas and type command staffs.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Evaluate maintenance procedures and maintenance capabilities of subordinate electronics maintenance activities.
2. Determine standards for evaluation of material and performance status of electronic equipment and component parts.
3. Determine procedures and practices for analysis of electronic equipment and systems failures; prescribe local corrective and preventive actions.
4. Direct and coordinate installation and maintenance planning of electronic equipment.
5. Direct staff electronic material activities involving repair, preservation, maintenance, and activation programs for ships of command.
6. Direct naval shore radio transmitting, receiving, or link-relay station.
7. Supervise operation, maintenance, and repair of exterior communications and applicable internal systems.
8. Advise and assist inspector of naval material in acceptance of ship or shore electronic equipment and components.
9. Analyze numbers and kinds of electronic failures to determine critical problems affecting operational capabilities of command.
10. Advise command and staff personnel on capabilities and limitations of electronic equipment and systems.
11. Maintain liaison with maintenance, operational, and developmental agencies and activities.
12. Direct collection and preparation of electronics maintenance information for dissemination to operating and command personnel.
13. Direct familiarization, on-the-job, and formal training programs for enlisted personnel to improve standards of electronics maintenance and operation, and to ensure adequate opportunities to prepare for advancement in rating.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Sources of data and information relative to supervision and operation of an electronics maintenance facility.
2. Methods and techniques of planning, organizing, and presenting technical material.
3. Recording and reporting procedures and techniques required in the supervision and operation of an electronics maintenance facility.
4. Nature, scope, and use of information contained in catalogs, instructions, publications, and directives pertaining to supply support of electronic equipment and systems.
5. General scope and nature of rating qualifications for personnel associated with electronics maintenance and operation, and related Navy enlisted classifications and rating designators.
6. Principles and techniques appropriate to practical and theoretical electronics training, including curriculum development and applications of training aids.
7. Personnel requirements, including skills and knowledges and numbers of personnel, to meet electronics operational commitments.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Electronics Installation and Maintenance Planning Officer (General)	5925	COMMSTA
Staff Material Officer	9063	COMRADPICKRON
Guided Missile Test Officer, Surface-Launched	9245	AS
Ship's Electronic Material Officer.	9283	CAG, CG, CC, CLG, CVA, CVS
Communication Officer, Ashore	9510	COMMSTA
Radio Station Officer	9567	COMMSTA
Staff Communications Officer	9590	AV
Traffic Communications Officer	9595	DCA

I. SCOPE

Limited Duty Officers, Electronics (640X) specialize in the maintenance and operation of electronic equipment and systems used in communications, detection and tracking, recognition and identification, countermeasures, and navigation.

Lieutenant Commanders (640X) plan, administer, and direct the installation and maintenance of electronic equipment and systems; develop and direct training programs for electronics personnel; review and design records and reports required of electronics activities; provide technical advice and assistance to command and staff personnel.

They may serve in, but are not limited to, the following billets: ship repair officer on repair ships and tenders; electronics officer on type command staffs; technical test or project officers with Bureau of Ships; assistant to commanding officer of communication stations or facilities; material inspector; technical adviser or assistant officer in charge of technical service schools.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Evaluate adequacy of electronics maintenance by subordinate facilities and direct necessary improvements.
2. Recommend allocation of electronic equipment among subordinate electronics maintenance facilities to meet assigned or projected operational commitments.
3. Evaluate performance of new or prototype electronic equipment or electronic components of other devices; determine adequacy of equipment or device in terms of its operational functions.
4. Coordinate electronics activities within naval field establishment.
5. Ensure that maintenance support beyond the capabilities of individual subordinate electronics maintenance shops and activities is available when needed to assure effective and uninterrupted performance of electronics functions of command.
6. Evaluate recommendations for design or engineering changes to electronic equipment and for modifications to maintenance procedures or techniques; direct or recommend appropriate action on recommendations.
7. Inspect electronic equipment on ships for material readiness and conformance to specifications; recommend survey of obsolete equipment and design changes to meet future operational needs.
8. Advise staff and operational officers of security aspects and problems of subordinate electronics activities and assigned equipment, spaces, and personnel.
9. Prepare command and subordinate electronics activities for institution of new electronic equipment, programs, or commitments, or for new devices employing electronic components.
10. Furnish technical information and advice in awarding and administering contracts with suppliers of electronic material and in procurement and production of electronic equipment.
11. Prepare estimates of costs of future maintenance and repair of electronic equipment and systems to assist in establishment of quarterly allotments.

12. Obtain information from superior and subordinate command and maintenance staff personnel to determine present and anticipated electronics maintenance and operational needs in fleet.
13. Evaluate electronics records and reporting systems to determine their adequacy; recommend modifications to improve operation and control of activities in electronics maintenance and operations.
14. Evaluate and approve requests for electronics maintenance assistance; designate facility or personnel to provide approved assistance.
15. Plan, operate, and administer radio and landline facilities at major communications activity.
16. Direct research activity for development of electronic equipment and systems.
17. Advise assignment and distribution officers on personnel requirements for new or modified electronics programs; assist in development of personnel allowance for projected activities involving electronics maintenance or operation.
18. Conduct surface and subsurface training programs utilizing electronic devices.
19. Determine electronics maintenance training needs within command; advise training officers on quotas needed, skill levels required, and course content requirements.
20. Evaluate adequacy and usability of technical publications employed by electronics maintenance facilities; recommend changes to existing publications or development of new publications to meet the needs of electronics personnel.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Principles, methods, and techniques applicable to administration, coordination, and supervision of complex technical organizations.
2. Principles of task and activity organization analysis applicable to determination of methods and procedures to achieve optimal effective maintenance and repair of electronic equipment and systems.
3. Trends of maintenance costs and plans for modification or replacement of present equipment or installation of new equipment.
4. Principles and techniques of planning and scheduling extensive and/or complex electronics maintenance programs.
5. Procedures for recommending design or engineering (field) changes to equipment, practical aspects of field installation, and maintenance of electronic equipment.
6. Methods of, and sources of information on, estimating costs of major repair or overhaul of electronic equipment performed by various types of repair facilities, such as tenders, Navy yards, and civilian contractors.
7. Navy electronics procurement and supply system.
8. Principles of logistics planning.
9. Facilities, quotas, prerequisites, and skills and knowledges related to shipboard training, fleet and training command schools and courses, civilian college and factory training, and correspondence courses relative to electronics.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Electronics Inspection and Survey Officer	5960	INSURV
Electronic Equipment Installation, Maintenance, and Repair Officer	5977	COMMSTA, NATTC
(Assistant) Electronics Research Administrator	5980	T E DET
Fire Control Officer (General)	9237	CLG
Ship's Electronic Material Officer	9283	CC
Communication Officer, Ashore	9510	DCA
Communication Officer, Afloat	9582	CARDIV Staff

LIMITED DUTY OFFICER, ELECTRONICS (640X)
COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Electronics (640X) specialize in the maintenance and operation of electronic equipment and systems used in communications, detection and tracking, recognition and identification, countermeasures, and navigation.

Commanders (640X) plan, administer, and direct installation and maintenance of electronic equipment and systems; develop and direct training programs for electronics personnel; provide technical advice and assistance to command, staff, and bureau offices.

They may serve in, but are not limited to, the following billets: electronics material officer on type and fleet command staffs; project officer or technical desk officer with Bureau of Ships and at research and development activities; material inspector; officer in charge of technical service schools.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Develop preventive maintenance procedures for new or proposed electronic equipment.
2. Schedule fleet introduction of new electronic equipment, programs, or commitments; plan overhaul of major electronic equipments or replacement of obsolescent equipments.
3. Assist in design, specification, and procurement of electronic material to ensure that maintenance requirements and capabilities of the fleet are adequately considered.
4. Establish electronics maintenance programs including techniques, procedures, and capability levels for subordinate maintenance activities.
5. Analyze and integrate information from all sources to determine future electronics requirements of fleet.
6. Advise security control authorities on classification of electronic equipment and publications, recommending reclassification as changes occur.
7. Assist in logistics planning for large-scale or extended fleet operations, including electronic equipment for guided missiles and all aspects of electronics operation and maintenance.
8. Prepare and submit budget estimates, justifications, and related material.
9. Determine and develop planning information concerning future electronics personnel requirements for new or expanded programs, including mobilization requirements in missile logistics.
10. Determine long-range electronics training needs in order that sufficient number of adequately trained personnel are ready when new equipment or programs reach the fleet.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Current Navy and Department of Defense fiscal policies, priorities, and plans and their application to electronics maintenance.
2. Methods and procedures for planning, justifying, and presenting budgetary requirements.
3. Methods and procedures of planning, outfitting, establishing, and operating advanced electronics installations.

4. New developments and technological advances in field of electronics, such as electronics found in guided-missile launchers, loading systems, and components.
5. Capabilities, limitations, and missions of various electronics installations during national emergency.
6. Purpose, content, and implementation of mobilization planning documents relating to electronics material, facilities, personnel, and maintenance.
7. Fundamental policies of CNO, Bureau of Naval Personnel, and technical bureaus with respect to their current and future operations and plans concerning personnel allocation, technical training, utilization of reserve personnel, and technological developments.
8. Function and value of material and personnel research relative to improving effectiveness of electronics maintenance.
9. Elements of nuclear warfare.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Electronic Engineering Plans and Policies Director	5913	BUSHIPS
Electronic Equipment Installation, Maintenance, and Repair Officer	5977	TRADEVCE
Communication Officer, Afloat	9582	CC

SCOPE

Limited Duty Officers, Cryptology (646X) are specialists in the broad field of communications, functioning in support of Naval Security Group requirements in communications research and engineering, electronics, mathematics, cryptoanalysis, cryptology, communications security, courier services, and other related fields.

They may serve in technical and operational billets in the Naval Security Group and the National Security Agency, in Naval Communications or Security Group activities, or as members of the staffs of major commands.

The professional qualification requirements of Limited Duty Officers, Cryptology (646X) for all grade levels are published separately due to the nature of their classification, and promulgated by the Chief of Naval Operation (OP-94G) under a limited distribution on a need-to-know basis. Requests for enrollment in correspondence courses to satisfy technical area requirements for professional fitness for promotion should be made by official letter via administrative command addressed to the Director, Naval Security Group, U. S. Naval Security Group Headquarters, 3801 Nebraska Avenue, Northwest, Washington, D. C. 20390.

LIMITED DUTY OFFICER, AVIATION OPERATIONS (660X)
ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Operations (660X) specialize in the related fields of launching, recovery, handling, and servicing of aircraft.

Ensigns and Lieutenants Junior Grade (660X) plan, organize, and control the loading and unloading of aviation fuels and lubricants and the fueling and defueling of aircraft; direct the ground handling, launching, and beaching of seaplanes; manage the handling and spotting of aircraft on flight and hangar decks aboard aircraft carriers; and plan, organize, and control the line services required for flight readiness of aircraft at aviation shore activities.

They may serve in, but are not limited to, the following billets: aircraft fueling officer, assistant flight deck officer, and assistant catapult and arresting gear officer aboard aircraft carriers; and crash and salvage officer at aviation shore activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Program the maintenance of aviation operations equipment.
2. Review and evaluate operating and maintenance procedures concerned with aviation operations and recommend appropriate action.
3. Ensure availability and effective use of technical publications and manuals relating to aviation operations equipment and systems.
4. Direct and ensure the preparation, submission, and maintenance of reports and correspondence relating to maintenance and servicing of aviation operations equipment and systems.
5. Exercise control over the maintenance of logs.
6. Direct and supervise dissemination of, instruction in, and compliance with safety instructions concerned with aviation operations equipment and systems.
7. Provide technical advice pertaining to the operation and maintenance of aviation operations equipment and systems.
8. Manage receipt, transfer, and expenditure of aviation fuels and lubricants.
9. Control storage and preservation of aviation operations equipment and systems.
10. Review applicable equipment and spare parts allowance lists and submit change recommendations.
11. Assist in the control and coordination of aircraft handling.
12. Lead and direct aircraft crash, rescue, firefighting, and salvage crews.
13. Analyze aircraft crash, fire, and rescue situations and initiate appropriate action.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Function of the staff offices responsible for distribution and control of aviation operations equipment and systems.
2. Safety instructions applicable to operation, maintenance, installation, and servicing of aviation operations equipment and systems.
3. Principles of workload planning and scheduling as applied to the operation, maintenance, and servicing of aviation operations equipment and systems.
4. Nature and scope of information contained in instruction books, parts lists, allowances, bulletins, changes and other maintenance publications, directives, and instructions pertaining to the operation, maintenance, and servicing of aviation operations equipment and systems.
5. Nature and scope of information contained in supply catalogs, initial outfitting lists, and other publications, directives, and instructions relating to the supply support of aviation operations equipment and systems.
6. Types and requirements of logs, records, and reports pertaining to aviation operations equipment and systems.
7. Principles of aviation operations logistics for technical support of deployed aircraft squadrons.
8. Procedures for requisitioning, inventorying, and disposing of aviation operations equipment and systems.
9. Methods and procedures for requesting changes to material allowance lists of aviation operations equipment.
10. Procedures and techniques for planning and executing aircraft handling operations aboard aircraft carriers, at seadromes, and at land-based air stations.
11. Methods and procedures for handling, storage, preservation, and depreservation of aviation operations equipment and systems.
12. General principles of electricity, hydraulics, and mechanics applicable to aviation operations equipment and systems.
13. Principles and techniques of oral and written presentations of technical information in the field of aviation operations equipment and systems.
14. Characteristics and capabilities of naval ships and first-line aircraft of major world powers.
15. Duties, authority, and responsibility of air officers and air department duty officers.
16. Methods, techniques, and precautions in the operation, assembly, installation, maintenance, and servicing of aircraft handling, launching, and recovery equipment, and its test and servicing equipment.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Aircraft Crash and Salvage Officer	2790	NAS
Aircraft Fueling Officer	8638	CVS, LPH
(Assistant) Aircraft Fueling Officer	8638	CVA
(Assistant) Catapult and Arresting Gear Officer	8642	CVA, CVS
(Assistant) Flight Deck Officer	8654	CVA, LPH

LIMITED DUTY OFFICER, AVIATION OPERATIONS (660X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Operations (660X) specialize in the related fields of launching, recovery, handling, and servicing of aircraft.

Lieutenants (660X) plan, organize, and control aircraft handling operations and the preflight and postflight servicing of aircraft on aircraft carriers; manage and control the launching and recovery of aircraft on aircraft carriers; direct the ground handling, launching, and beaching of seaplanes; and plan, organize, and direct line services for flight readiness of aircraft at aviation shore activities.

They may serve in, but are not limited to, the following billets: aircraft fueling officer, hangar deck officer, assistant flight deck officer, and assistant catapult and arresting gear officer aboard aircraft carriers; crash and salvage officer at aviation shore activities; and instructor at naval air training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Exercise management control over aviation fuel facilities at naval air stations.
2. Plan, coordinate, and control flight or hangar deck operations aboard aircraft carriers.
3. Coordinate and evaluate the installation, alteration, and maintenance of aircraft launching, recovery, and fuel servicing equipment.
4. Analyze and evaluate the adequacy of, and recommend necessary corrections to operation, maintenance, and servicing procedures concerning aircraft handling, launching, recovery, and fuel servicing equipment.
5. Plan, schedule, and coordinate incorporation of changes and modifications to handling, launching, recovery, and fuel servicing equipment and systems.
6. Review drafts of aviation operations manuals, bulletins, technical directives, and other publications for format and technical accuracy.
7. Review and evaluate aviation operations safety requirements, and initiate appropriate safety procedures.
8. Lead and direct offstation crash, fire, and rescue parties.
9. Conduct evaluation trials of new or experimental aviation operations equipment.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Management principles and practices associated with directing aviation operations units.
2. General methods and procedures for administration of contracts for aviation operations equipment and systems.
3. Procedures for handling proprietary information provided by contractors.
4. Functions and responsibilities of BuWeps representatives and BuWeps Fleet Readiness Representatives.

5. Procedures and techniques of spotting aircraft on aircraft carriers to provide for rapid rearming and refueling operations.
6. Procedures for laying out and operating advanced base seadromes.
7. Principles and methods of developing and administering courses of instruction in the use and maintenance of aviation operations equipment.
8. Procedures, equipment, and personnel required for offstation aircraft crash, fire, and rescue parties.
9. Procedures for handling aircraft crashes and fires when red label cargo is involved.
10. Procedures for reporting aircraft ground accidents and incidents.
11. Procedures, precautions, and special safety measures for conducting evaluation trials on launching, recovery, and fuel servicing equipment.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Aircraft Crash and Salvage Officer	2790	NAS
Instructor, Technical	3250/ 8642	NATTU, NAEC, NATF
Aircraft Fueling Officer	8638	CVA
(Assistant) Catapult and Arresting Gear Officer	8642	CVA, CVS
(Assistant) Flight Deck Officer	8654	CVA, CVS
Hangar Deck Officer	8660	CVA, CVS, LPH

LIMITED DUTY OFFICER, AVIATION OPERATIONS (660X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Operations (660X) specialize in the related fields of launching, recovery, handling, and servicing of aircraft.

Lieutenant Commanders (660X) plan, organize, and control aircraft handling operations; manage the launching and recovery of aircraft aboard aircraft carriers; plan, organize, and control the repair, alteration, and installation of aircraft launching and recovery equipment at naval shipyards and naval air activities ashore; and manage the servicing and preparation of aircraft for flight at aviation shore activities.

They may serve in, but are not limited to, the following billets: catapult and arresting gear officer aboard aircraft carriers; and catapult and arresting gear planning superintendent at shipyards.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Exercise management control over Catapult and Arresting Gear Field Service Unit (CAFSU) personnel.
2. Plan and control installation, alteration, and repair of aircraft handling, launching, recovery, and fuel servicing equipment.
3. Review technical training curricula and course outlines for appropriateness and adequacy of content for current and future operational and maintenance requirements.
4. Recommend personnel and training requirements for new developments in aviation operations equipment and systems.
5. Direct the development of training curricula, standards, and methods and the training materials to meet the requirements of new aviation operations equipment and systems.
6. Participate in planning and administering experimental and development programs concerned with design, development, test, evaluation, and modification of aviation operations equipment and systems.
7. Evaluate performance reports of experimental aviation operations equipment and systems and recommend modifications to comply with desired characteristics.
8. Develop operating procedures and techniques for new aviation operations equipment and systems.
9. Review test and evaluation reports of new aviation operations equipment and systems and determine practical implications.
10. Provide naval technical liaison with other armed forces and government agencies on projects concerned with aviation operations equipment and systems.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Procedures and techniques for installation, alteration, repair, and test of aircraft handling, launching, recovery, and fuel servicing equipment.
2. Methods and procedures for conducting and evaluating studies, surveys, and tests of aviation operations equipment and systems.

3. Rules, regulations, and administrative procedures for the conduct of projects involving military and civilian suppliers and contractors.
4. Procedures and techniques of analyzing and evaluating aviation operations training programs.
5. Nature and scope of Navy Civilian Personnel Instructions (NCPI).
6. Procedures for preparation of technical orders, bulletins, and service changes for aviation operations equipment and systems.
7. Practical aspects of engineering problems regarding installation, maintenance, and operation of aviation operations equipment and systems.
8. Sources of information relative to new developments in the field of aviation operations equipment and systems.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Catapult and Arresting Gear Planning Superintendent	8137	NSYD
Catapult and Arresting Gear Officer	8642	CVA, CVS

LIMITED DUTY OFFICER, AVIATION OPERATIONS (660X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Operations (660X) specialize in the related fields of launching, recovery, handling, and servicing of aircraft.

Commanders (660X) plan, organize, and control the repair, alteration, and installation of aircraft catapults and arresting gear at naval shipyards and naval air activities ashore; administer procurement, distribution, and fiscal planning of arresting gear and catapult equipment; and plan and administer training programs at specialized schools.

They may serve in, but are not limited to, the following billets: catapult and arresting gear officer on fleet staffs; catapult and arresting gear planning superintendent in BuWeps; and training officer at naval air technical training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Formulate and advise on policies and prepare long-range and short-range plans for test, procurement, installation, maintenance, alteration, and servicing of aviation operations equipment and systems.
2. Review training requirements and manage the development and implementation of appropriate training in the field of aviation operations.
3. Coordinate planning, supply, and production activities of shipyards, contractors, and technical bureaus concerned with installation, alteration, and maintenance of aviation services equipment and systems.
4. Develop and issue planning information for the support of aviation operations equipment and systems.
5. Develop and establish reporting procedures and controls to determine status and progress of work; prepare and promulgate summaries and digests of information pertinent to aviation operations equipment and systems.
6. Analyze accident and defective material reports to determine equipment deficiencies.
7. Review developmental reports of aviation operations equipments and systems, and determine practical applications.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Current policies of CNO, BuPers, and technical bureaus concerning aviation operations technical training.
2. Methods of developing equipment and personnel performance standards.
3. Regulations and instructions for establishing reporting procedures and control pertaining to status and progress of work.
4. Methods and techniques for conducting joint and combined conferences relative to problems concerning aviation operations.
5. Application of material and personnel research in the field of aviation operations equipment and systems.

6. Principles of aviation operations equipment and systems logistics planning.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 8642	NATTU
Catapult and Arresting Gear Planning Superintendent	8137	BUWEPS
Catapult and Arresting Gear Officer	8642	COMNAVAIR

LIMITED DUTY OFFICER, AVIATION CONTROL (661X)
ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Control (661X) specialize in the field of air traffic control.

Ensigns and Lieutenants Junior Grade (661X) direct control tower personnel at aviation shore activities during periods of watch; manage and control the operation of Ground Controlled Approach (GCA) and Carrier Controlled Approach (CCA) units during periods of watch; and manage and control the operation of a Radar Air Traffic Control Center (RATCC) during periods of watch.

They may serve in, but are not limited to, the following billets: assistant CCA officer aboard aircraft carriers; and assistant GCA officer, assistant air traffic control officer, and RATCC watch officer at aviation shore activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Ensure employment of standard procedures and techniques in all phases of air traffic control during periods of watch.
2. Coordinate and direct operation of GCA and CCA units during periods of watch.
3. Coordinate and direct RATCC operations to provide safe and expeditious movement of air traffic during periods of watch.
4. Direct control towers for control of air traffic under IFR and VFR conditions at aviation shore activities.
5. Schedule and observe flight test runs, antenna patterns, and instruction flights as required by current directives.
6. Ensure that all air traffic controllers are properly certificated and that they maintain minimum proficiency and current qualifications as required by directives.
7. Review flight clearances to ensure correctness of information and compliance with air traffic control procedures and regulations.
8. Ensure that appropriate parties are informed of all emergencies and unusual situations in which air traffic control is involved.
9. Initiate or review drafts of air operations manuals, technical directives, instructions, and other publications for format and technical accuracy.
10. Coordinate air traffic within the local control area.
11. Ensure that Flight Planning Publications, Notices to Airmen (NOTAMS), and other information essential to flight planning are available to pilots.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Regulations, instructions, and procedures for administering air traffic control facilities.
2. Duties and responsibilities of watch officers in GCA and CCA units and in RATCC's.

3. Duties, responsibilities, and methods and techniques required to perform as final approach controller, traffic director, azimuth tracker, and elevation tracker when guiding aircraft to a landing.
4. Scope and content of OpNav instructions, joint publications, and other manuals, regulations, and instructions pertaining to the control and guidance of aircraft.
5. Types, capabilities, and limitations of GCA and CCA equipment.
6. Types, capabilities, and limitations of radio aids to air navigation.
7. Types, capabilities, limitations, and approved methods and techniques for the operation of radar as applicable to air traffic control.
8. Effects of meteorological phenomena on air traffic control, survival equipments, and aviation services.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
RATCC Watch Officer	8645	NAS
(Assistant) Air Traffic Control Officer	8647	NAS
(Assistant) Controlled Approach Officer	8658	NAS, CVA, CVS

LIMITED DUTY OFFICER, AVIATION CONTROL (661X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Control (661X) specialize in the field of air traffic control.

Lieutenants (661X) plan, coordinate, and direct the control of air traffic within a local geographical area at aviation shore activities; assist in planning, organizing, and controlling the operation of Ground Controlled Approach (GCA) or Carrier Controlled Approach (CCA) units; and manage the operation of a Radar Air Traffic Control Center (RATCC) during periods of watch.

They may serve in, but are not limited to, the following billets: assistant CCA officer aboard aircraft carriers; GCA officer and RATCC watch officer aboard aviation shore activities; and technical instructor at naval air technical training centers.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Establish air control indoctrination programs for personnel of local fleet and shore activities.
2. Develop, implement, and coordinate training programs to improve the quality of air control techniques, procedures, and coordination.
3. Analyze flight violation reports to determine air traffic control equipment or operational procedure and/or technique deficiencies.
4. Verify facility compliance with directed planning standards, including obstruction zoning criteria, obstruction lighting and airfield marking requirements.
5. Establish and maintain liaison with maintenance personnel to ensure optimum operation of air traffic control equipment.
6. Prepare standard instrument approach procedures as operational requirements change.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Procedures, regulations, and instructions that relate to the investigation of accidents and infractions involving air traffic control regulations.
2. Methods and techniques of establishing a quality control program for air traffic control.
3. Procedures for conducting air traffic control flight checks and applying accepted standards in order to assess quality of performance.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Technical	3250/ 8644	NATTC
RATCC Watch Officer	8645	NAS
(Assistant) Controlled Approach Officer	8658	CVA, CVS
Controlled Approach Officer	8658	NAS

LIMITED DUTY OFFICER, AVIATION CONTROL (661X)
LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Control (661X) specialize in the field of air traffic control.

Lieutenant Commanders (661X) plan, coordinate, and direct the control of air traffic within a local geographic area at aviation shore activities; manage and control CCA units aboard aircraft carriers; and manage and control GCA units at aviation shore activities.

They may serve in, but are not limited to, the following billets: CCA officer aboard aircraft carriers and aviation shore activities; air traffic control officer at aviation shore activities; and assistant RATCC officer at aviation shore activities having RATCC installations.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Make team assignments and direct watch officers and air controllers in the performance of their duties.
2. Maintain liaison with BuShips representatives having technical responsibility for air control units.
3. Develop, coordinate, and direct the operations of RATCC's, GCA's, and CCA's.
4. Develop and coordinate local noise abatement programs for adjacent communities.
5. Formulate letters of agreement between the Navy and adjacent FAA facilities.
6. Develop and establish air traffic control and operating procedures for an aviation shore activity in accordance with existing directives and regulations.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Duties and responsibilities of officers-in-charge of GCA, CCA, or air traffic control units with regard to the control, coordination, and movement of all air traffic within a designated area of control.
2. Regulations and instructions governing BuShips representatives having technical responsibility for air traffic control units.
3. Military directives and civil regulations governing the establishment of air traffic control procedures for naval air activities.
4. Policies and practices for the coordination and direction of all activities associated with the clearance and control of air traffic.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) RATCC Officer	8644	NAS
Air Traffic Control Officer	8647	NAS
Controlled Approach Officer	8658	NAS, CVA, CVS

LIMITED DUTY OFFICER, AVIATION CONTROL (661X)
COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Control (661X) specialize in the field of air traffic control.

Commanders (661X) serve as assistant to the operations officer at naval air stations and assist in the coordination of airport operations of the units assigned to the command; plan and administer training programs for air traffic control technicians at training centers; and provide technical information and advice to staffs and commands on air traffic and airspace matters.

They may serve in, but are not limited to, the following billets: airspace requirements officer in OpNav; RATCC officer at aviation shore activities; Navy regional airspace officer at FAA regional offices; and training officer at naval air technical training centers.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Analyze the military and physical and requirements for proposed air traffic control equipment and systems and make recommendations as to specifications.
2. Participate in air traffic control research programs designed to develop new equipment and techniques.
3. Participate in air traffic control conferences between joint and combined air traffic control activities.
4. Establish and maintain liaison with FAA and other armed services representatives in matters pertaining to air traffic control.
5. Make recommendations to staff commanders on matters concerning the utilization of air spaces.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Requirements and specifications for the design of air traffic control equipment and systems.
2. Practices and procedures of domestic, foreign, and other military air traffic control activities.
3. Basic procedures for joint action by the Armed Forces and the FAA in solving problems pertaining to air traffic control.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

	<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 8658	NATTC
RATCC Officer	8644	NAS
Airspace Requirements Officer, Flight Requirements	8958	OPNAV
Navy Regional Airspace Officer	8959	FAA Regional Office

LIMITED DUTY OFFICER, AIR INTELLIGENCE (662X)
ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Air Intelligence (662X) specialize in the field of operational intelligence.

Ensigns and Lieutenants Junior Grade (662X) assist in planning, coordinating, and directing the air intelligence work performed by the team or unit to which assigned and are responsible for the intelligence equipment, publications, and supplies under their cognizance.

They may serve in, but are not limited to, the following billets: air intelligence officer or assistant air intelligence officer in squadrons; air intelligence officer in carrier air wings; and assistant air intelligence officer at fleet intelligence centers and at the Naval Reconnaissance and Technical Support Center.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Furnish data concerning and recommend procedures for the utilization of air intelligence services and equipment.
2. Create and maintain liaison with local air intelligence and photographic activities.
3. Prepare air intelligence reports, mission planning folders, image interpretation reports, radar target dossiers, and mission reviews.
4. Assist in photographic reconnaissance and attack mission planning.
5. Conduct intelligence briefings and debriefings for flight personnel.
6. Assist in planning and administering training programs for aviation flight personnel in methods and techniques of survival, evasion, resistance, and escape (SERE).
7. Assist in planning special missions based on personnel, equipment, and material available.
8. Make recommendations concerning the release, shipment, or disposal of air intelligence information.
9. Ensure accuracy and availability of air intelligence files and recommend changes based on current needs.
10. Maintain custody and accountability for assigned air intelligence files and equipment.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Mission, organization, and functions of air intelligence at squadron, ship, and staff levels.
2. Principles and techniques of air intelligence analysis.
3. Guidelines for and the application of quality control to air intelligence devices and target dossiers.
4. Requisites for mission planning and mission planning folders, order of battle briefs, Commander's Estimate of the Situation, and Intelligence Annexes to Operation Plans/Orders.

5. Composition, kinds, and uses of aerial maps, charts, plot sheets, mosaics, and overlays.
6. Calculations and requisitions for aerial reconnaissance mapping.
7. Types, capabilities, and limitations of electronic countermeasures and counter-countermeasures.
8. Instructions and methods concerning the classification, declassification, release, and disposition of air intelligence information and materials.
9. Instructions and methods for inventorying, requisitioning, surveying, handling, stowing, issuing, and safeguarding air intelligence records and publications.
10. Kind, frequency, and distribution of air intelligence records, reports, and publications.
11. Principles and techniques employed in interpreting aerial reconnaissance photography, multisensor imagery, radar prediction and simulation, and stereoscopic and parallax measuring.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Air Intelligence Officer (General)	9680	IOIC, FIC, NRTSC, VAH, RVAH, VQ, VAP, VP, VAW, VW
Air Intelligence Officer (General)	9680	CVW, VA, VF, VS, HS, VFP-Det

LIMITED DUTY OFFICER, AIR INTELLIGENCE (662X) LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Air Intelligence (662X) specialize in the field of operational intelligence.

Lieutenants (662X) plan, coordinate, and direct the operation of an air intelligence team or unit; ensure the material readiness of assigned intelligence equipment, publications, and supplies; and direct the preparation of target studies, mission planning folders, and SERE briefs.

They may serve in, but are not limited to, the following billets: air intelligence officer in aircraft squadrons; assistant air intelligence officer in fleet air wings, carrier divisions, fleet intelligence centers, the Naval Reconnaissance and Technical Support Center, and in OpNav; and instructor at naval air intelligence schools.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Direct programs of indoctrination in the principles and techniques of resistance to applied psychological pressures and tensions in the event of capture by hostile forces.
2. Direct programs of indoctrination and field training in the principles of practical application in the techniques of SERE.
3. Establish and maintain liaison with schools and commands that are conducting intelligence training.
4. Develop and maintain air intelligence preparedness for operational missions.
5. Plan, coordinate, and direct the operation of an air intelligence or photo intelligence team.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Techniques of survival within the various environments of the climatic zones.
2. Flora and fauna native to each geographic or climatic zone and procedures for their procurement and preparation for human consumption.
3. Geography pertaining to the climatic zones.
4. Physical, physiological, and psychological pressures and tensions used to break morale and the accepted principles for maximum resistance to such applied pressure and tensions.
5. Operational strategy and tactics applicable to the types of warfare in which an air intelligence team might participate.
6. Procedures for establishing and maintaining effective liaison and coordination with all organizational elements either directly or indirectly involved in air intelligence activities.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Technical	3250/ 9680	Air Intelligence School
Air Intelligence Officer (General)	9680	VAH, RVAH, VQ, VAP, VP, VAW, VW
(Assistant) Air Intelligence Officer (General)	9680	CARDIV, FAIRWING, IOIC, FIC, NRTSC, OPNAV

LIMITED DUTY OFFICER, AIR INTELLIGENCE (662X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Air Intelligence (662X) specialize in the field of operational intelligence.

Lieutenant Commanders (662X) plan, coordinate, and direct the operation of intelligence units and activities; manage and direct the processing of intelligence data; and direct the activities of intelligence personnel attached to intelligence activities.

They may serve in, but are not limited to, the following billets: air intelligence officer aboard aircraft carriers, in the Naval Reconnaissance and Technical Support Center, in fleet intelligence centers, and on CARDIV staffs; and training officer in naval air intelligence schools.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Participate in combined and joint SERE conferences for the purposes of exchanging information and improving methods and techniques.
2. Plan, organize, and coordinate fleetwide programs for training personnel in the principles and techniques of SERE.
3. Direct the intelligence training and readiness of subordinate units.
4. Prepare intelligence studies and reports.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Intelligence gathering techniques and production procedures and criteria for intelligence reports.
2. Organization and administration of training programs for air intelligence personnel.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 9680	Air Intelligence School
Air Intelligence Officer (General)	9680	CARDIV, CVA, CVS, NRTSC, FIC

LIMITED DUTY OFFICER, AIR INTELLIGENCE (662X)
COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Air Intelligence (662X) specialize in the field of operational intelligence.

Commanders (662X) study problem areas in the operational intelligence field and make appropriate recommendations; plan for effective utilization of operational intelligence and the exploitation of end products; direct the activities of intelligence centers and facilities; and administer training programs for air intelligence schools and training activities.

They may serve in, but are not limited to, the following billets: air intelligence officer on fleet air command staffs, in fleet intelligence centers, and in OpNav; and training officer at naval air intelligence schools.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Examine collected air intelligence data to ascertain military significance and ramifications.
2. Inspect, evaluate, and coordinate the intelligence readiness of subordinate units.
3. Develop and perfect air intelligence techniques.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Mission, organization, and functions of air intelligence at the fleet and force levels.
2. Principles and techniques of analysis and interchange of air intelligence data within the fleet or force.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 9680	Air Intelli- gence School
Air Intelligence Officer (General)	9680	COMFAIR, IOIC, OPNAV

I. SCOPE

Limited Duty Officers, Photography (663X) specialize in the field of naval photography, including the operational and technical utilization of photography.

Ensigns and Lieutenants Junior Grade (663X) plan and coordinate the taking of still and motion pictures; direct the work performed in the photographic laboratory or facility; direct the installation and maintenance of photographic equipment and related sensors in reconnaissance squadrons; and are responsible for the photographic equipment and supplies under their cognizance.

They may serve in, but are not limited to, the following billets: photographic officer aboard ships and with amphibious groups; assistant photographic officer in squadrons, at aviation shore activities, the Naval Photographic Center, and the Naval Reconnaissance and Technical Support Center; photographic material officer in VAP, VFP, and RVAH squadrons; and motion picture and television project supervisor at the Naval Photographic Center.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Direct personnel in the installation, operation, and maintenance of cameras and camera control systems.
2. Direct personnel in operation and maintenance of photographic processing equipment.
3. Review requests or orders for aerial photography; determine type of coverage required and equipment best suited; plot flight lines and brief pilots and aircrewmembers on requirements.
4. Plan, coordinate, and direct photographic coverage; determine time, material, equipment, and personnel requirements; and assign priorities and prepare required photographic operations schedules.
5. Coordinate production schedules, logistics, and/or personnel support with requirements of squadrons or detachments.
6. Review photographic negatives and prints to determine conformance with requirements of requesting authority.
7. Direct the indexing and laying of uncontrolled mosaic maps or layouts of completed photography.
8. Maintain custody and accountability, and assure operational and material readiness of all photographic equipment and spaces.
9. Direct and coordinate stock control program, determining "high and low limits" for photographic supplies, establishing procedures to avoid oversupply of chemical and sensitized materials, and ensuring that adequate supplies and equipment are properly cost accounted, stored, inventoried, and available for issue.
10. Plan, organize, and direct maintenance of photographic negative and print logs and files.
11. Plan, coordinate, and conduct training programs to assist aircraft squadrons in photographic training of pilots, aircrewmembers, or other personnel.

12. Direct the dissemination of instruction in, and compliance with safety regulations and precautions in handling cameras, photographic chemicals, film laboratory equipment, and related photographic gear.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Missions of naval photography and its capabilities as a medium of communications in strategic intelligence, tactical intelligence, damage assessment, historical documentation, news reporting, scientific investigation, operational analysis, and technical training of personnel.
2. Principles of physics pertaining to theory of light and basic laws of optics in formation of optical images.
3. Types, capabilities, limitations, and methods and procedures for installation and operation of standard still and motion picture cameras, submarine periscope cameras, underwater cameras, aerial cameras, and camera control systems.
4. Principles of chemistry applicable to photography, including chemistry of compounds used in photographic emulsions, films, and print materials, and in photographic processes.
5. Types, capabilities, limitations, methods, and procedures for operation and maintenance of photographic processing machines, including motion picture developing and printing equipment and contact and projection printing equipment.
6. Techniques, principles, and capabilities of sensitometry and densitometry for use with black and white or color positive/negative film and photographic papers.
7. Methods and procedures for development of latent image, reduction and fixation of silver compound forming a permanent silver image, including the procedures for reduction and intensification of negatives.
8. Causes and prevention of photographic defects, including negative, positive, and processing defects.
9. Formulas, calculations, and procedures for solving mapping and reconnaissance problems.
10. Elements of a good picture story; techniques of graphically establishing story and of introducing and featuring characters or subjects.
11. Psychological principles, intrarelationship and art of combining location, set design, composition, lighting, camera angles, image composition, size, movement, and dramatic action for unified emotional impact.
12. Regulations, instructions, methods, and procedures for establishing, administering, and operating a photographic laboratory or facility.
13. Scope and content of the Manual of Naval Photography, technical bulletins, and directives published by the Oceanographic Office, the Naval Reconnaissance and Technical Support Center, and CNO relative to reconnaissance, intelligence, charting, and mapping photography.
14. Scope and contents of regulations relating to the photographing of naval subjects according to current directives.
15. Scope, content, purpose, and nomenclature of photographic allowance lists.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Motion Picture and Television Project Officer	8804	NPC
Photographic Material Officer	8847	VAP, VFP, RVAH
Photographic Officer	8853	CVA, AVM, PHIBGRU
(Assistant) Photographic Officer	8853	NAS, NPC, NRTSC, VC, VAP, VFP, RVAH

LIMITED DUTY OFFICER, PHOTOGRAPHY (663X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Photography (663X) specialize in the field of naval photography, including the operational and technical utilization of photography.

Lieutenants (663X) plan, coordinate, and direct the operation of a photographic laboratory or a mobile photographic group detachment; ensure material readiness of all photographic equipment and material; and serve as directors of photographic productions under the cognizance of the Navy, other services, or the Department of Defense.

They may serve in, but are not limited to, the following billets: photographic officer with fleet air commands, supply activities, aviation shore activities, the Naval Photographic Center, at training activities, and in intelligence centers; and photographic director at Army or Air Force activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Review articles on current developments and problems; prepare material for publication based on interviews and assembled materials; evaluate for accuracy; edit, direct, and supervise printing and distribution of technical publications dealing with naval photography.
2. Design shipboard photographic laboratories, planning layout of equipment installation and work and storage spaces to conform to allocated space; submit plans to cognizant authorities for approval.
3. Provide technical information and advice concerning capabilities, limitations, reliability, and operational employment of photographic services and coordinate material and operational support of photographic squadron or detachment.
4. Maintain liaison with motion picture studios producing Navy training and information film; monitor contract; ensure that Navy standards are complied with; clear required location shooting with naval activities.
5. Maintain liaison with fleet or staff operations officer; review operations plans or attend preoperation planning conferences and briefings; recommend type coverage required.
6. Perform as photographic liaison officer with other armed services; act as naval adviser and observer concerning research and development of photographic equipment, production techniques, and material procurement.
7. Establish and maintain working relationships with local photographic, intelligence, and public information officers, and with local fleet and shore activities.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Mission of mobile photographic units/groups; regulations and instructions governing administration and operations.
2. Types of exercises and operations making use of photography and scope of photographic coverage required for each.
3. Scope and objectives of current naval photographic research and development projects and photographic contracts with manufacturers pertaining to research, development, and procurement of material.

4. Scope, content, and types of reports required of project or liaison officers.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Photographic Director	8824	Army Activities, Air Force Activities
Photographic Officer	8853	COMFAIR, NSC, ASO, NAS, NPC, NRTSC, VC, VAP, VFP, FIC, NATTU, RVAH

LIMITED DUTY OFFICER, PHOTOGRAPHY (663X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Photography (663X) specialize in the field of naval photography, including the operational and technical utilization of photography.

Lieutenant Commanders (663X) plan, coordinate, and direct production of film or television presentations; plan and manage the processing of motion picture film; direct the activities of photographic facilities and photographic departments of reconnaissance squadrons and personnel assigned; and administer research and development projects in the photographic and related sensor field.

They may serve in, but are not limited to, the following billets: photographic officer in aircraft squadrons, and in BuWeps, OpNav, the Naval Photographic Center, and the Naval Reconnaissance and Technical Support Center; photographic director on joint staffs; and motion picture and television project officer at the Naval Photographic Center.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Advise and assist Head of Strike Warfare Division, OpNav, in formulating and implementing plans to meet photographic operational requirements; review photographic program to determine material and personnel requirements; keep informed of readiness of fleet and shore activities to conduct required operations.
2. Plan and coordinate production of naval motion picture presentations for inservice training, information, technical analysis or report, and public information.
3. Plan, prepare, and submit the photographic annex to operation orders.
4. Maintain liaison with requesting authorities; ascertain film objectives and potential audience; determine most effective, economical, and educationally sound method of presentation; direct preparation of script and design of set; collaborate with technical representative to ensure accuracy.
5. Plan, coordinate, and direct the operation of a motion picture processing division.
6. Plan and direct the installation, operation, inspection, test, maintenance, and servicing of motion picture processing machines, including negative, positive, reversal, color developing machines, printers, and related equipment.
7. Initiate and coordinate action to ensure development test, evaluation, and availability of photographic equipment.
8. Organize, direct, and coordinate operations and upkeep of photographic laboratory.
9. Advise on installation of photographic equipment in aircraft, ships, and bases.
10. Inspect damaged photographic equipment; determine necessity for its survey or repair; and initiate and supervise procedures for prevention of recurrence of damage.
11. Review content of photography training courses and manuals; make appropriate recommendations.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Organization and functions of a photographic laboratory ashore and afloat.
2. Scope and objective of U. S. naval photographic requirements for fleet operations including mission, personnel requirements, capabilities, limitations, and readiness of fleet and shore photographic activities and personnel.
3. Scope and content of Navy Training Film Production Manual.
4. Purpose, limitations, and relative cost of film strips, filmographs, technical film reports, and motion picture training film productions.
5. Types, capabilities, limitations, methods, and procedures for application and utilization of sensitometric tests, criteria of processing standards, and optimum gamma for negatives and prints.
6. Criteria for quality control in motion picture printing; common defects and measures for correction.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Motion Picture and Television Project Officer	8804	NPC
Photographic Director	8824	Joint Staff
Photographic Officer	8853	OPNAV, BUWEPs, NPC, NRTSC, VC, VAP, VFP, Mobile Photo Unit/Group

LIMITED DUTY OFFICER, PHOTOGRAPHY (663X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Photography (663X) specialize in the field of naval photography, including the operational and technical utilization of photography.

Commanders (663X) study problem areas in the field of naval photography and reconnaissance and recommend appropriate action; plan for effective utilization of photography and exploitation of each product; plan and direct the research, development, and evaluation of photographic equipment and material; direct the activities of photographic facilities and personnel assigned naval activities; command mobile photographic groups; direct the procurement and distribution of photographic equipment and material; and administer staff photographic functions and training programs.

They may serve in, but are not limited to, the following billets: photographic officer in mobile photographic units/groups; photographic director on fleet command staffs, and in BuWeps, OpNav, the Naval Photographic Center and the Naval Reconnaissance and Technical Support Center; photographic material officer in BuWeps; and training officer in naval training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Provide administrative assistance to head of BuWeps division or CNO office as appropriate by exercising administrative direction and control of fiscal planning, procurement, distribution, research and development, test, and evaluation of photographic equipment and materials.
2. Plan, direct, conduct, or assign research, development, test, and evaluation of photographic equipment, material, and installations.
3. Recommend policy for and plan and coordinate photographic equipment overhaul programs.
4. Establish specifications and test procedures for acceptance of photographic equipment and materials.
5. Establish and maintain reporting procedures and controls to determine status and progress of work; prepare summaries and digests for information of superiors.
6. Review plans, determine requirements, initiate procurement, prepare and maintain specifications for, and monitor program of production and delivery of photographic equipment.
7. Establish material allowance lists, direct distribution, and determine requirements to maintain adequate stocks at photographic distribution points.
8. Formulate policies governing procurement, allowances, and distribution practices of photographic equipment.
9. Develop training curriculum to ensure inclusion of all phases of instruction, proper sequence of classes, and efficient use of all facilities available.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Standards, techniques, and procedures for preparing technical publications and directives governing use of photographic equipment.
2. Procedures for administering photographic training programs at naval air technical training units or centers.

IV. REPRESENTATIVE BILLET ASSIGNMENTS		NOBC	ACTIVITY
III. C	TITLE		
1	Training Officer	3290/ 8853	NATTU
2	Photographic Director	8824	OPNAV, BUWEPS, COMNAVAIR, NPC, NRTSC
3	Photographic Material Officer	8847	BUWEPS
4	Photographic Officer	8853	Mobile Photo Unit/Group

IV.

LIMITED DUTY OFFICERS, METEOROLOGY (665X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Meteorology (665X) specialize in the field of meteorology.

Ensigns and Lieutenants Junior Grade (665X) plan, coordinate, and direct the activities of minor naval weather units ashore and afloat; coordinate and direct the activities of military and civilian meteorological personnel; and provide commanding officers with timely and adequate weather advice and certain oceanographic information for present and planned operations and for safeguarding the command against danger due to weather.

They may serve in, but are not limited to, the following billets: meteorological officer at auxiliary air stations and air facilities; meteorological reconnaissance officer in weather squadrons; meteorological watch officer at fleet weather centrals and facilities and naval air stations; and instructor in naval training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Conduct familiarization programs for training pilots, aircrews, and other personnel in weather observation, debriefing, and interpretation, and in the availability and use of naval weather service.
2. Schedule and conduct technical meetings or conferences for staff personnel in minor meteorological activities.
3. Conduct meteorological material and safety inspections.
4. Manage and control enlisted meteorological personnel in observing and recording weather phenomena through visual and/or instrumental methods.
5. Direct the receipt, interpretation, plotting, evaluation, and distribution of meteorological data.
6. Ensure the preparation and submission of meteorological records and reports.
7. Interview arriving aircraft pilots and crewmen for details of inflight weather encountered and prepare postflight data for distribution.
8. Direct the preparation of route weather and wind forecasts and cross-sectional diagrams for extended aircraft flights, showing route and terminal forecast weather conditions.
9. Brief aircraft pilots and crewmen on present and forecast route and terminal weather; issue flight weather clearances.
10. Analyze synoptic weather charts and prepare prognostic weather charts, both surface and upper air.
11. Issue timely and adequate warnings of destructive storms and hazardous weather conditions.
12. Direct the preparation of local and area weather forecasts and advisories for specified geographic locations.
13. Direct the preparation of radioactive fallout forecasts.
14. Direct the computation of ballistic wind and density data.

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15. Direct the preparation of sea, surf, and swell forecasts.
16. Develop forecasting techniques for the local area.
17. Manage and control enlisted meteorological personnel in the collection and processing of data for climatological studies for specified geographic areas.
18. Assist in the preparation of storm condition bills.
19. Plan and direct operating efficiency tests of meteorological instruments and equipment.
20. Manage and control enlisted meteorological and/or communications personnel in operation and operational maintenance of equipment used for weather communications.
21. Manage and control enlisted meteorological and/or electronics personnel in maintenance, adjustment, and calibration of meteorological instruments.
22. Advise and coordinate military and civilian personnel in the installation and modification of meteorological equipment.
23. Determine necessity for and direct preparation and submission of requisitions and survey requests for meteorological equipment, publications, and supplies.
24. Direct the preservation and storage of meteorological equipment and supplies.

IV.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Mission, organization, and functions of the Naval Weather Service.
2. Duties and responsibilities of meteorological officers as contained in U. S. Navy Regulations, the Manual of the Naval Weather Service, and fleet and force regulations.
3. General content, scope, and application of the Manual of the Naval Weather Service.
4. Safety regulations and precautions applicable to maintenance and operation of meteorological equipment and systems.
5. Regulations and procedures for the procurement, preparation, maintenance, submission, and disposal of meteorological records, reports, publications, charts, and forms.
6. Principles and procedures for the operation, installation, testing, and maintenance of meteorological equipment and meteorological data collection systems.
7. Regulations and procedures for procurement, custody, replenishment, and expenditure of meteorological equipment and material.
8. Current methods and procedures for the receipt, interpretation, plotting, evaluation, and distribution of meteorological data.
9. Theoretical and empirical knowledge of meteorology, physics, and mathematics for the analysis of meteorological data and the preparation of forecasts for naval use.
10. Procedures for receipt, accounting, preparation, and transmission of meteorological data in accordance with prescribed procedures.
11. New developments and technological advances in meteorological and oceanographic observational and forecasting techniques.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Technical	3250/ 8715	NATTU
Meteorological Officer	8715	NAF, NAAS
Meteorological Reconnaissance Officer	8716	VW
Meteorological Watch Officer	8720	FWC, FWF, NAS

LIMITED DUTY OFFICERS, METEOROLOGY (665X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Meteorology (665X) specialize in the field of meteorology.

Lieutenants (665X) plan, coordinate, and direct the activities of minor naval weather units ashore and afloat; coordinate and direct the activities of military and civilian meteorological personnel; and provide commanding officers with timely and adequate weather advice and certain oceanographic information for present and planned operations and for safeguarding the command against danger due to weather.

They may serve in, but are not limited to, the following billets: meteorological officer aboard aircraft carriers and tenders and at naval air stations; meteorological equipment and technical liaison officer in fleet weather centrals and facilities; meteorological supply management officer at the Aviation Supply Office and in naval supply centers; and instructor in naval air technical training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Plan and direct a continuing quality control program for the improvement of the techniques and accuracy of weather observations.
2. Plan and coordinate practical meteorological training for pilots, aircrews, and other personnel within an area of responsibility.
3. Prepare and conduct staff weather briefings.
4. Ensure that forecasting services, briefings, and debriefings are provided for aircraft operations.
5. Plan and coordinate the development of local forecasting techniques for a specified area.
6. Ensure the issuance of timely and adequate warnings of destructive storms and hazardous weather conditions.
7. Prepare strike forecasts and provide meteorological information for use in the employment of special weapons.
8. Direct the preparation of radar and sonar propagation forecasts.
9. Direct the preparation of sea ice forecasts.
10. Ensure the preparation and distribution of radiological fallout forecasts.
11. Direct the preparation of ballistic wind and density data.
12. Ensure and provide assistance for the repair and calibration of weather instruments.
13. Assist in design, specification, and procurement of meteorological material and equipment to ensure that maintenance requirements and capabilities of the fleet are adequately considered.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Theoretical and empirical knowledge of oceanography as necessary for forecasting sonar propagation, sea conditions, and surf and swell conditions; and knowledge of the interaction between the ocean and atmosphere as related to meteorological forecasts.
2. Principles and methods of preparing weather annexes to operation plans and orders.
3. Methods and techniques of evaluating meteorological training and orientation programs.
4. Principles and techniques of tropical weather forecasting.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Technical	3250/ 8715	NATTU
Meteorological Supply Management Officer	8710	ASO, NSC
Meteorological Equipment & Technical Liaison Officer	8712	FWC, FWF
Meteorological Officer	8715	CVS, LPH, AV, NAS

LIMITED DUTY OFFICERS, METEOROLOGY (665X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Meteorology (665X) specialize in the field of meteorology.

Lieutenant Commanders (665X) plan, coordinate, and direct the activities of intermediate weather units ashore and afloat; coordinate and direct the activities of military and civilian meteorological personnel; and provide commanding officers with timely and adequate weather advice and certain oceanographic information for present and planned operations and for safeguarding the command against danger due to weather.

They may serve in, but are not limited to, the following billets: meteorological officer on amphibious and fleet air wing staffs at naval stations and aboard aircraft carriers; meteorological equipment and technical liaison officer in BuWeps; and training officer in naval training facilities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Schedule and conduct technical meetings or conferences for the staff of an intermediate meteorological activity.
2. Establish a meteorological training program which is available to fleet and shore personnel.
3. Recommend changes or corrections to publications relative to weather and weather communication matters.
4. Direct and coordinate meteorological watch officers in the analyses of synoptic weather charts and the preparation of prognostic weather charts, both surface and upper air.
5. Direct and coordinate meteorological watch officers in the preparation of route weather and wind forecasts and cross-sectional diagrams for extended aircraft flights, showing route and terminal weather conditions.
6. Direct and coordinate meteorological watch officers in the preparation of local area weather forecasts and advisories for specified geographic locations.
7. Direct and coordinate meteorological watch officers in the preparation of radar and sonar propagation forecasts.
8. Direct and coordinate meteorological watch officers in the preparation of sea, surf, and swell forecasts.
9. Assist in the preparation of plans for cold weather operations.
10. Assist in meteorological research projects designed to develop new equipment and techniques.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Directives and regulations pertaining to the management and operation of a weather service activity.
2. Principles and techniques of planning, organizing, and scheduling workloads of meteorological personnel in a weather service activity.
3. Principles and techniques appropriate to practical and theoretical meteorological training, including curricula development and applications of training aids.

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1. 4. Methods and techniques of evaluation of work performed by meteorological personnel.
 2. 5. National and international communications services of the worldwide weather observation network.
 3. 6. Practices and methods used in meteorological research.
 4. 7. Applications of new developments and technological advances in the field of meteorology.
 5. 8. Function and responsibility of a staff meteorological officer below the fleet and force level.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 8715	NATTU
Meteorological Equipment & Technical Liaison Officer	8712	BUWEPS
Meteorological Officer	8715	NAVSTA, FAIRWING, PHIBGRU, CVA

LIMITED DUTY OFFICERS, METEOROLOGY (665X)
COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Meteorology (665X) specialize in the field of meteorology.

Commanders (665X) plan, coordinate, and direct the activities of naval weather units ashore and serve on staffs afloat; coordinate and direct the activities of military and civilian meteorological personnel; and provide commanding officers with timely and adequate weather advice and certain oceanographic information for present and planned operations and for safeguarding the command against danger due to weather.

They may serve in, but are not limited to, the following billets: staff meteorological officer on fleet staffs and naval weather activity administrator at fleet weather centrals and facilities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Plan, organize, and manage a branch program having meteorological implications in a technical bureau or office of the Navy Department.
2. Review and determine meteorological personnel technical training requirements and develop training programs to meet these requirements.
3. Schedule and direct meteorological conferences and meetings between weather service activities, and assist or participate in joint and combined meteorological conferences and meetings.
4. Coordinate naval weather and weather communications services with the Air Weather Service, the U. S. Weather Bureau, Airways and Air Communications Service (AACS), Federal Aviation Agency (FAA), and other organizations as may be directed or necessary.
5. Ensure the coordination of and provide liaison between weather activities within a specified geographical area and between weather activities and such staffs or commands as required.
6. Oversee and ensure provision of pertinent weather communications information including schedules and contents of weather collectives.
7. Participate in the determination of specifications and recommend sources for the procurement of meteorological equipments.
8. Assist in logistics support planning of present and future requirements of the Naval Weather Service.
9. Advise and confer with meteorological supply points regarding stock levels, conditions, replacement, and disposition of meteorological equipment.
10. Ensure administrative, technical, maintenance, and supply assistance to weather units afloat.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Functions and responsibilities of components of the Navy Department relative to technical and administrative support for weather service activity, particularly DCNO (Operations and Readiness) and technical bureaus.
2. Functions and responsibilities of a staff meteorological officer at the fleet or force level.

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3. Methods and procedures for planning, outfitting, establishing, and operating weather service activities.
4. Current policies of CNO, BuPers, and technical bureaus with respect to present and future operations and plans concerning personnel allocation, technical training, utilization of reserve personnel, and technological developments as related to the Naval Weather Service.
5. General policies and practices of other domestic and international meteorological organizations.
6. Basic doctrine and mechanics for coordinating meteorological services of domestic and international meteorological organizations.
7. Current Navy and Department of Defense fiscal policies, priorities, and plans and their application to the Naval Weather Service.
8. Purpose, content, and implementation of mobilization planning documents relating to meteorological activities and logistics.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

IV.

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Naval Weather Activity Administrator	8725	FWC, FWF
Staff Meteorological Officer	8730	FLEETSTAFF

LIMITED DUTY OFFICER, AVIATION ORDNANCE (670X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Ordnance (670X) specialize in the related fields of aviation ordnance and aircraft armament.

Ensigns and Lieutenants Junior Grade (670X) plan, organize, coordinate, and direct the activities of aviation ordnance personnel in the performance of aviation ordnance and aircraft armament operational and maintenance functions at the aircraft squadron level; and plan, initiate, and execute a continuing aviation ordnance safety program.

They may serve in, but are not limited to, the following billets: aircraft maintenance officer (weapons) in squadrons; assistant aircraft maintenance officer (weapons) at aviation shore activities; and special weapons assembly officer at naval air stations and facilities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Manage aviation ordnance armories on ships and stations.
2. Review incoming work orders, schedule the work and assign ship priorities to meet operational requirements.
3. Review, evaluate, and recommend improvements or changes in operating, test, and maintenance procedures concerned with aviation ordnance, aircraft armament, and related equipment.
4. Direct the instruction of squadron pilots, aircrewmen, and watchstanders in proper use of small arms as set forth in the Landing Party Manual.
5. Ensure availability and effective use of aviation ordnance and aircraft armament publications and manuals.
6. Direct and ensure the preparation and submission of reports and correspondence relating to the maintenance and servicing of aviation ordnance, aircraft armament, and related equipment.
7. Exercise control over the maintenance of logs and records pertaining to aviation ordnance, aircraft armament, and related equipment.
8. Exercise management control over the utilization and maintenance of shop equipment used for testing, calibrating, and maintaining aviation ordnance systems and related equipment.
9. Implement and enforce standards of maintenance performance to ensure material readiness of applicable aviation ordnance and aircraft armament equipment.
10. Direct, schedule, and observe boresighting, calibrating, and alignment functions, review and analyze performance data, and initiate any necessary corrective action.
11. Direct and coordinate the dissemination of, instruction in, and compliance with safety instructions applicable to handling of aviation ordnance, aircraft armament, and related equipment.
12. Assume custody and ensure upkeep and security of allowed small arms.
13. Provide technical information and advice concerning capabilities, limitations, reliability, and use of aviation ordnance, aircraft armament, and related equipment.

III.

14. Direct and control the requisitioning of shop tools, handling equipment, and spare parts within the ordnance allowance aboard ships and in aircraft squadrons.
15. Control and ensure the procurement, maintenance, and storage of ammunition required by directives, allowances, and emergency plans.
16. Review applicable equipment and spare parts allowance lists and submit change recommendations.
17. Prepare rearming bills and establish procedures and schedules for rearming aircraft.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. General organization of the various classes of aircraft maintenance activities including maintenance functions and responsibilities.
2. Functions of the staff offices which are responsible for the distribution and control of aviation ordnance, aircraft armament, and related equipment.
3. Safety precautions, regulations, and methods of marking, handling, and storing aviation ordnance.
4. Safety regulations and procedures for arming and de-arming aircraft and aviation ordnance.
5. Principles and procedures of quality control applicable to aviation ordnance, aircraft armament, and related equipment.
6. Nature and scope of information contained in supply catalogs, initial outfitting lists, and other publications, directives, and instructions pertinent to aviation ordnance, aircraft armament, and related equipment.
7. Types, purposes, frequency of preparation, distribution, and disposal of aviation ordnance, aircraft armament, and related equipment records, logs, and reports.
8. Principles of aviation ordnance logistics support for deployed operations.
9. Methods and procedures for requisitioning, inventorying, and disposing of aviation ordnance, aircraft armament, and related equipment.
10. Methods and procedures for requesting changes in aviation ordnance, aircraft armament, and related equipment material allowance.
11. Methods and procedures for handling and storing aviation ordnance, aircraft armament, and related equipment.
12. Procedures, precautions, and techniques for cleaning, lubricating, preserving, and depreserving aviation ordnance, aircraft armament, and related equipment.
13. Applied principles of mathematics, chemistry, and physics related to aviation ordnance, aircraft armament, and related equipment.
14. Methods, procedures, maintenance techniques, and precautions governing the servicing, assembly, installation, and alteration of assigned aviation ordnance, aircraft armament, and related equipment.

IV.

15. Types, characteristics, and principles of operation of test equipment used in maintenance, operation, and test of aviation ordnance, aircraft armament, and related equipment.
16. Types, purposes, and frequency of inspections of aviation ordnance, aircraft armament, and related equipment.
17. Regulations and procedures governing disposal and jettisoning of aviation ordnance.
18. Methods and procedures for analyzing casualties and correcting malfunctions of aviation ordnance, aircraft armament, and related equipment.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Aircraft Maintenance Officer (Weapons)	8193	Squadron
(Assistant) Aircraft Maintenance Officer (Weapons)	8193	NAS, NAF, NATC
Special Weapons Assembly Officer (General)	9296	NAS, NAF

LIMITED DUTY OFFICER, AVIATION ORDNANCE (670X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Ordnance (670X) specialize in the related fields of aviation ordnance and aircraft armament.

Lieutenants (670X) plan, organize, coordinate, and direct the activities of aviation ordnance personnel in the performance of aviation ordnance and aircraft armament operational and maintenance functions at the aircraft squadron level; and plan, initiate, and execute a continuing aviation ordnance safety program.

They may serve in, but are not limited to, the following billets: aircraft maintenance officer (weapons) on fleet and carrier air wings, aboard aircraft carriers and tenders, and at aviation shore activities; assistant weapons procurement officer (avionics) in BuWeps; and assistant training officer at aviation training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Evaluate operational requirements, schedules, and productive capabilities to aid in planning and forecasting workload commitments.
2. Determine space, equipment, and shop layout requirements and recommend changes to meet new maintenance commitments.
3. Direct and coordinate aviation ordnance and aircraft armament maintenance and operator training.
4. Develop and direct the promulgation of bills for jettisoning and disposal of aircraft munitions, chemical equipment, and pyrotechnics.
5. Control and coordinate ordnance loading of aircraft to meet scheduled flight operations.
6. Initiate the preparation and promulgation of rearming bills.
7. Develop procedures for maintenance of aviation ordnance, aircraft armament, and related equipment, and effect their implementation.
8. Analyze discrepancies and malfunctions in aviation ordnance, aircraft armament, and related equipment, determine causes, and initiate corrective maintenance procedures.
9. Plan, schedule, and coordinate incorporation of changes and modifications pertaining to aviation ordnance, aircraft armament, and related equipment.
10. Review drafts of ordnance manuals, bulletins, technical directives, and other publications for format and technical accuracy.
11. Review and evaluate aviation ordnance, aircraft armament, and related equipment safety requirements and initiate appropriate safety procedures.
12. Direct and coordinate the preparation of required reports of quantity, condition, and test of aviation ordnance, aircraft armament, and related equipment.
13. Plan and direct the procurement, maintenance, storage, and surveying of aviation ordnance supplies.

14. Recommend procurement of aviation ordnance, aircraft armament, training equipment, and spare parts through provisioning procedures.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Mission and function of the Fleet Readiness Group of BuWeps, and field activities and commands under the administrative or technical control of BuWeps concerned with aviation ordnance, aircraft armament, and related equipment.
2. Methods and procedures for coordinating aviation maintenance ordnance programs with operational employment of aviation ordnance, aircraft armament, and related equipment.
3. Industrial and management engineering practices for the operation of maintenance facilities.
4. Procedures for handling proprietary information provided by contractors.
5. Capabilities and limitations of aviation ordnance and aircraft armament and the proper ordnance load for accomplishment of missions.

IV.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Training Officer	3290/ 8193	NATTC
(Assistant) Weapons Procurement Officer (Avionics)	6713	BUWEPS
Aircraft Maintenance Officer (Weapons)	8193	FAIRWING, CVW, CVSG, CVS, AV, AVP, NAS, NAF

LIMITED DUTY OFFICER, AVIATION ORDNANCE (670X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Ordnance (670X) specialize in the related fields of aviation ordnance and aircraft armament.

Lieutenant Commanders (670X) plan, organize, coordinate, and direct the activities of aviation ordnance personnel in the performance of aviation operational, test, research, and maintenance functions involving aviation ordnance and aircraft armament and the operation of ordnance and armament test, development, and repair facilities; plan, organize, coordinate, and direct the operation of ordnance activities or assist in the operation of an ordnance test research activity; and provide technical assistance and advice pertaining to aviation ordnance and aircraft armament.

They may serve in, but are not limited to, the following billets: aircraft maintenance officer (weapons) on fleet air staffs and aboard aircraft carriers; armament proof officer at OPTEVFOR, test centers, and test stations; aircraft armament design officer and assistant aircraft armament research officer (airborne) in BuWeps; and assistant training officer at aviation training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Exercise management control over and direct the operation of aviation ordnance facilities.
2. Plan and establish projected material, tool, equipment, and man-hour requirements for aviation ordnance, aircraft armament, and related equipment changes and modifications.
3. Review technical training curricula and course outlines for appropriateness and adequacy of content for current and future fleet maintenance requirements.
4. Recommend personnel and training requirements for new aviation ordnance, aircraft armament, and related equipment.
5. Direct the development of training curricula, standards, methods, and training materials to meet the requirements of new aviation ordnance, aircraft armament, and related equipment.
6. Provide technical advice concerning content and format of technical publications and manuals.
7. Participate in planning and administering experimental and development programs for research, design, test, and evaluation of aviation ordnance, aircraft armament, and related equipment.
8. Evaluate performance reports of experimental aircraft armament and related equipment and recommend modifications to comply with desired characteristics.
9. Develop operating and maintenance procedures and techniques for new aviation ordnance, aircraft armament, and related equipment.
10. Review test and evaluation reports of new aviation ordnance, aircraft armament, and related equipment, and determine practical applications.
11. Direct acceptance and inspection tests of aviation ordnance, aircraft armament, and related equipment.
12. Direct field installation of aircraft armament and related equipment at aviation activities or contractors' plants.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Methods and procedures for conducting and evaluating studies, surveys, and tests of aviation ordnance, aircraft armament, and related equipment.
2. Rules, regulations, and administrative procedures for conduct of aviation ordnance, aircraft armament, and related equipment projects involving military and civilian suppliers and contractors.
3. Administration of aircraft armament overhaul at aviation field activities.
4. Procedures for developing and issuing technical aviation ordnance directives and standards.
5. Practical aspects of engineering problems regarding the installation, maintenance, and operation of aviation ordnance, aircraft armament, and related equipment.
6. New developments in materials, parts, techniques, methods of construction, and their application in the field of aviation ordnance, aircraft armament, and related equipment.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Armament Research Officer (Airborne)	2146	BUWEPS
(Assistant) Training Officer	3290/ 8193	NATTC
Armament Proof Officer	6305	OPTEVFOR, NATC, NOTS
Aircraft Maintenance Officer (Weapons)	8193	COMFAIR, CVA
Aircraft Armament Design Officer	8215	BUWEPS

LIMITED DUTY OFFICER, AVIATION ORDNANCE (670X)
COMMANDER QUALIFICATIONS

1. SCOPE

Limited Duty Officers, Aviation Ordnance (670X) specialize in the related fields of aviation ordnance and aircraft armament.

Commanders (670X) plan, organize, coordinate, and direct the activities of aviation ordnance and other personnel in the performance of aviation ordnance and aircraft armament operational, test, research, and maintenance functions; plan, organize, coordinate, and direct the operation of ordnance activities; and provide technical assistance and advice pertaining to aviation ordnance and aircraft armament.

They may serve in, but are not limited to, the following billets: aircraft maintenance officer (weapons) on fleet staffs; armament research officer (airborne), weapons material officer, and aircraft armament design director in BuWeps; armament proof officer in BuWeps and at OPTEVFOR; and training officer at aviation training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Formulate and advise on policies and prepare long-range and short-range plans for test, procurement, installation, maintenance, and repair of aviation ordnance, aircraft armament, and related equipment.
2. Analyze policy decisions in areas of aviation ordnance operations, logistics, and personnel to determine their effects on aviation ordnance, aircraft armament, and related equipment.
3. Review technical aviation ordnance training requirements and recommend the development and implementation of appropriate training programs.
4. Develop planning and programming data for projected maintenance, rework, modification, and repair programs for aviation ordnance, aircraft armament, and related equipment.
5. Develop and issue planning information required for aviation ordnance, aircraft armament, and related equipment support.
6. Analyze the military and physical requirements for proposed aviation ordnance, aircraft armament, and related equipment and recommend specifications.
7. Review developmental reports of aviation ordnance, aircraft armament, and related equipment to determine practical applications.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Basic organization and mission of BuWeps and other government activities concerned with aviation ordnance, aircraft armament, and related equipment.
2. Principles and practices of management and administration, including the interrelationships of organizing, planning, staffing, controlling, coordinating, reporting, and budgeting.
3. Aviation ordnance, aircraft armament, and related equipment maintenance policies and practices of other military and nonmilitary organizations.
4. Application of material and personnel research in the field of aviation ordnance, aircraft armament, and related equipment.

5. Principles and practices of administering research, development, and test organizations.
6. Principles of aviation ordnance, aircraft armament, and related equipment logistics planning.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Armament Research Officer (Airborne)	2146	BUWEPS
Training Officer	3290/ 8193	NATTC
Armament Proof Officer	6305	BUWEPS, OPTEVFOR
Weapons Material Officer	6715	BUWEPS
Aircraft Maintenance Officer (Weapons)	8193	COMNAVAIR
Aircraft Armament Design Director	8210	BUWEPS

LIMITED DUTY OFFICER, AVIONICS (680X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Avionics (680X) specialize in the field of avionics operation and maintenance.

Ensigns and Lieutenants Junior Grade (680X) organize, manage, and direct all phases of operation and maintenance of avionics equipment and systems at the aircraft squadron level; and exercise administrative and technical control of avionics maintenance in operating squadrons and support activities of the aeronautical organization.

They may serve in, but are not limited to, the following billets: avionics maintenance officer in aircraft squadrons and aboard aircraft carriers.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Manage avionics branch of aircraft maintenance facility.
2. Review incoming work orders, schedule the work, and assign shop priorities to meet operational equipment requirements.
3. Review, evaluate, and recommend improvements or changes to avionics operational, maintenance, and test procedures.
4. Establish direct, and participate in an instruction and familiarization program for training pilots and aircrewmembers in operational techniques, capabilities, and limitations of avionics systems and equipments.
5. Determine the need for technical maintenance assistance from avionics maintenance support activities, and submit appropriate requests.
6. Direct and ensure the preparation and submission of reports and correspondence relating to the maintenance, servicing, and operation of avionics equipment and systems.
7. Review and evaluate failure reports and recommend corrective measures relative to maintenance procedures.
8. Exercise management control over the utilization and maintenance of shop equipment used in testing, calibrating, and repairing avionics equipment.
9. Direct and ensure installation and modification of avionics equipment and systems in accordance with authorizing directives.
10. Direct, and exercise general supervision over, ground and flight operational tests, adjustments, calibration, and compensation of avionics equipment and systems.
11. Direct and supervise dissemination of, instruction in, and compliance with safety instructions applicable to installation, operation, and maintenance of avionics equipment and systems.
12. Direct and control the requisitioning of avionics equipment, spare parts, shop tools, and test equipment within allowances.
13. Control the storage and preservation of assigned avionics equipment.
14. Review avionics initial outfitting lists and submit recommendations for allowance changes.

15. Review and evaluate avionics safety requirements and initiate appropriate safety procedures.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. General organization of the various classes of aircraft maintenance activities including maintenance functions and responsibilities.
2. Function of the staff offices and other activities which are responsible for the distribution and control of avionics materials and directives.
3. Principles and procedures of quality control and inspection applicable to avionics maintenance.
4. Nature and scope of information contained in avionics maintenance handbooks, parts lists, changes, bulletins, and other maintenance publications, directives, and instructions.
5. Nature and scope of information contained in supply catalogs, initial outfitting lists, and other publications, directives, and instructions relative to the supply support of avionics equipment and systems.
6. Types and requirements of avionics maintenance and operating reports, logs, and records.
7. Principles of avionics logistic support for deployed aircraft operations.
8. Applications, characteristics, and principles of operation of electronic and electrical circuits, components, accessories, and the mechanical and hydraulic systems encountered in avionics equipment and systems.
9. Operational capabilities and limitations of naval avionics equipment and systems in common use.
10. Principles of electromagnetic wave propagation, including causes and effects of diffraction, polarization, reflection, and refraction upon ground, sky, and direct waves.
11. Methods, procedures, maintenance techniques, and precautions applicable to servicing, assembling, installing, and modifying avionics equipment and systems.
12. Types, applications, characteristics, and general principles of test equipment used in maintenance and testing of avionics equipment and systems.
13. Types, purposes, and frequency of inspections of avionics equipment and systems.
14. General electrical requirements for starting aircraft; types and general principles of maintenance and operation of mobile electric powerplants.
15. General principles, requirements, and specifications of aircraft wiring.
16. Common causes of interference with avionics equipment which affect the transmission, reception, processing, and display of electronic and electromagnetic signals, and methods used in correction of these difficulties.
17. Factors affecting equipment and parts reliability.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Avionics Maintenance Officer	5986	Squadron, CVA, CVS

LIMITED DUTY OFFICER, AVIONICS (680X) LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Avionics (680X) specialize in the field of avionics operation and maintenance. Lieutenants (680X) organize, manage, and direct all phases of operation and maintenance of avionics equipment and systems. They plan, schedule, and report on the maintenance of avionics equipment and systems; and exercise technical control over avionics training programs of subordinate fleet air staffs and training activities.

They may serve in, but are not limited to, the following billets: avionics maintenance officer at aviation shore activities and on carrier air wing staffs, assistant electronic equipment research officer (aircraft electronics) in BuWeps, and instructor at aviation training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Evaluate operational requirements, schedules, and production capabilities to aid in planning and forecasting workload commitments.
2. Determine space, equipment, and shop layout requirements and recommend changes to meet new maintenance commitments.
3. Coordinate and direct avionics maintenance and operator training at training activities operated by the fleets and shore establishment.
4. Develop procedures for maintenance of avionics equipment and systems and effect their implementation.
5. Establish and maintain a repair and calibration program for avionics test equipment.
6. Analyze discrepancy and malfunction trends in avionics equipment and systems, determine causes, and initiate corrective maintenance procedures.
7. Review drafts of avionics maintenance and operating manuals, bulletins, technical directives, and other publications for technical accuracy and format.
8. Recommend procurement of avionics maintenance spare parts and training equipment through provisioning procedures.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Mission and function of BuWeps and its field activities and commands concerned with avionics under the administrative or technical control of BuWeps.
2. Methods and procedures for coordinating the avionics maintenance program with operational employment of aircraft.
3. Industrial and management engineering practices for the operation of maintenance facilities.
4. General methods and procedures for the administration of contracts for avionics equipment and material.
5. Procedures for handling proprietary information provided by contractors.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Instructor, Technical	3250/ 5986	FAETU, NATTC
(Assistant) Electronic Equipment Research Officer (Aircraft Electronics)	5921	BUWEPS
Avionics Maintenance Officer	5986	NAS, NAF, CVSG, CVW

LIMITED DUTY OFFICER, AVIONICS (680X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Avionics (680X) specialize in the field of avionics operation and maintenance.

Lieutenant Commanders (680X) manage and direct all phases of the operation and maintenance of avionics equipment and systems; aid in programs for the development, testing, and evaluation of avionics equipment and systems; administer avionics material procurement programs; develop and administer fleet and training command training programs in avionics equipment and systems; and review, evaluate, and analyze records and reports dealing with avionics equipment and systems.

They may serve in, but are not limited to, the following billets: avionics maintenance officer on fleet air staffs; electronic equipment installation, maintenance, and repair officer on fleet staffs; electronics installation and maintenance planning officer (aviation) at OPTEVFOR and in BuWeps; electronics inspection and survey officer in BuWeps; and training officer at aviation training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Exercise management control over and direct the operation of an avionics overhaul and repair facility.
2. Plan and establish projected material, tools, equipment, and man-hour requirements for avionics material changes and bulletins.
3. Review technical training curricula and course outlines for appropriateness and adequacy of content for current and future fleet maintenance requirements.
4. Recommend personnel requirements for new avionics equipment and systems.
5. Direct the development of training curricula, standards, methods, and training materials to meet the operating and maintenance requirements of new avionics equipment and systems.
6. Participate in planning and administering experimental and development programs for research design, test, and evaluation of avionics equipment and systems.
7. Evaluate performance reports of experimental avionics equipment and recommend modifications to comply with desired characteristics.
8. Develop operating procedures and techniques for new avionics equipment and systems.
9. Review test and evaluation reports of new avionics equipment and systems, and determine operating and maintenance applications.
10. Direct acceptance tests and inspections of avionics equipment and systems at contractors' plants.
11. Provide naval technical liaison with other armed forces or governmental agencies on projects concerned with avionics equipment and systems.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Methods and procedures for conducting and evaluating studies, surveys, and tests on avionics equipment and systems and related equipment.
2. Rules, regulations, and administrative procedures for the conduct of avionics projects involving military and civilian suppliers and contractors.
3. Procedures for developing and issuing technical avionics directives.
4. Practical aspects of engineering problems regarding the installation, maintenance, and operation requirements of avionics equipment and systems.
5. Sources of information relative to new developments in the field of avionics.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 5986	NATTC, FAETU
Electronics Installation and Maintenance Planning Officer (Aviation)	5927	BUWEPs, OPTEVFOR
Electronics Inspection and Survey Officer	5960	BUWEPs
Electronic Equipment Installation, Maintenance, and Repair Officer	5977	COMNAVAIR
Avionics Maintenance Officer	5986	COMFAIR, FAIRWING

LIMITED DUTY OFFICER, AVIONICS (680X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Avionics (680X) specialize in the field of avionics operation and maintenance.

Commanders (680X) manage and direct all phases of the operation and maintenance of avionics equipment and systems; plan, direct, and manage programs in the area of operation, maintenance, development, testing, and evaluation of avionics equipment and systems and avionics material procurement; establish new avionics maintenance procedures or methods; and direct the assignment of avionics material, equipment, and systems.

They may serve in, but are not limited to, the following billets: avionics maintenance officer in BuWeps and COMNAVAIR; electronics inspection and survey officer, aircraft electrical equipment installation design and development officer, assistant aircraft electronics director, and electronic equipment research officer in BuWeps; and training officer at naval aviation training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Formulate and advise on policies, and prepare long-range and short-range plans for test, procurement, installation, maintenance, and repair of avionics equipment.
2. Analyze policy decisions in areas of avionics operations, logistics, and personnel to determine their effects on maintenance and operation of avionics equipment and systems.
3. Review avionics operating and maintenance training requirements and direct the development and implementation of appropriate training programs.
4. Develop planning and programming data for projected avionics maintenance, rework, modification, and repair programs.
5. Review developmental reports of avionics equipment and systems, and determine practical application.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Basic organization and mission of BuWeps and other government activities engaged in avionics operation and maintenance.
2. Avionics maintenance and operating policies and practices of other military and nonmilitary organizations.
3. Application of material and personnel research in the field of avionics operation and maintenance.
4. Principles and practices of administration of research, development, and test organizations.
5. Principles of avionics logistic planning.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 5986	NATTC
Electronic Equipment Research Officer (Aircraft Electronics)	5921	BUWEPS
Electronics Inspection and Survey Officer	5960	BUWEPS
(Assistant) Aircraft Electronics Director	5961	BUWEPS
Avionics Maintenance Officer	5986	BUWEPS, COMNAVAIR
Aircraft Electrical Equipment Installation, Design, and Development Officer	8010	BUWEPS

LIMITED DUTY OFFICER, AVIATION MAINTENANCE (685X) ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Maintenance (685X) specialize in the field of aviation maintenance.

Ensigns and Lieutenants Junior Grade (685X) manage and coordinate ground operation, inspection, maintenance, modification, and repair of aircraft powerplants, accessories, airframes, and ground support, safety, and survival equipment; manage and direct line servicing operations; ensure compliance with standards of material condition and flight safety; coordinate the upkeep of aircraft logs and records and submission of reports; and initiate requests for material and personnel requirements.

They may serve in, but are not limited to, the following billets: powerplants officer, airframes officer, aviator's equipment officer, and ground support equipment officer in squadrons and at aviation shore activities; and assistant aircraft maintenance officer in squadrons.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Manage airframes, powerplant, support equipment, or aviator's equipment branch of aviation maintenance activities.
2. Review incoming work orders, schedule the work, and assign shop priorities to meet operational requirements.
3. Review, evaluate, and recommend improvements or changes in operating, maintenance, and test procedures.
4. Establish, direct, and participate in instruction and familiarization programs for training pilots and aircrewmembers in operational techniques, capabilities, and limitations of aircraft and powerplants.
5. Determine the need for technical aircraft maintenance assistance and submit the appropriate requests.
6. Direct and ensure preparation and submission of reports and correspondence relating to the maintenance, servicing, and operation of aircraft and powerplant equipment.
7. Review and evaluate failure reports, and recommend corrective measures relative to maintenance procedures.
8. Exercise control over the maintenance of logs and records pertaining to modifications, maintenance performed, inspections, time in operation, and usage of tools and support equipment.
9. Exercise management control over the utilization and maintenance of shop equipment for testing, calibrating, and repairing aircraft and equipment.
10. Implement the modification of aircraft and equipment in accordance with authorizing directives.
11. Exercise management control over daily preparation of aircraft for flight, including postflight inspections, servicing, turnup, and ground handling.
12. Direct and ensure dissemination of, instruction in, and compliance with safety instructions applicable to aircraft maintenance and ground operation.

13. Provide technical information and advice concerning capabilities, limitations, and reliability of aircraft and associated equipment.
14. Direct and control the requisitioning of shop tools, handling equipment, and maintenance spare parts within the allowances.
15. Direct the preservation and depreservation of aircraft and associated equipment.
16. Review and evaluate casualty analyses of aircraft powerplants, accessories, airframes, and ground support, safety, and survival equipment.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. General organization of the various classes of aircraft maintenance activities, including maintenance functions and responsibilities.
2. Function of staff offices and other activities which are responsible for the distribution and control of material used in aircraft maintenance.
3. Principles and procedures of workload planning and scheduling for aircraft maintenance.
4. Principles and procedures of quality control and inspection applicable to aircraft maintenance.
5. Nature and scope of information contained in supply catalogs, initial outfitting lists, and other publications, directives, and instructions concerned with the control, distribution, and use of aircraft parts and equipment.
6. Principles of aircraft maintenance logistics support for deployed aircraft operations.
7. Methods and procedures for requesting changes to material allowances for squadrons and supporting aircraft maintenance activities.
8. Methods and procedures for acceptance and transfer of aircraft.
9. Types, construction, principles of operation, and capabilities and limitations of airframes, powerplants, associated equipment, and support equipment in common usage.
10. Characteristics of major types of naval aircraft and associated equipment and the principles of physics and mathematics applicable to their maintenance and operation.
11. Methods, procedures, techniques, and precautions applicable to servicing, assembling, testing, maintenance, and alteration of aircraft and equipment.
12. Types, purposes, and frequency of airframe, powerplants, and equipment inspections.
13. General purpose and function of the progressive aircraft rework program.
14. General electrical requirements for starting aircraft; types and general principles of maintenance and operation of mobile electric powerplants.
15. Functions and responsibilities of manufacturers' technical field representatives and BuWeps technical field services relative to fleet aircraft maintenance.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Aircraft Maintenance Officer (General)	8190	Squadron
Aircraft Maintenance Officer (Powerplants)	8191	NAS, Squadron
Aircraft Maintenance Officer (Airframes)	8192	NAS, Squadron
Aircraft Maintenance Officer (Aviator's Equipment)	8194	NAS, Squadron
Aircraft Maintenance Officer (Support Equipment)	8195	NAS, Squadron

LIMITED DUTY OFFICER, AVIATION MAINTENANCE (685X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Maintenance (685X) specialize in the field of aviation maintenance.

Lieutenants (685X) manage, coordinate, and direct ground operation, inspection, maintenance, modification, and repair of aircraft powerplants, accessories, airframes, and ground support, safety, and survival equipment; establish and maintain quality control procedures to ensure flight safety and proper material condition of aircraft; review and verify aircraft maintenance logs, records, and reports; determine adequacy of maintenance facilities; prepare and submit budgetary requirements; and coordinate with aviation supply representatives.

They may serve in, but are not limited to, the following billets: assistant aircraft maintenance officer in squadrons and at aviation shore activities; aircraft maintenance planning and control officer, aircraft maintenance quality control officer, aircraft material control officer, and aircraft maintenance task supervisor in squadrons; and powerplants officer, airframes officer, aviator's equipment officer, and support equipment officer at aviation shore activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Evaluate operational requirements, schedules, and productive capabilities to aid in planning and forecasting workload commitments for aircraft maintenance.
2. Coordinate work performed by branches of the shops division.
3. Determine space, equipment, and shop layout requirements and recommend changes to meet assigned maintenance requirements.
4. Manage and direct aviation maintenance training personnel at training activities operated by the fleets and shore establishment.
5. Develop procedures for aircraft maintenance and effect their implementation.
6. Establish and maintain continual programs to prevent corrosion, fuel and oil contamination, and jet engine foreign object damage.
7. Analyze discrepancy and malfunction trends in aircraft maintenance, determine causes, and initiate corrective maintenance procedures.
8. Plan, schedule, and coordinate incorporation of changes and modifications in all areas of aircraft maintenance.
9. Review drafts of aircraft maintenance manuals, bulletins, technical directives, and other publications for technical accuracy and format.
10. Review and evaluate aircraft maintenance safety requirements and initiate safety procedures.
11. Recommend procurement of aircraft equipment, training equipment, and spare parts through provisioning procedures.
12. Review aircraft discrepancy and malfunction reports; plan and schedule required maintenance.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Mission and function of BuWeps and its field activities and commands under its administrative or technical control which are concerned with aircraft maintenance.
2. Methods and procedures for coordinating the maintenance program with operational employment of aircraft.
3. Industrial and management engineering practices for the operation of aircraft maintenance facilities.
4. General methods and procedures for administration of contracts for aeronautical and support equipment.
5. Procedures for handling proprietary information provided by contractors.
6. Types characteristics, and operating limitations of aviation electrical, electronic, ordnance, and armament systems and equipment.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Aircraft Maintenance Control Officer	8176	Squadron
Aircraft Maintenance Quality Control Officer	8177	Squadron
Aircraft Maintenance Task Supervisor	8178	Squadron
(Assistant) Aircraft Maintenance Officer (General)	8190	NAS, Squadron
Aircraft Maintenance Officer (Powerplants)	8191	NAS
Aircraft Maintenance Officer (Airframes)	8192	NAS
Aircraft Maintenance Officer (Aviator's Equipment)	8194	NAS
Aircraft Maintenance Officer (Support Equipment)	8195	NAS
Aircraft Material Control Officer	8305	Squadron

LIMITED DUTY OFFICER, AVIATION MAINTENANCE (685X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Maintenance (685X) specialize in the field of aviation maintenance.

Lieutenant Commanders (685X) administer aviation maintenance programs, develop quality control standards and procedures, plan aviation maintenance facilities, analyze new developments and technological advances in aviation maintenance, and administer aeronautical material procurement programs.

They may serve in, but are not limited to, the following billets: aircraft maintenance officer in fleet air wings and carrier air wings, in squadrons, and aboard aircraft carriers; aircraft maintenance control officer in squadrons and at aviation shore activities; aircraft maintenance quality control officer at aviation shore activities; powerplants officer, airframes officer, support equipment officer, and aviator's equipment officer in BuWeps and on COMFAIR staffs; aircraft test engineer in BuWeps, at aviation training facilities, and in OPTEVFOR's; aviation maintenance field representative in BuWeps field activities; and training officer at aviation training activities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Exercise management control over and direct the operation of aircraft overhaul and repair facilities.
2. Coordinate the establishment and utilization of aircraft maintenance facilities with ships and stations supporting fleet squadrons.
3. Program the allocation and assignment of aircraft and engines in accordance with operational and support requirements.
4. Review fleet aircraft maintenance programs and recommend or initiate instructions to improve maintenance procedures and material condition.
5. Determine and analyze causes of material failure and recommend or initiate corrective action.
6. Plan and establish projected material, tools, equipment, and man-hour requirements for aircraft service change and modification programs.
7. Review aircraft maintenance training curricula and course outlines for appropriateness and adequacy of content for current and future fleet maintenance requirements.
8. Recommend personnel and training requirements for new aircraft and equipment.
9. Direct the development of training curricula, standards, methods, and materials to meet the operating and maintenance requirements of new aircraft and equipment.
10. Provide technical advice concerning content and format of technical publications and manuals.
11. Participate in planning and administration of experimental and development programs for research, design, test, and evaluation of aircraft and associated equipment.
12. Develop operating procedures and techniques for new or experimental aircraft maintenance equipment.
13. Review test and evaluation reports on new aircraft equipment and determine operating and maintenance implications.

14. Direct the acceptance inspections and tests of aircraft material at contractors' plants.
15. Provide naval technical liaison with other military and governmental agencies concerned with aircraft material.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Methods and procedures for conducting and evaluating studies, surveys, and tests on aviation material.
2. Rules, regulations, and administrative procedures for the conduct of projects involving military and civilian aviation suppliers and contractors.
3. Procedures for developing and issuing technical aircraft maintenance directives.
4. Practical aspects of engineering problems concerning the maintenance, operation, and installation of aircraft and equipment.
5. Sources of information concerning new developments in aircraft, equipment, parts, materials, methods of construction, and maintenance techniques.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 8190	NATTC, NAMTG
Aircraft Test Engineer	8026	BUWEPs, NATTC, OPTEVFOR
Aviation Maintenance Field Representative	8112	BUWEPs Field Activities
Aircraft Maintenance Control Officer	8176	NAS, Squadron
Aircraft Maintenance Quality Control Officer	8177	NAS
Aircraft Maintenance Officer (General)	8190	FAIRWING, CVW, Squadron, CVA, CVS
Aircraft Maintenance Officer (Powerplants)	8191	BUWEPs, COMFAIR
Aircraft Maintenance Officer (Airframes)	8192	BUWEPs, COMFAIR
Aircraft Maintenance Officer (Aviator's Equipment)	8194	BUWEPs, COMFAIR
Aircraft Maintenance Officer (Support Equipment)	8195	BUWEPs, COMFAIR

LIMITED DUTY OFFICER, AVIATION MAINTENANCE (685X) COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Aviation Maintenance (685X) specialize in the field of aviation maintenance.

Commanders (685X) manage and direct all phases of aircraft maintenance; plan, direct, and administer programs for the development, testing, and evaluation of aircraft maintenance systems or methods; and direct the procurement and assignment of aircraft equipment, systems, and maintenance equipment.

They may serve in, but are not limited to, the following billets: aircraft maintenance officer at aviation shore activities and on fleet staffs; aviation maintenance engineering officer in BuWeps and on fleet staffs; aircraft production officer, aircraft structures engineering officer, and aviation maintenance field representative in BuWeps; aircraft test engineer in BuWeps and at aviation training facilities; aviation overhaul schedules officer, overhaul and repair production officer, and overhaul and repair production planning officer at aviation shore activities; and training officer on aviation training staffs and at aviation training facilities.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Formulate and advise on policies and long- and short-range plans for aircraft maintenance and testing, procurement, and installation of aircraft material.
2. Analyze policy decisions in areas of operations, logistics, and personnel to determine their effects on aircraft maintenance.
3. Review aircraft operating and maintenance training requirements and recommend the development and implementation of appropriate training programs.
4. Develop planning and programming data for projected aircraft maintenance, rework, repair, and modification programs.
5. Develop and issue planning information for support of aircraft maintenance.
6. Direct field engineering services which provide technical support in the areas of aircraft maintenance.
7. Review developmental reports of new aircraft equipment in order to determine practical implications.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Basic organization and mission of BuWeps and other government activities engaged in aircraft operation and maintenance.
2. Principles and practices of management and administration, including the interrelationships of organizing, planning, staffing, controlling, coordinating, reporting, and budgeting.
3. Aircraft operating and maintenance policies and practices of other military and nonmilitary organizations.
4. Application of material and personnel research in the field of aircraft maintenance.
5. Principles and practices of administering research, development, and test organizations.

6. Principles of logistics planning in support of aircraft maintenance.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Training Officer	3290/ 8190	CNATECHTRA, NATTC
Aircraft Production Officer	8018	BUWEPS
Aircraft Structures Engineering Officer	8024	BUWEPS
Aircraft Test Engineer	8026	BUWEPS, NATTC
Aviation Maintenance Field Representative	8112	BUWEPS
Aviation Maintenance Engineering Officer (General)	8118	BUWEPS, COMFAIR
Aviation Overhaul Schedules Officer	8125	NAS
O&R Production Officer	8152	NAS
O&R Production Planning Officer	8155	NAS
Aircraft Maintenance Officer (General)	8190	NAS, COMFAIR

SECTION 3
OPERATIONAL QUALIFICATIONS
PART II, STAFF

LIMITED DUTY OFFICER, SUPPLY CORPS (370X)
ENSIGN/LIEUTENANT JUNIOR GRADE QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Supply Corps (370X) specialize in the field of supply, disbursing, and commissary.

Ensigns and Lieutenants Junior Grade (370X) plan and supervise activities of supply department personnel in performance of operational and maintenance functions pertaining to procurement, receipt, custody, stowage, and issuance of Navy supplies and materials, exclusive of ammunition, its components, other explosive devices, and pyrotechnics; plan, develop, and administer supply department training programs; disburse, maintain accountability, and safeguard public funds; direct operation of ship's store and related ship's service outlets afloat, commissary stores, clothing and small stores, and Navy exchanges; administer operational control of general mess; audit and render stores, property, and financial returns; conduct audit of officer and CPO mess records and Navy mail clerk accounts.

The Chief of Naval Personnel may assign Limited Duty Officers (370X) to dependent or independent duty afloat and ashore to fill billets established by the Chief of Naval Operations.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Organize and coordinate preparation, maintenance, and submission of supply department organization bills, orders, instructions, notices, administrative records, and reports.
2. Plan, develop, and administer a divisional training program, including maintenance of supply personnel data and training records.
3. Plan and administer purchasing policies and procedures and contract negotiation.
4. Direct preparation, maintenance, and submission of allotment status reports, including fleet and force commanders, flag, ship, and commissioning allotment.
5. Direct procurement, receipt, stowage, issue, inventory, accountability, and maintenance of adequate stock levels of supplies, material, and repair parts to meet operational requirements of ship or station.
6. Direct custody and distribution of equipage, repair parts, and supplies on ships.
7. Plan and administer survey, redistribution, and disposal of surplus and salvage supplies, material, and equipment.
8. Direct issue of stock to "consumer" activities.
9. Supervise survey, salvage, and disposal of stock, equipment, repair parts, and subsistence items.
10. Determine necessity for, and direct procurement of, supplies and equipment required for supply department operations.
11. Maintain liaison with local fleet supply and staff activities, gathering and disseminating information concerning availability of material and facilities required for ship or station operation, maintenance, repair, and training missions.
12. Determine requirements for, and plan and administer procurement, storage, and issue of, petroleum products.

13. Administer procurement, loading, unloading, storage, and distribution of perishable and non-perishable subsistence items.
14. Plan and direct procurement to ensure preparation and service of nutritionally adequate menus and effective utilization of subsistence items.
15. Establish and maintain high and low limits of consumable supplies and repair parts; supervise preparation and maintenance of custody records, stock record cards, stock tallies, and summaries.
16. Direct procurement, receipt, custody, transfer, and issue of government funds for military pay and allowances, civilian payroll, public vouchers, and miscellaneous collections and disbursements.
17. Plan and coordinate preparation, processing, verification, and audit of payrolls, disbursement, and accounting of government funds.
18. Direct preparation of requisitions, invoices, order and inspection reports, surveys, allotment reports, pay records, travel, ration, and public vouchers.
19. Direct preparation of subsistence, clothing and small stores, ship's stores, and financial returns.
20. Conduct audit of organized officers' and CPO messes, enlisted men's club records, and Navy mail clerk accounts.
21. Audit and render stores, property, and financial returns.
22. Direct organization and operation of a general mess, clothing and small stores, ship's store, commissary store, and Navy exchange.
23. Plan and coordinate activities of supply department personnel in procuring and maintaining adequate stock of naval stores for ship or station.
24. Plan and administer activities of supply department food service personnel in battle messing.
25. Conduct inventory of subsistence items, clothing and small stores, ship's store stock, commissary store, and Navy exchange.
26. Direct supply department personnel in operation and preventive maintenance of office, general mess, commissary store, and ships' store equipment.
27. Coordinate taking of annual equipage inventory afloat.
28. Prepare schedule of running inventory for general stores, material, and repair parts in custody of supply officer.
29. Administer activities of a naval warehouse or storage section of a naval depot.
30. Direct receiving of incoming stock at a naval depot and routing to storage, packing or shipping activity.
31. Direct storage of materials, preservation procedures, and maintenance tests.
32. Plan and administer control and utilization of storage space, and receipt and issue of material to naval "consumer" activities.
33. Plan and direct procurement and utilization of labor forces and mechanical handling equipment for loading, unloading, and storing naval supplies and materials.

34. Arrange for movement of Navy property, household goods, and privately owned vehicles by commercial or government surface and air carrier.
35. Direct inspections of buildings, spaces, and areas for conformance to safety and maintenance regulations.
36. Maintain custody and control of keys to supply department spaces.
37. Assume responsibility for security of office records, publications, and classified material in supply department spaces and safeguard against loss or destruction.
38. Plan and schedule pest control, and the routine maintenance of operating equipment, labor-saving devices, and refrigerated spaces.
39. Inspect supply department personnel to ensure proper state of cleanliness; inspect supply department spaces for effective rotation of stock, cleanliness, orderliness, and for adherence to prescribed procedures.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Organization, management, and functions of the U. S. Navy Supply System and the supply department of a ship or station.
2. Duties, authority, and responsibility of a supply officer afloat and ashore as contained in U. S. Navy Regulations, Bureau of Supplies and Accounts Manual, and Navy Comptroller Manual.
3. Functions and mission of supply department in relation to other departments afloat and ashore.
4. General content, scope, and application of information contained in Bureau of Supplies and Accounts Manual, Navy Comptroller Manual, Joint Travel Regulations, Navy Travel Instructions, appropriate publications of MTMTS (formerly DTMS), Bureau of Ships Material Directory and Requisitioning Guide, Navy-Marine Corps Recipe Service, Federal Supply System Catalogs, Official Table of Distances, Appropriation Act, Navy Civilian Personnel Instructions, and Bureau of Supplies and Accounts Instructions and Notices, Food Operations Reference Manual, and Subsistence Loading Guides.
5. Types, functions, and application of supply department organization bills, orders, instructions, and notices; submission of administrative reports.
6. Methods and procedures for establishing and administering a divisional training program for supply department personnel.
7. General content, scope, and use of stock catalogs, Allowance and Interchangeability List, and Illustrated Parts Catalogs.
8. Regulations and procedures for assembling, invoicing, packaging, and processing materials for shipment.
9. Regulations, methods, and procedures for procurement, requisitioning, receipt, inspection, storage, inventory, issue, transfer, survey, disposal, and accounting for naval stores and supplies and equipment.
10. Regulations and procedures in survey, redistribution, and disposal of naval material.
11. Regulations and procedures in negotiation of contract for procurement of naval equipment, material, and services.

12. Regulations, policies, methods, and procedures governing procurement, stowage, and issue of petroleum products.
13. Types, scope, and frequency of inspection of supply and disbursing activities afloat.
14. Regulations and procedures for inspecting food service and ship's service personnel, food service and ship's store service equipment, and food service and storage spaces.
15. Regulations, specifications, and procedures in procurement, distribution, inspection, and accounting for subsistence items.
16. Regulations and procedures for procurement, custody, transfer, disbursement of and accountability for public funds; preparation, maintenance, and payment of military and civilian payrolls; collection for credit to appropriations and funds; maintenance of detailed accounts and preparation of required financial returns and special reports.
17. Regulations and procedures for auditing records and accounts of organized officers' and CPO messes, enlisted men's clubs, and Navy mail clerk accounts.
18. Regulations, procedures, and instructions for payment of travel claims, and for approving, disapproving, or modifying them.
19. Methods and procedures for ensuring compliance with allowed ration rate, and recording expenditures.
20. Use and meaning of numerical components of naval appropriation symbols and their application to naval accounting procedures.
21. Definition and uses of major expenditure account classifications.
22. Accounting methods, functions, and procedures of bureau administration, fleet and force commanders, flag, ship, and commissioning allotment.
23. Organization and management of a general mess ashore and afloat.
24. Regulations and procedures for preparing and submitting stores and property returns.
25. Regulations, policies, and procedures governing operations of a ship's store, Navy exchange, and commissary store.
26. Regulations and procedures governing stocking and sale of clothing.
27. Procedures, preparation, and function of battle messing plan and related duties of food service personnel.
28. Types, functions, capabilities, and limitations of supply department office, general mess, commissary store, ship's store, and material handling equipment.
29. Preparation of supplementary operating instructions for ship's store, commissary store, and clothing and small stores concerning hours of operation, price establishment, and sale procedures.
30. Methods, procedures, and utilization of labor forces and mechanical handling equipments for loading, unloading, and storage of supplies and materials.
31. Regulations, methods, and procedures in shipment, assembly, or distribution of freight.

32. Regulations and procedures for receiving, handling, storing, and transporting household effects of military personnel and civilian employees.
33. Sanitary and safety regulations in handling, storing, and issuing subsistence items, and in preparation and service of food.
34. Organization and functions of a stock control section of a supply depot.
35. Distribution, custody, and procedures for control of keys to supply department spaces.
36. Methods and procedures for disaster control and nuclear, biological, and chemical warfare defense as applicable to subsistence storage area, food preparation and serving spaces, and food handling, washing, and sterilization of related utensils and equipment.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Auditing Officer	1015	AREA VDO
Disbursing Officer	1045	FINOFF, NSYD, AGB, AVB, EAG
Commissary Officer	1130	COMMSTOR, NS, AKS
(Assistant) Freight Transportation Officer (General)	1290	NSYD
(Assistant) Issue Control Officer	1302	NSYD
(Assistant) Material Handling Equipment Officer	1310	NSD
Storage Planning and Control Officer	1350	NAS
Stock Control Officer (General)	1530	NAS, NSD
General Stores Officer	1913	AE, ARG, NAAS, NS
General Supply Officer	1918	AFS, AKA, VAW, VR, VFP, VU, HU
Navy Exchange Officer	1933	NAVEXCH
Technical Supply Officer (Aviation)	1991	AFS, CVS, NAF, NAS, NS, VQ, VU
Technical Supply Officer (Ordnance)	1993	NAD, MAGAZINE

I. SCOPE

Limited Duty Officers, Supply Corps (370X) specialize in the field of supply, disbursing, and subsistence.

Lieutenants (370X) direct and administer supply activities of a ship or station; interpret department and Bureau of Supplies and Accounts regulations, and determine policies and procedures to be followed by a department; supervise custody and distribution of equipment and supplies; direct loading and unloading, storage, and preservation of naval stores and subsistence items; direct operation of a ship's store, commissary store, Navy exchange, clothing and small stores, general mess, and various other operations in the field of supply and logistic support; direct training, performance, discipline, and advancement in rate of personnel; supervise disbursement, collection, accounting, and safeguarding of public funds; audit and render stores, subsistence and financial returns.

They may serve in, but are not limited to, the following billets: supply officer on a ship or station; disbursing officer; officer in charge of a ship's store afloat, commissary store, and Navy exchange; subsistence, fiscal, transportation, material, procurement, and stores officer in supply activities ashore.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Plan and direct policies for providing and utilizing storage space for naval material; maintain records of storage space owned or leased by the Navy.
2. Formulate policies, specifications, and instructions relative to material used and methods of packaging and preserving materials and supplies in transit and storage.
3. Plan, conduct, or direct the supplying, storing, and issuing of material in direct support of a fleet operation.
4. Plan, project, and administer budget of a naval activity.
5. Plan and coordinate procedures for general accounting, auditing, property accounting, and fiscal accounting.
6. Plan and administer inventory control methods and systems and operation of stock control section of a naval supply depot.
7. Plan and administer storage of cargo at terminals and depots.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Organization, management, and function of the U. S. Navy Supply System and the supply department of a ship or station, including naval supply depots and centers, inventory control points, Navy finance centers, Navy regional finance centers, type and fleet commands.
2. Regulations, accounting practices, and procedures pertaining to command operation of an accounting department of a naval activity or command.
3. Organization, management, and function of a Navy cold storage plant.
4. Regulations, policies, and procedures governing operation of Navy accounting disbursing office.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Accounting Officer	1005	NSC
Disbursing Officer	1045	NS
Cargo Handling Officer	1215	NAS
Survey, Surplus, and Salvage Officer	1360	NAS
Clothing Officer	1904	NS
General Stores Officer	1913	CVA, AR
General Supply Officer	1918	COMMSTA
Technical Supply Officer (Special Weapons)	1998	NAS
School Administrator	3283	NAVSCOL
Aircraft Material Control Officer	8305	VA, VQ

LIMITED DUTY OFFICER, SUPPLY CORPS (370X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Supply Corps (370X) specialize in the field of supply, disbursing, and subsistence.

Lieutenant Commanders (370X) plan, organize, and direct administrative functions of a supply department ashore and afloat; direct the planning and coordinating of activity supply functions such as disbursing, accounting, stock control, material handling and storage, clothing and small stores, ship's store, commissary, and Navy exchange operations; administer recording procedures for fiscal control of allotments and expenditure of funds; direct shipping, receiving, processing, and routing of freight.

They may serve in, but are not limited to, the following billets: supply officer on a ship or station; Navy exchange officer or officer in charge of a commissary store; branch, unit, or section head in the Bureau of Supplies and Accounts; fiscal, transportation, material, procurement, disbursing, cargo, property, stores, inventory, and stock control officer at naval depots or centers.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Plan and establish systems and procedures for general accounting, auditing, property accounting, and fiscal accounting.
2. Plan and direct policies for providing and utilizing storage space for naval materials and supplies.
3. Plan, project, and administer the budget of a shore establishment.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Regulations, policies, and procedures affecting finance, accounting, auditing, and budgetary activities.
2. Principles of logistics planning.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Accounting Officer	1005	FLTAV ACGOF
Disbursing Officer	1045	HQSUPPACT
Warehouse and Storage Officer	1370	NSD
General Stores Officer	1913	AS
General Supply Officer	1918	NAS, NS
Supply Logistics Officer	1978	SERVGRPRON

LIMITED DUTY OFFICER, SUPPLY CORPS (370X)
COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Supply Corps (370X) specialize in the field of supply, disbursing, and subsistence.

Commanders (370X) direct and coordinate supply functions which involve planning, administration, or performance in connection with accounting and disbursing of funds, auditing, procurement, transportation, subsistence and food service, and storage and distribution of supplies; coordinate development and maintenance of efficiency and economy, proper budgeting and fiscal policies, management accounting, progress and statistical reporting, and internal audit; determine fiscal requirements and devise reporting and recording procedures for fiscal control of allotments and expenditures; direct stock accounting and systems, inventory control methods, and disposition of excess, obsolete, and deteriorated stock; direct issue of stock to consuming activities; direct preparation of correspondence, vouchers, and other supply documents.

They may be assigned as supply officer on a ship or station; division, branch, unit, or section head in the Bureau of Supplies and Accounts; head of a fiscal, transportation, material, property, procurement, fuel, stores, inventory, or stock control section of supply depot or center; officer in charge of a subordinate supply activity.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Plan and administer policies and procedures affecting finance, accounting, auditing, and budgetary activities.
2. Plan and administer inspection, test, and acceptability of materials produced and purchased for the Navy.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Procedures and policies assigned to achieve adequate inspection and testing of material purchased by the Navy.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Commissary Store Officer	1135	COMMSTOR
Material Handling Equipment Officer	1310	NAS, NS

I. SCOPE

Limited Duty Officers, Civil Engineer Corps (570X) specialize in the operational fields of construction, maintenance, and operation of shore facilities, and are assigned to mobile construction battalions (MCB's), amphibious construction battalions (ACB's), and public works activities or departments of the naval shore establishment.

Ensigns and Lieutenants Junior Grade (570X) plan and supervise activities of MCB and ACB personnel in performance of operations, construction, and maintenance activities; plan, develop, and administer battalion training programs; assist in operational and technical matters concerning public works, public utilities, and transportation ashore; and assign, supervise, and coordinate activities of military and civilian personnel.

They may serve in, but are not limited to, the following billets: assistant company commander, platoon officer, and construction project officer in battalions; officer in charge of a naval construction school; assistant to the public works officer in fields of construction, maintenance, utilities, and transportation at naval shore establishments; officer in charge of a construction battalion detachment.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Supervise or assist in supervision of MCB's in construction of shore facilities at an advanced base including airfields, camp sites, supply dumps, highways, bridges, and waterfront structures.
2. Supervise or assist in supervision of ACB's in amphibious operations, including assembly and operation of pontoon causeways and warping tugs and construction in support of amphibious operations.
3. Conduct studies for improving operation, maintenance, and repair of Navy public works, public utilities, automotive, railroad, construction, and weight-handling equipment.
4. Develop and recommend procedures within Navy policy for operation, maintenance, and repair of Navy public works, public utilities, automotive, railroad, construction, and weight-handling equipment.
5. Assist in direction of operation, maintenance, and repair of central plants, substations, and distribution systems for steam, electricity, compressed air, water, gas, and other utilities.
6. Schedule maintenance and repair of buildings, grounds, roads, waterfront structures, transportation equipment, and other facilities of the naval shore establishment.
7. Conduct inspections to ensure that public works and public utility maintenance and repair schedules are met, and that workmanship and materials meet specified standards.
8. Establish methods for performing routine inspection and maintenance of automotive, railroad, construction, and weight-handling equipment within policy established by higher authority.
9. Determine necessity for new or additional transportation equipment; recommend survey of automotive, railroad, construction, and weight-handling equipment.
10. Review utility logs and cost control and work measurement reports to determine trouble areas; initiate corrective action.

11. Prepare reports, such as progress, inspection, maintenance, transportation, and utility system reports, as required by the Bureau of Yards and Docks and management bureaus.
12. Implement appropriate regulations for employment of Navy automotive, railroad, construction, and weight-handling equipment.
13. Originate methods and procedures for planning, developing, and administering a training program for Group VIII ratings.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Regulations and procedures for military command of an MCB or ACB platoon or company.
2. Organization and functions of units of the naval construction forces, Bureau field divisions, public works centers, public works departments, and establishments of the officer in charge of construction.
3. Relationship of MCB's and ACB's to service force and amphibious force commands.
4. Types, uses, characteristics, and construction of advanced bases, permanent structures, and utility systems.
5. Detailed functions and operations of ACB's and MCB's.
6. Methods and procedures for preparation, submission, and review of construction project time, labor and material requirements, and cost estimates.
7. Principles and techniques in establishing advance base camps, including layouts for facilities and field sanitation requirements.
8. Principles and techniques in operation and maintenance of automotive, railroad, construction, and weight-handling equipment, including cost control procedures, as contained in Bureau of Yards and Docks technical manuals.
9. Scope and purpose of the functional components system.
10. Duties and responsibilities of an industrial relations office and functional relationships with public works activities.
11. Methods and procedures used for preparing budget estimates and manpower allocations.
12. Principles and techniques in ground, perimeter, and passive defense.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Public Works Maintenance Officer	4065	NAF, MCAF
Public Works Officer, Naval Activity	4070	NAF, NAVFAC
Transportation Engineering Officer	4082	NAF
(Assistant) Construction Battalion Center Equipment and Material Officer	4125	CB
(Assistant) Construction Battalion Company Officer (General)	4160	CB
Construction Battalion Pontoon Officer	4165	CB
Housing Facilities Officer	4910	HQSUPPACT

LIMITED DUTY OFFICER, CIVIL ENGINEER CORPS (570X)
LIEUTENANT QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Civil Engineer Corps (570X) specialize in the operational fields of construction, maintenance, and operation of shore facilities, and are assigned to mobile construction battalions (MCB's), amphibious construction battalions (ACB's), and public works activities or departments of the naval shore establishment.

Lieutenants (570X) plan, supervise, and direct activities of MCB and ACB personnel in performance of operations, construction, and maintenance activities; plan, develop, and administer battalion training programs; assist in operational and technical matters concerning public works, public utilities, and transportation ashore; and are responsible for assigning, supervising, and coordinating activities of military and civilian personnel.

They may serve in, but are not limited to, the following billets: company commander and construction project officer in battalions; as officer in charge of a naval construction school; assistant to the public works officer in the field of construction, maintenance, utilities, and transportation at naval shore establishments; officer in charge of a construction battalion detachment.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Provide administrative control over all matters pertaining to operation of transportation, utilities, and maintenance shops activity.
2. Award contracts up to authorized limitation as a public works officer, with informal contract authority, at a small naval activity.
3. Assist in administering controlled maintenance program and automotive maintenance program for activities within a naval district.
4. Assist in development of master shore station plans for continental and overseas bases, including mobilization planning.
5. Plan special improvement and public works projects requiring approval and funding by management bureau.
6. Prepare defense plans for naval activities against nuclear, biological, and chemical warfare attacks.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Regulations and procedures governing the award and administration of formal construction contracts.
2. Contract procedures and regulations.
3. Procedures required in formulating a shore station development program.
4. Defense of naval activities against NBC warfare attacks.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Public Works Maintenance Officer	4065	NS
Public Works Officer, Naval Activity	4070	NSD
Transportation Engineering Officer	4082	FLEACT
Construction Battalion Center Equipment and Material Officer	4125	CB
Construction Battalion Company Officer (General)	4160	CB

LIMITED DUTY OFFICER, CIVIL ENGINEER CORPS (570X) LIEUTENANT COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Civil Engineer Corps (570X) specialize in the operational fields of construction, maintenance, and operation of shore facilities, and are assigned to mobile construction battalions (MCB's), amphibious construction battalions (ACB's), and public works activities or departments of the naval shore establishment.

Lieutenant Commanders (570X) plan and coordinate the work of a construction battalion; coordinate operations of maintenance, utilities, and transportation divisions of a public works department; direct planning and scheduling for the repair and maintenance of buildings, utilities, roads, waterfront structures, and other shore facilities.

They may serve in, but are not limited to, the following billets: operations or executive officer of an MCB, ACB, or public works center; public works officer; assistant district public works officer.

II. OPERATIONAL KNOWLEDGES AND RESPONSIBILITIES

1. Plan and coordinate the operations of a construction battalion in the construction of shore facilities or in support of amphibious operations.
2. Direct and administer construction, alteration, repair, maintenance, and operation of public works and public utilities.
3. Assist in administering programs of district public works officers and resident officer in charge of construction.
4. Develop master shore station plans for continental and overseas bases.
5. When issued appropriate orders is responsible for short form construction and A&E contracts.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Content of current basic and subsidiary Navy Logistics Plans (Codes) (NCL) and Basic Naval Establishment Plan (BNEP).
2. Short form contract procedures and regulations.
3. Procedures for organizing a public works department at a new or recommissioned activity.
4. Requirements for formulating a shore station development project and the procedures required for final accomplishment.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
Public Works Operations Officer	4037	NSYD
Public Works Maintenance Officer	4065	NSYD
Transportation Engineering Officer	4082	CB Staff
(Assistant) Construction Battalion Center Equipment and Material Officer	4125	CBCEN

LIMITED DUTY OFFICERS, CIVIL ENGINEER CORPS (570X)
COMMANDER QUALIFICATIONS

I. SCOPE

Limited Duty Officers, Civil Engineer Corps (570X) specialize in the operational fields of construction, maintenance, and operation of shore facilities, and are assigned to mobile construction battalions (MCB's), amphibious construction battalions (ACB's), and public works activities or departments of the naval shore establishment.

Commanders (570X) plan, direct, and administer technical and operational functions of construction battalions and public works, public utilities, and transportation facilities.

They may serve in, but are not limited to, the following billets: public works officer; commanding officer of a construction battalion; transportation engineering officer.

II. OPERATIONAL DUTIES AND RESPONSIBILITIES

1. Direct operations of a construction battalion in the construction of shore facilities and in support of amphibious operations.
2. Administer and control district automotive and construction equipment pool.
3. Direct and administer construction, alteration, repair, maintenance, and operation of public works and public utilities of naval activity.
4. Represent public works officer and direct execution of contracts for shore construction at site or in area.
5. Administer training and operational readiness program for construction forces.
6. Furnish technical advice to major staff commander on matters pertaining to Bureau of Yards and Docks.

III. OPERATIONAL KNOWLEDGES AND ABILITIES

1. Principles of logistic planning.
2. Principles of management and administration including organization, planning, staffing, controlling, coordinating, reporting, and budgeting. Case study method of solving problems related to management.

IV. REPRESENTATIVE BILLET ASSIGNMENTS

<u>TITLE</u>	<u>NOBC</u>	<u>ACTIVITY</u>
(Assistant) Public Works Officer		
Naval Activity	4070	NSYD
Transportation Engineering Officer.	4082	CBCEN
Construction Battalion Center		
Equipment and Material Officer	4125	CBCEN



