Naval Education and Training Command
NAVEDTRA 43910-B
February 2007

PERSONNEL QUALIFICATION STANDARD

FOR

DIVING SALVAGE WARFARE SPECIALIST (DSWS)

NAME (Rate/Rank) _____

Although the words “he”, “him,” and “his” are used sparingly in this manual to enhance communication, they are not intended to be gender driven nor to affront or discriminate against anyone reading this material.

PREFACE

Warfare Qualified Sailors are an essential element of our Navy's Operational Primacy. The objective of the Enlisted Diving Salvage Warfare Specialist (DSWS) Program is to provide the candidate an introduction into the processes and topics necessary to support the warfighting requirements of our Navy. The DSWS Program provides a professional development and qualification continuum ensuring our Sailors maintain a proficient level of knowledge of Fleet diving mission areas and operational environments. This personnel warfare qualification standard will focus on mission effectiveness, combat readiness, and survivability as well as introducing an overall understanding of how an individual unit's mission fits into and supports naval doctrine and its objectives. Experience shows it is essential that every warrior in our Navy be totally familiar with the mission of their command and be able to apply this knowledge to support the successful execution of the command's current and future missions.

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ACKNOWLEDGEMENTS

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INTRODUCTION

PQS PROGRAM

This PQS program is a qualification system for officers and enlisted personnel where certification of a minimum level of competency is required prior to qualifying to perform specific duties. A PQS is a compilation of the minimum knowledge and skills that an individual must demonstrate in order to qualify to stand watches or perform other specific routine duties necessary for the safety, security or proper operation of a ship, aircraft or support system. The objective of PQS is to standardize and facilitate these qualifications.

CANCELLATION

This Standard cancels and supersedes NAVEDTRAS 43910-A

APPLICABILITY

This PQS is applicable to all U.S. Navy divers and diving commands.

MODEL MANAGER

The Model Manager Command manages a specific PQS manual. This includes overseeing the process of monitoring and updating assigned PQS manuals from the standpoint of technical content and relevance within the community.

TAILORING

To command tailor this package, first have it reviewed by one or more of your most qualified individuals. Delete any portions covering systems and equipment not installed on your ship, aircraft or unit. Next, add any line items, fundamentals, systems and watchstations/workstations that are unique to your command but not already covered in this package. Finally, the package should be reviewed by the cognizant department head and required changes approved by the Commanding Officer or his designated representative. Retain the approved master copy on file for use in tailoring individual packages.

INTRODUCTION (CONT'D)

QUALIFIER

The PQS Qualifier is designated in writing by the Commanding Officer to sign off individual watchstations. Qualifiers will normally be E-5 or above and, as a minimum, must have completed the PQS they are authorized to sign off. The names of designated Qualifiers should be made known to all members of the unit or department. The means of maintaining this listing is at the discretion of individual commands. For more information on the duties and responsibilities of PQS Qualifiers, see the PQS Unit Coordinator's Guide.

CONTENTS

PQS is divided into three sections. The 100 Section (Fundamentals) contains the fundamental knowledge from technical manuals and other texts necessary to satisfactorily understand the watchstation/workstation duties. The 200 Section (Systems/Mission Areas) is designed to acquaint you with the systems you will be required to operate at your watchstation/workstation. The 300 Section (Watchstations) lists the tasks you will be required to satisfactorily perform in order to achieve final PQS qualification for a particular watchstation/workstation. All three sections may not apply to this PQS, but where applicable, detailed explanations are provided at the front of each section.

REFERENCES

The references used during the writing of this PQS package were the latest available to the workshop, however, the most current references available should be used when qualifying with this Standard.

NOTES

Classified references may be used in the development of PQS. If such references are used, do not make notes in this book as answers to questions in this Standard may be classified.

TRAINEE

Your supervisor will tell you which watchstations/workstations you are to complete and in what order. Before getting started, turn to the 300 Section first and find your watchstation/workstation. This will tell you what you should do before starting your watchstation/workstation tasks. You may be required to complete another PQS, a school, or other watchstations/workstations within this package. It will also tell you which fundamentals and/or systems from this package you must complete prior to qualification at your watchstation/workstation. If you have any questions or are unable to locate references, contact your supervisor or qualifier. Good luck!

PQS FEEDBACK REPORTS

This PQS was developed using information available at the time of writing. When equipment and requirements change, the PQS needs to be revised. The only way the PQS Development Group knows of these changes is by you, the user, telling us either in a letter or via the Feedback Report contained in the back of this book. You can tell us of new systems and requirements, or of errors you find.

ACRONYMS USED IN THIS PQS

Not all acronyms or abbreviations used in this PQS are defined here. The Subject Matter Experts from the Fleet who wrote this Standard determined the following acronyms or abbreviations may not be commonly known throughout their community and should be defined to avoid confusion. If there is a question concerning an acronym or abbreviation not spelled out on this page nor anywhere else in the Standard, use the references listed on the line item containing the acronym or abbreviation in question.

ACLS	Advanced Cardiac Life Support
ACPG	Advanced Chemical Protective Garment
AGE	Arterial Gas Embolism
APU	Auxiliary Propulsion Unit
ASDS	Advanced Seal Delivery System
ASRA	Air Supply Rack Assembly
ASW	Auxiliary Sea Water
BAMCIS	Begin the planning, Arrange for reconnaissance, Make reconnaissance, Complete the planning, Issue the order, Supervise
BCD	Buoyancy Compensating Device
BIBS	Built-in Breathing System
BUMED	Bureau of Medicine and Surgery
CCS	Combat Control Station
CNO	Chief of Naval Operations
CNS	Central Nervous System
CPP	Controllable Pitch Propellers
CSA	Counter Measure Set Acoustic Pods
CSMD	Combat Swimmer Multi-level Dive
DC	Damage Control
DCS	Decompression Sickness
DDS	Dry Deck Shelter
DLSS	Diver Life Support Systems
DPD	Diver Propulsion Device
DSW	Diesel Sea Water
EBS	Emergency Breathing System
EEFI	Essential Elements of Friendly Information
EGS	Emergency Gas System
EOD	Explosive Ordnance Disposal
EP	Emergency Procedures
EXO BR MS	Exothermic Balance Regulator Military Standard
FADOSS	Flyaway Deep Ocean Salvage System
FADS	Fly Away Dive System
FAR	Failure Analysis Report
FARCC	Fly Away Recompression Chamber
FFM	Full Face Mask
FMGS	Fly Away Mixed Gas System
FR	Fouling Rating
FSW	Feet of Seawater
GTS	Gas Transfer System
HALO	High Altitude Low Opening

HBO	Hyperbaric Oxygen
HEO2	Helium Oxygen
HERO	Hazardous Electromagnetic Radiation to Ordnance
HM	Hazardous Material
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HMUG	Hazardous Material User's Guide
HP	High Pressure
HOSRA	Helium/Oxygen Supply Rack Assembly
HW	Hazardous Waste
ICCP	Impressed Current Cathodic Protection
ISEA	In-Service Engineering Agent
JSLIST	Joint Service Lightweight Integrated Suit Technology
LOC	Lock Out Chamber
LOT	Lock Out Trunk
LP	Low Pressure
LSSV	Light Service Support Vehicle
LWMS	Light Weight Mooring System
MBT	Manual Buss Transfer
MCCDC	Marine Corps Combatant Development Command
MGCCA	Mixed Gas Control Console Assembly
MSDS	Material Safety Data Sheet
MSLI	Mass Swimmer Lock In
MSLO	Mass Swimmer Lock Out
MSW	Main Sea Water
MTVR	Medium Tactical Vehicle Replacement
NATO	North Atlantic Treaty Organization
NAVSEA	Naval Sea Systems Command
NBC	Nuclear Biological And Chemical
NDC	Navy Dive Computer
NEDU	Navy Experimental Diving Unit
NITROX	Nitrogen Oxygen
NSW	Naval Special Warfare
OOC	Office of the Director of Ocean Engineering Supervisor of Salvage and Diving, USN
OPS	Operating Procedures
OQE	Objective Quality Evidence
OSRA	Oxygen Supply Rack Assembly
OTPA	Oxygen Transfer Pump Assembly
PDR	Paint Deterioration Rating
PSI	Pounds Per Square Inch
PSIG	Pounds Per Square Inch Gauge
PSOB	Presurvey Outline Booklet
RCMS	Rescue Chamber Monitoring System
RDOTPS	Rapid Deployment Oxygen Transfer Pump System
REC	Reentry Control
RNT	Residual Nitrogen Time
ROPER	Ready Operational Pierside Emergency Repair Cart
SCA	System Certification Authority

ACRONYMS USED IN THIS PQS (CONT'D)

SDV	Swimmer Delivery Vehicle
SEA	Survival Egress Air
SLP	Supervisory Level Personnel
SME	Subject Matter Expert
SMEAC	Situation Mission Execution Administration and Command
SNDL	Standard Navy Double-Lock Recompression Chamber
SOC	Scope of Certification
SPM	Secondary Propulsion Motor
SPU	Secondary Propulsion Unit
SRC	Submarine Rescue Chamber
SRCFS	Submarine Rescue Chamber Fly-Away System
SUR-D	Surface Decompression
TRCS	Transportable Recompression System
TX	Treatment
UBA	Underwater Breathing Apparatus
USSOCOM	United States Special Operations Command
VDC	Volts Direct Current
WAF	Work Authorization form

100 INTRODUCTION TO FUNDAMENTALS

100.1 INTRODUCTION

This PQS begins with a Fundamentals section covering the basic knowledge and principles needed to understand the equipment or duties to be studied. Normally, you would have acquired the knowledge required in the Fundamentals section during the school phase of your training. If you have not been to school or if you need a refresher, the references listed at the beginning of each fundamental will aid you in a self-study program. All references cited for study are selected according to their credibility and availability.

100.2 HOW TO COMPLETE

The fundamentals you will have to complete are listed in the watchstation (300 section) for each watchstation. You should complete all required fundamentals before starting the systems and watchstation portions of this PQS, since knowledge gained from fundamentals will aid you in understanding the systems and your watchstation tasks. When you feel you have a complete understanding of one fundamental or more, contact your Qualifier. If you are attempting initial qualification, your Qualifier will expect you to satisfactorily answer all line items in the fundamentals. If you are requalifying or have completed the appropriate schools, your Qualifier may require you to answer representative line items to determine if you have retained the necessary knowledge for your watchstation. If your command requires an oral board or written examination for final qualification, you may be asked any questions from the fundamentals required for your watchstation.

101 PROFESSIONAL LIBRARY FUNDAMENTAL

101.1 SUGGESTED READING

NO SINGLE BOOK OR GROUP OF BOOKS CONTAINED IN THIS FUNDAMENTAL SECTION IS INTENDED TO BE A MANDATORY READING ITEM WHEN COMPLETING THIS PQS MANUAL.

101.1.1 RECOMMENDED READING: NONE

.2 SUPPLEMENTAL READING:

THE FOLLOWING LISTS ARE INCLUDED AS A SOURCE OF SUPPLEMENTAL READING FOR PERSONNEL WHO DESIRE TO OBTAIN ADDITIONAL INFORMATION WHICH SUPPORTS THE HERITAGE AND DOCTRINE FUNDAMENTALS CONTAINED IN THIS COMMON CORE PQS MANUAL. ADDITIONALLY, THE INFORMATION CONTAINED IN THESE SUGGESTED READING BOOKS SHOULD NOT BE USED AS WRITTEN OR ORAL BOARD TESTING MATERIAL.

The MCPON's "Naval Heritage and Core Values" Reading List, Parts "A" and "B"

AS THE MCPON READING LIST IS UPDATED ANNUALLY, THE MOST CURRENT VERSION CAN BE FOUND IN THE MCPON DIRECTLINE PUBLICATION OR THROUGH THE INTERNET AT **EITHER OF THE FOLLOWING WEB ADDRESSES:**

www.chinfo.navy.mil/navpalib/mcpon/readgide.htm

www.history.navy.mil/faqs/faq46-7.htm

102 NAVAL HERITAGE AND DOCTRINE FUNDAMENTALS

References:

[a] Naval Doctrine Publication 1, Naval Warfare
[b] Naval Doctrine Publication 4, Naval Logistics
[c] Naval Doctrine Publication 5, Naval Planning
[d] Naval Doctrine Publication 6, Naval Command and Control
[e] The Bluejacket's Manual, Twenty-Second Edition
[f] NAVEDTRA 14325, Basic Military Requirements
[g] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

102.1 State the six areas that comprise naval doctrine. [ref. a, ch. 1]

_____
(Signature and Date)

.2 Discuss the following:

a. Command and control [ref. d, ch. 1]
b. Naval planning [ref. c, ch. 1]
c. Naval intelligence [ref. b, ch. 1]

_____
(Signature and Date)

.3 State the seven principles of naval logistics. [ref. b, ch. 1]

_____
(Signature and Date)

.4 What was the first navy ship named after an enlisted man? [ref. e, app. B]

_____
(Signature and Date)

.5 Discuss the following military customs and courtesies: [ref. e, ch. 5]

a. Hand salute
b. Saluting the ensign
c. Dipping the ensign
d. Gun salute

_____
(Signature and Date)

102 NAVAL HERITAGE AND DOCTRINE FUNDAMENTALS (CONT'D)

102.6 What three classes of naval vessels existed at the inception of the Navy? [ref. f, ch. 5]

_____
(Signature and Date)

.7 Discuss the importance of the following conflicts as they relate to history: [ref. e, app. B]

a. Battle of Coral Sea
b. Voyage of the Great White Fleet
c. Battle of Normandy
d. Midway
e. Guadalcanal
f. Battle of Leyte Gulf

_____
(Signature and Date)

.8 Discuss the conditions that led to the formation of the U.S. Navy. [ref. a, ch. 1]

_____
(Signature and Date)

.9 State the qualities that characterize the Navy/Marine Corps team as instruments to support national policies. [ref. a, ch. 1]

_____
(Signature and Date)

.10 State the three levels of war. [ref. a, ch. 2]

_____
(Signature and Date)

.11 State the mission of naval logistics. [ref. c, ch. 1]

_____
(Signature and Date)

.12 State the importance of planning to naval operations. [ref. d, ch. 1]

_____
(Signature and Date)

.13 Discuss the conditions that led to the formation of the U.S. Navy Diving Program. [ref. g, ch. 1]

_____
(Signature and Date)

103 U. S. NAVY ORGANIZATION FUNDAMENTALS

References:

[a] NAVEDTRA 14504, Military Requirements for PO 3 & 2
[b] The Bluejacket's Manual, Twenty-Second Edition

103.1 Discuss the responsibilities of the following: [ref. a, ch. 5]

a. Commander in Chief (President)
b. Secretary of Defense
c. Secretary of the Navy
d. CNO
e. Fleet Commander In Charge (CINC)
f. Type Commander (TYCOM)

_____
(Signature and Date)

.2 Discuss the role of the following: [ref. b, ch. 8]

a. Master Chief Petty Officer of the Navy (MCPON)
b. Fleet Master Chief
c. Force Master Chief
d. Command Master Chief (CMC)

_____
(Signature and Date)

.3 Discuss the function of the following operational commands: [ref. a, ch. 5]

a. Atlantic Fleet
b. Pacific Fleet
c. Naval Forces, Europe
d. Military Sealift Command (MSC)

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(Signature and Date)

103 U. S. NAVY ORGANIZATION FUNDAMENTALS (CONT'D)

103.4 State the geographic Area of Responsibility (AOR) for the following: [ref. a, ch. 5]

a. 2nd Fleet
b. 3rd and 7th Fleets
c. 5th Fleet
d. 6th Fleet
e. Military Sealift Command (MSC)

_____
(Signature and Date)

.5 State the purpose and content of the following: [ref. a, ch. 6]

a. Standard Organization and Regulations Manual of the U.S. Navy (SORM)
b. Ship's/Command's Organization and Regulations Manual

_____
(Signature and Date)

.6 Discuss the interrelationship between the following: [ref. a, ch. 6]

a. Naval Air Squadrons
b. Naval Surface Forces
c. Naval Subsurface Forces
d. Naval Amphibious Forces

_____
(Signature and Date)

.7 Discuss the following: [ref. b, app. A]

a. Naval Reserve
b. Ready Reserve
c. Selected Reserve
d. Training and Administration of Reserves (TAR)
e. Individual Ready Reserves

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(Signature and Date)

104 SHIPBOARD ORGANIZATION AND ADMINISTRATION FUNDAMENTALS

References:

[a] OPNAVINST 3120.32C, Standard Organization and Regulations Manual of the U.S. Navy (SORM)
[b] OPNAVINST 5354.1E, Navy Equal Opportunity (EO) Policy
[c] NAVEDTRA 14144, Military Requirements for Chief Petty Officer
[d] NAVPERS 15560C, Naval Military Personnel Manual
[e] 1080#4 UM-01, Enlisted Distribution and Verification Report Users Manual
[f] BUPERSINST 1430.16E, Advancement Manual
[g] SECNAVINST 1650.1G, Navy and Marine Corps Awards Manual
[h] NAVPERS 15909G, Enlisted Transfer Manual
[i] NTP-3 (J), Naval Telecommunications Publications-3
[j] NAVEDTRA 14134, Legalman 3 & 2
[k] SECNAVINST 5216.5D, Department of the Navy Correspondence Manual

104.1 Discuss the shipboard organizational structure and the duties, responsibilities, and authority of the following personnel:

a. Commanding Officer (CO) [ref. a, ch. 3]
b. Executive Officer (XO) [ref. a, ch. 3]
c. Command Master Chief/Senior Enlisted Advisor [ref. a, ch. 3]
d. Department Head [ref. a, ch. 3]
e. Division Officer [ref. a, ch. 3]
f. Leading Chief Petty Officer (LCPO)/Leading Petty Officer (LPO) [ref. a, ch. 3]
g. Work Center Supervisor [ref. a, ch. 3]
h. Division Damage Control Petty Officer (DCPO) [ref. a, ch. 3]
i. Command Career Counselor [ref. a, ch. 3]
j. Ship's 3-M Coordinator [ref. a, ch. 3]
k. OMBUDSMAN [ref. c, ch. 6]
l. Financial Specialist [ref. c, ch. 6]
m. DAPA [ref. a, ch. 3]
n. Medical Department [ref. a, ch. 5]
o. Safety Officer [ref. a, chs. 3, 7]
p. Divisional Safety Petty Officer [ref. a, ch. 3]
q. Security Manager [ref. a, ch. 3]
r. Diving Officer [ref. a, ch. 3]

_____
(Signature and Date)

104 SHIPBOARD ORGANIZATION AND ADMINISTRATION FUNDAMENTALS (CONT'D)

104.2 Discuss the purpose of a shipboard battle organization in relation to the following: [ref. a]

a. Command and ship control [ch. 4]
b. Operations control [ch. 4]
c. Weapons control [ch. 4]
d. Engineering control [ch. 4]
e. DC [ch. 4]
f. Primary flight control [ch. 6]
g. Mine countermeasures control [ch. 6]
h. Debarkation control [ch. 6]

_____
(Signature and Date)

.3 State the purpose of the following bills: [ref. a, ch. 6]

a. Administrative
b. Operational
c. Emergency
d. Special
e. Battle
f. Watch, quarter, and station

_____
(Signature and Date)

.4 State the purpose of the following reports: [ref. a, ch. 6]

a. 8 o' clock reports
b. 12 o' clock reports

_____
(Signature and Date)

.5 Discuss the purpose and general rules for counseling:

a. Personnel [ref. c, ch. 4]
b. Performance [ref. i, app. C]

_____
(Signature and Date)

104 SHIPBOARD ORGANIZATION AND ADMINISTRATION FUNDAMENTALS (CONT'D)

104.6 Describe the effects of enlisted evaluations on the following:

a. Types of discharges [ref. d, sec. 1910]
b. Advancement [ref. f, ch. 3]
c. Good conduct awards [ref. g, ch. 4]
d. Eligibility for reenlistment [ref. d, sec. 1160]
e. Assignment [ref. h, ch. 9]

_____
(Signature and Date)

.7 Explain the use of the following:

a. Naval message [ref. i, par. 301-304]

1. Operational message
2. Administrative message

b. E-mail [ref. k, sec. d]

_____
(Signature and Date)

.8 Explain the purpose of the following message components: [ref. i]

a. Date Time Group (DTG) [par. 504]
b. From line [par. 603]
c. To line [par. 603]
d. Info line [par. 603]
e. Classification/declassification line [par. 702]
f. Standard Subject Identification Code (SSIC) [par. 706]
g. Subject line [par. 710]
h. Passing instructions [par. 708]
i. Reference line [par. 711]
j. Amplifying information line [par. 711]
k. Narrative information line [par. 711]
l. Remarks [par. 713]
m. Message precedence level [par. 302]

1. Flash
2. Immediate
3. Priority
4. Routine

_____
(Signature and Date)

104 SHIPBOARD ORGANIZATION AND ADMINISTRATION FUNDAMENTALS (CONT'D)

104.9 Explain what each of the following enlisted service record pages are and what entries are made on each. [ref. d, sec. 1070]

a. Page 2
b. Page 4
c. Page 13

_____
(Signature and Date)

.10 State the purpose and discuss the contents of the Enlisted Distribution Verification Report (EDVR). [ref. e, ch. 1]

_____
(Signature and Date)

.11 Explain the use of a Report and Disposition of Offenses (NAVPERS 1626/7). [ref. j, ch. 5]

_____
(Signature and Date)

.12 Define the following in reference to a personal misconduct determination: [ref. j, ch. 9]

a. In line of duty
b. Not in line of duty, not due to members own misconduct
c. Not in line of duty, due to members own misconduct

_____
(Signature and Date)

.13 Discuss the purpose of the Command Managed Equal Opportunity (CMEO) Program in relation to the following: [ref. b]

a. Command Training Team (CTT) [secs. ES, III]
b. Command Assessment Team (CAT) [secs. ES, III]
c. Navy Rights and Responsibilities (NR&R) workshop [sec. I]
d. Command assessment [sec. III]
e. Plan of Action and Milestones (POA&M) [sec. III]
f. Immediate Supervisor in Command (ISIC) [sec. lll]

_____
(Signature and Date)

105 SUPPLY ORGANIZATION FUNDAMENTALS

References:

[a] NAVEDTRA 14242, Storekeeper 3&2
[b] NAVEDTRA 14241, Storekeeper 1&C
[c] COMNAVSURFLANT/COMNAVSURFPACINST 4400.1J, Surface Force Supply Procedures
[d] NAVSUP P 485, Rev. 3, Afloat Supply Procedures Manual
[e] NAVSUP P 487, Rev. 3, Ship's Store Afloat
[f] NAVSUP P 486, Food Service Management General Messes
[g] OPNAVINST 5100.19D, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat, Vol. 1
[h] Marine Lifesaving & Diving Equipment Prime Vendor Program (http://www.dscp.dla.mil/gi/general/mardiv.htm)
[i] NAVSEA ltr 10560 Ser 00C/3112 of 15 May 97, Authorized for Navy Use List (http://www.supsalv.org/pdf/new.anu/pdf)

105.1 Explain the importance of the Coordinated Shipboard Allowance List (COSAL) in relationship to the ship' s mission and sustainability. [ref. a, ch. 5; ref. b, ch. 2]

_____
(Signature and Date)

.2 Discuss the following processes in reference to the COSAL:

a. Validating [ref. a, ch. 5; ref. b, ch. 2]
b. Updating [ref. a, ch. 5; ref. b, ch. 2]
c. Automated Shore Interface/Revised Alternative Dataflow (ASI/RAD) [ref. c, ch. 6]

_____
(Signature and Date)

.3 Explain how frequently ordered parts effect demand processing. [ref. d, ch. 6]

_____
(Signature and Date)

.4 Discuss the purpose of the Material Obligation Validation (MOV) program. [ref. c, ch. 2]

_____
(Signature and Date)

105 SUPPLY ORGANIZATION FUNDAMENTALS (CONT'D)

105.5 Discuss the Depot Level Repairables (DLRs) program. [ref. a, ch. 6]

_____
(Signature and Date)

.6 Explain the procedures on Not Ready for Issue (NRFI) DLRs in regard to the following situations: [ref. c, app. D]

a. Turn-in
b. Remain in Place (RIP)

_____
(Signature and Date)

.7 Define the purpose of the following: [ref. b, ch. 8]

a. Maintenance Assist Modules (MAMs)
b. Bulkhead ready spares

_____
(Signature and Date)

.8 Discuss the Battle Group Asset Management System (BAMS) concept. [ref. c, ch. 6]

_____
(Signature and Date)

.9 Explain the difference between the two components of the Operating Target (OPTAR): [ref. c, ch. 7]

a. Equipment Maintenance Related Material (EMRM)
b. Other

_____
(Signature and Date)

.10 Explain the effects of the following on ship's OPTAR:

a. Departmental budget [ref. c, ch. 7]
b. Consolidated Residual Asset Management System Inventory (CRAMSI) [ref. c, ch. 7]
c. HM reutilization [ref. g, ch. B-3]
d. Defense Reutilization Marketing Office (DRMO) [ref. d, ch. 3]

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(Signature and Date)

105 SUPPLY ORGANIZATION FUNDAMENTALS (CONT'D)

105.11 State how credit is distributed for erroneously ordered parts when they are turned back in to supply. [ref. c, ch. 7]

_____
(Signature and Date)

.12 Define the Uniform Material Movement and Issue Priority System (UMMIPS) and the role it plays with the Priority Designator (PD). [ref. c, ch. 5]

_____
(Signature and Date)

.13 What is the purpose of the following messages: [ref. c, ch. 3]

a. Fleet freight/cargo
b. Main

_____
(Signature and Date)

.14 Discuss the purpose of the ship's store afloat. [ref. e, ch. 1]

_____
(Signature and Date)

.15 Explain endurance loading of subsistence and how it effects the ship's mission and sustainability. [ref. f, ch. 4]

_____
(Signature and Date)

.16 Define and describe the Basic Daily Food Allowance (BDFA) and state how it effects each crewmember. [ref. f, ch. 2]

_____
(Signature and Date)

.17 Describe the principle quarterly foodservice report and where it is submitted. [ref. f, ch. 7]

_____
(Signature and Date)

105 SUPPLY ORGANIZATION FUNDAMENTALS (CONT'D)

105.18 State what kind of rations are utilized during battle stations when the galley or galley personnel are not available. [ref. f, ch. 3]

_____
(Signature and Date)

.19 Describe the Prime Vendor Program and how it applies to your command. [ref. h]

_____
(Signature and Date)

.20 Describe the purpose of diving equipment Authorized for Navy Use (ANU) list and explain the 3 categories of equipment. [ref. i, par. 4]

_____
(Signature and Date)

106 DIVER'S LIFE SUPPORT SYSTEMS (DLSS) QUALITY ASSURANCE (QA) FUNDAMENTALS

References:

[a] NAVSEA ltr 3151 Ser 00C/4225 of 23 Oct 1996, Standardized Diver Reentry Control (REC) Program
[b] CINCLANTFLT/CINPACFLTINST 4790.3, Joint Fleet Maintenance Manual
[c] NAVSEA S9505-AM-GYD-010, Submarine Fastening Criteria (Non-Nuclear)
[d] NSTM S0986-CM-STM-010/020 CH 078, Vol. 1, Seals, Vol. 2, Gaskets and Packing
[e] NSTM S0986-CJ-STM-010 CH 075, Fasteners
[f] NSTM S0986-RK-STM-010 CH 505, Piping Systems
[g] NAVSEA Process Instruction 00C4-PI-004, Compressor Capacity Test
[h] NAVSEA SS521-AA-MAN-010, U.S. Navy Diving and Manned Hyperbaric System Safety Certification Manual
[i] NSTM S0986-H7-STM-010 CH 262, Lubricating Oils, Greases
[j] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[k] NAVSEA SS521-AB-HBK-010, Continuation of Certification Handbook for U.S. Navy Diving Systems
[l] MIL-STD-1622
[m] MIL-STD-1330

106.1 Discuss the chain of command that applies to your DLSS up to the SCA. [ref. a, sec. 5]

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(Signature and Date)

.2 Discuss the DLSS Maintenance Technician responsibilities. [ref. a, sec. 5]

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(Signature and Date)

.3 State the purpose of REC as it pertains to a certified DLSS. [ref. a, sec. 3]

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(Signature and Date)

.4 Discuss the purpose of each of the following forms: [ref. a]

a. REC [fig. 2]
b. REC form continuation sheet [fig. 3]
c. Controlled assembly report [fig. 6]
d. Test and inspection [fig. 5]
e. REC log [fig. 1]

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(Signature and Date)

106 DIVER'S LIFE SUPPORT SYSTEMS (DLSS) QUALITY ASSURANCE (QA) FUNDAMENTALS (CONT'D)

106.5 State the working range of a torque wrench. [ref. a, fig. 6; ref. b, vol. V, sec. 5.5.2]

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(Signature and Date)

.6 State the effects of over torquing. [ref. b, vol. V, sec. 5.5.2; ref. c, sec. 4-3; ref. d, sec. 075-4]

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(Signature and Date)

.7 State the effects of under torquing. [ref. b, vol. V, sec. 5.5.2; ref. c, sec. 4-3; ref. d, sec. 075-4]

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(Signature and Date)

.8 Discuss the inspection criteria for the following:

a. O-rings [ref. b, sec. 5.6.2; ref. d, sec. 078.3]
b. Threaded fasteners [ref. b, sec. 5.4.3; ref. e, sec. 075-8.1]

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(Signature and Date)

.9 Discuss and define the following terms/tests:

a. Maximum operating pressure [ref. f, sec. 1]
b. Nominal operating pressure [ref. f, sec. 1]
c. Maximum system pressure [ref. f, sec. 1]
d. Joint tightness [ref. a, fig. 7; ref. f, sec. 1]
e. Operating pressure test [ref. h, sec. 1]
f. Compressor efficiency test [ref. g]
g. Hydrostatic/pneumatic test (pressure drop test) [ref. a, fig. 10; ref. f, sec. 1]

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(Signature and Date)

.10 Discuss the requirements for meeting material specifications. [ref. h , sec. 3-2.9]

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(Signature and Date)

106 DIVER'S LIFE SUPPORT SYSTEMS (DLSS) QUALITY ASSURANCE (QA) FUNDAMENTALS (CONT'D)

106.11 Discuss the authorized lubricants used in air, oxygen, and mixed gas systems. [ref. i, sec. 8]

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(Signature and Date)

.12 Briefly describe some of the documentation required to support and obtain a DLSS certification from an SCA. [ref. j, ch. 4; ref. k, par. 3-1]

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(Signature and Date)

.13 State the procedure for verification of: [ref. d]

a. O-ring size [sec. 3]
b. O-ring material [sec. 2]

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(Signature and Date)

.14 Discuss which reference manuals apply and briefly describe the cleanliness standards for air and oxygen systems. [refs. l, m]

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(Signature and Date)

.15 Discuss the DLSS QA organization and qualifications. [ref. a, sec. 5]

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(Signature and Date)

.16 Describe the purpose and periodicity of the air sampling programs. [ref. j, ch. 4]

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(Signature and Date)

.17 Discuss the use of systems OP/EP. [ref. j, ch. 4]

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(Signature and Date)

107 BASIC SEAMANSHIP FUNDAMENTALS

References:

[a] NAVEDTRA 14067, Seaman
[b] NAVEDTRA 14042, Boatswain Mate 3 & 2
[c] NSTM S0986 UU-STM-010 CH 613, Wire and Fiber Rope and Rigging
[d] NAVSEA 0925-LP-000-1000, U.S. Navy Towing Manual
[e] NAVSEA 0910-LP-107-7600, Salvage Safety Manual
[f] NSTM S9086-TW-STM-010/CH-582, Mooring and Towing
[g] NAVSEA S0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1
[h] NAVSEA S0300-A6-MAN-020, U.S. Navy Ship Salvage Manual, Vol. 2

107.1 Discuss the following in terms of natural fiber lines:

a. Size determination [ref. c, sec. 2]
b. Type determination [ref. c, sec 2]
c. Proper care [ref. c, sec. 2]
d. Serviceability determination [ref. c, sec. 2]
e. Line construction [ref. c, sec. 2]
f. Formulas for safe working load/breaking strength [ref. c, sec. 2; ref. e, sec. 3]

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(Signature and Date)

.2 Discuss the following in terms of synthetic fiber lines:

a. Size determination [ref. c, sec. 2]
b. Type determination [ref. c, sec. 2]
c. Line construction [ref. c, sec 2]
d. Proper care [ref. b, ch. 3]
e. Restriction on use [ref. b, sec. 2]
f. Serviceability determination [ref. b, sec. 2]
g. Formulas for safe working load/breaking strength [ref. f, sec. 3]

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(Signature and Date)

107 BASIC SEAMANSHIP FUNDAMENTALS (CONT'D)

107.3 Discuss the following as applied to wire ropes:

a. Type [ref. c, sec. 1]
b. Size construction [ref. c, sec. 1]
c. Wire construction [ref. c, sec. 1]
d. Breaking strength formula [ref. c, sec. 1; ref. h, ch. 4]
e. Proper care of wire rope [ref. c, sec. 1]
f. Specific applications [ref. c, sec. 1]
g. Serviceability determination [ref. c, sec. 1]
h. Spooling on a drum or capstan [ref. c, sec. 1]

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(Signature and Date)

.4 Identify the following knots, bends, and hitches, and explain how each is used: [ref. a, ch. 3]

a. Square knot
b. Bowline
c. Becket bend
d. Clove hitch
e. Half hitch
f. Rolling hitch
g. Stopper hitch or Chinese Stopper

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(Signature and Date)

.5 Identify and explain the use of the following:

a. Newco thimble [ref. f, fig. 8-7]
b. Synthetic rope coupling [ref. f, sec. 2]
c. Thimble and link [ref. d, sec. 2; ref. f, sec. 2]
d. Detachable link/Pear shape [ref. f, sec. 6]

_____
(Signature and Date)

.6 Explain the uses of the following deck fittings:

a. Pad eyes [ref. e, ch. 4]
b. Cleats [ref. e, ch. 4]
c. Bitts [ref. e, ch. 4]
d. Chocks (open/closed/roller/hinged) [ref. e, ch. 4]
e. H-bitts [ref. e, ch. 4]
f. Towing attachment point [ref. d, ch. 7]
g. Stopper [ref. d, ch. 4, app. E]

107 BASIC SEAMANSHIP FUNDAMENTALS (CONT'D)

107.6 h. Norman pin [ref. d, ch. 4]
i. Roller [ref. d, ch. 4]
j. Towing bridle [ref. d, ch. 4]
k. Pelican hook [ref. d, ch. 4]
l. Chafing chain [ref. f, sec. 10]
m. Hogging straps [ref. d, ch. 4]

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(Signature and Date)

.7 Describe the characteristics of the following blocks: [ref. b]

a. Fiber rope [ch. 8]
b. Snatch [Glossary]
c. Fairlead [ch. 8]
d. Standing [ch. 8]
e. Running [ch. 8]

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(Signature and Date)

.8 Explain the advantages and disadvantages of a snatch block and fairlead blocks. [ref. b, ch. 8, Glossary]

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(Signature and Date)

.9 Explain the two types of snatch blocks and how to determine the size and safe working load of each.
[ref. b, ch. 8]

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(Signature and Date)

.10 Explain the use and purpose of the screw pin and safety shackles.
[ref. b, ch. 8; ref. d, ch. 4, app. D]

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(Signature and Date)

.11 Explain how to determine the size and safe working load of a shackle.
[ref. b, ch. 8]

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(Signature and Date)

107 BASIC SEAMANSHIP FUNDAMENTALS (CONT'D)

107.12 Describe how to safe-wire (mouse) a shackle pin. [ref. b, ch. 2]

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(Signature and Date)

.13 Explain the use and purpose of a pelican hook. [ref. b, Glossary]

_____
(Signature and Date)

.14 Explain how to determine the size and safe working load of a chain stopper. [ref. d, ch. 4]

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(Signature and Date)

.15 Explain the difference between the two types of wire rope clips and how they are installed. [ref. e, ch. 4]

_____
(Signature and Date)

.16 Explain how to determine the number of clips to be used. [ref. e, ch. 4]

_____
(Signature and Date)

.17 Explain the use of the following:

a. Chain stopper [ref. e, ch. 4]
b. Coil down wire rope [ref. c, sec. 1]
c. Wire rope on gypsy head or capstan [ref. c, sec. 1]

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(Signature and Date)

.18 Explain the use and purpose of the plate shackle. [ref. e, ch. 4]

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(Signature and Date)

.19 Explain the use and purpose of a flounder plate. [ref. d, ch. 4]

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(Signature and Date)

107 BASIC SEAMANSHIP FUNDAMENTALS (CONT'D)

107.20 Explain the following in relation to the carpenter stopper: [ref. g, ch. 7]

a. Use and procedure for passing
b. Proper wedge size
c. Procedure for removing while under strain

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(Signature and Date)

.21 Discuss readiness inspections for the following: [ref. e]

a. Personnel [ch. 2]
b. Equipment and machinery [ch. 5]

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(Signature and Date)

.22 Discuss the purpose of the following personnel briefings: [ref. e]

a. Safety precautions [ch. 2]
b. Operation of the rig [Safety Summary]
c. Discuss synthetic line stretch, chafing, and snap-back [ch. 4]

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(Signature and Date)

.23 Explain the use and purpose of the Hawking Anchor: [ref. e, ch. 4]

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(Signature and Date)

108 UNDERWATER SALVAGE FUNDAMENTALS

References:

[a] NAVEDTRA 14042, Boatswain Mate 3 & 2
[b] NAVSEA S0300-A7-HBK-010, U.S. Navy Salvor's Handbook
[c] NAVSEA S0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1
[d] NAVSEA S0300-A6-MAN-020, U.S. Navy Ship Salvage Manual, Vol. 2

108.1 Describe steps of salvage survey. [ref. c, ch. 8]

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(Signature and Date)

.2 Explain salvage shoring. [ref. d, ch. 4, Glossary]

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(Signature and Date)

.3 Describe the variations in underwater rigging. [ref. d, ch. 6]

_____
(Signature and Date)

.4 Describe the methods used in underwater excavation. [ref. b, ch. 4; ref. d, ch. 6]

_____
(Signature and Date)

.5 Discuss the following factors affecting ship strandings:

a. Type of bottom under the ship [ref. c, ch. 5]
b. Slope of the bottom under the ship [ref. c, ch. 5]
c. Depth of water under and around the ship [ref. c, ch. 5]
d. Particular area of the ship in contact with the ground [ref. c, ch. 5]
e. Ship's stability [ref. c, ch. 2]
f. Ship's structural strength [ref. c, ch. 4]
g. Damage sustained in grounding [ref. c, ch. 5]
h. Damage anticipated during salvage and refloating operations [ref. c, ch. 8]
i. Change in list and trim caused by the stranding [ref. c, chs. 2, 3]
j. Ship's position with respect to the shore [ref. a, ch. 4]
k. Ship's position with respect to the surf [ref. a, ch. 4]
l. Range of tides [ref. c, ch. 5]
m. Presence or absence of swells [ref. c, ch. 5]

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(Signature and Date)

108 UNDERWATER SALVAGE FUNDAMENTALS (CONT'D)

108.5 n. Prevailing waves [ref. a, ch. 4]
o. Prevailing weather conditions [ref. c, ch. 5]
p. Currents [ref. c, ch. 5]
q. Visibility underwater [ref. c, ch. 8]

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(Signature and Date)

.6 Discuss the effects of scouring on a stranded ship. [ref. c, ch. 5]

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(Signature and Date)

.7 Explain why a stranded ship should be kept from broaching. [ref. c, ch. 5]

_____
(Signature and Date)

.8 Define ground reaction and explain its importance in ship salvage. [ref. c, ch. 5]

_____
(Signature and Date)

.9 Explain the potential dangers in immediately removing weight from a grounded ship. [ref. c, ch. 5]

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(Signature and Date)

108 UNDERWATER SALVAGE FUNDAMENTALS (CONT'D)

.10 Discuss the following methods used to refloat ships:

a. Dewatering with pumps [ref. c, ch. 6]
b. Dewatering with air [ref. c, ch. 6]
c. Beach gear operations [ref. c, ch. 8]
d. Use of assisting ships and tugs [ref. c, ch. 8]
e. Lift ships and pontoons [ref. c, ch. 6]
f. Cranes [ref. c, ch. 6]
g. Explosive blasting operations [ref. c, ch. 6]
h. Scouring with air, water, and ships [ref. c, ch. 6]
i. Weight removal, addition, or shifting [ref. c, ch. 6]
j. Operation of dredges [ref. c, ch. 6]
k. Use of tides, waves, and ships' wakes [ref. c, ch. 5]
l. Construction of cofferdams [ref. b, ch. 5]

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(Signature and Date)

109 SALVAGE PATCHING FUNDAMENTALS

References:

[a] NAVEDTRA 14042, Boatswain Mate 3 & 2
[b] NSTM S9086-CN-STM-020 CH 079, Vol. 2, Damage Control, Practical Damage Control
[c] NAVSEA S0300-A7-HBK-010, U.S. Navy Salvor's Handbook
[d] NAVSEA S0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1
[e] NAVSEA S0300-A6-MAN-020, U.S. Navy Ship Salvage Manual, Vol. 2

109.1 Define the following:

a. Freeboard [ref. a, Glossary]
b. Tremie pipe [ref. e, ch. 4, Glossary]
c. Caulking [ref. b, sec. 42]
d. Cement gun [ref. c, ch. 5]
e. Sholes [ref. b, sec. 43]
f. Ballast [ref. e, Glossary]
g. Wood plug [ref. b, sec. 42]
h. Strong back [ref. c, ch. 5]
i. Two part epoxy [ref. c, ch. 5]
j. Bintsuke [ref. e, Glossary]
k. Frames/forms [ref. c, ch. 5]
l. Free surface [ref. d, ch. 3]
m. Stud gun/studs [ref. c, ch. 5]
n. Free communication [ref. d, ch. 3]

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(Signature and Date)

.2 Describe the following types of patching:

a. American [ref. e, ch. 4]
b. British standard [ref. e, ch. 4]
c. Box [ref. e, ch. 4]
d. Plank-by-plank [ref. e, ch. 4]
e. Makeshift [ref. e, ch. 4]
f. Cofferdams (partial and complete) [ref. c, ch. 5]
g. Concrete [ref. e, ch. 4]

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(Signature and Date)

109 SALVAGE PATCHING FUNDAMENTALS (CONT'D)

109.3 Describe the following materials as they apply to patching:

a. Framing [ref. e, ch. 4]
b. Cross timbers [ref. e, ch. 4]
c. Gaskets [ref. e, ch. 4]
d. Securing devices [ref. e, ch. 4]
e. Planking [ref. e, ch. 4]
f. Weight [ref. e, ch. 4]
g. Cement [ref. e, ch. 4]
h. Sand [ref. e, ch. 4]
i. Crushed rocks [ref. e, ch. 4]
j. Forms [ref. e, ch. 4]
k. Wood plug [ref. b, sec. 42]
l. Shoring [ref. b, sec. 43]
m. Epoxy [ref. e, ch. 4]
n. Welding [ref. e, ch. 4]
o. Studs [ref. c, ch. 5]
p. Foam [ref. e, ch. 4]

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(Signature and Date)

110 UNDERWATER CUTTING AND WELDING FUNDAMENTALS

References:

[a] NAVSEA S0300-BB-MAN-010, U.S. Navy Underwater Cutting and Welding Manual
[b] NAVSEA S9086-CH-STM-010/CH-074VIR5, Welding and Allied Processes

110.1 Describe the following: [chs. 2, 3]

a. Oxygen arc cutting
b. Shielded metal arc cutting
c. Shielded metal arc welding
d. Exothermic cutting

_____
(Signature and Date)

.2 Describe and discuss the following materials: [chs. 2, 4]

a. Steel tubular electrode
b. Oxygen regulator
c. Ground cable
d. Power cable
e. Knife switch
f. Electrode holder
g. Striker plate
h. Cable connectors
i. Ultrathermic electrode
j. 400 amp dc welder
k. Welding lens
l. Broco electrode holder

_____
(Signature and Date)

.3 Explain straight (dc electrode negative) and reverse (dc electrode positive) polarity as they apply to underwater cutting and welding. [ch. 3]

_____
(Signature and Date)

.4 Explain the importance of using negative polarity in underwater cutting and welding. [app. D]

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(Signature and Date)

110 UNDERWATER CUTTING AND WELDING FUNDAMENTALS (CONT'D)

110.5 Discuss the standard phraseology used in voice communications during underwater cutting and welding. [chs. 2, 3]

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(Signature and Date)

.6 Describe a Kerie cable. [ch. 2]

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(Signature and Date)

.7 What are the advantages and disadvantages of Kerie cable? [ch. 2]

_____
(Signature and Date)

.8 Discuss safety considerations in regards to: [app. D]

a. Explosive gas
b. Electricity underwater
c. General precautions for underwater cutting and welding
d. Power supply
e. Electrode holders and torches
f. Cables and connectors
g. Safety switch
h. Fire and explosion prevention
i. Compressed gas supplies
j. Personal safety in diving

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(Signature and Date)

.9 Describe the process for Arresting cracks in ship plates. [ref. a, ch. 3-13, ref. b, app.6.4.2]

a. Location of drill stop
b. Types of patches
c. Non-destructive testing techniques
d. Procedure for using circular patch

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(Signature and Date)

.10 Describe Friction Stud Welder. [ref. a, app. e]

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(Signature and Date)

110 UNDERWATER CUTTING AND WELDING FUNDAMENTALS (CONT'D)

110.11 What are the advantages and disadvantages of the Friction Stud Welder? [ref. a, app.e]

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(Signature and Date)

111 HEAVY LIFTING EQUIPMENT FUNDAMENTALS

References:

[a] NAVSEA SL740-AA-MAN-010, U.S. Navy Towing Manual
[b] NAVSEA S0400-AA-SAF-010, U.S. Navy Salvage Safety Manual
[c] NAVSEA S0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1
[d] NAVSEA S0300-A6-MAN-020, U.S. Navy Ship Salvage Manual, Vol. 2
[e] NAVSEA S0300-BV-CAT-010, U.S. Navy Emergency Ship Salvage Material Catalog, Vol. 1

111.1 Describe the following deck purchase systems and their uses:

a. Linear puller [ref. c, ch. 7]
b. Linear puller with Johnson block [ref. c, ch. 7]
c. Purchase blocks [ref. c, ch. 7]
d. 7/8” [ref. b, ch. 4]
e. 5/8” [ref. b, ch. 4]
f. Tow machine [ref. a, app. l]

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(Signature and Date)

.2 Describe the following equipment as applied to heavy lift:

a. Tensiometer [ref. c, ch. 7]
b. Fairlead blocks [ref. c, ch. 7]
c. Capstans [ref. b, ch. 4]
d. Carpenter stopper [ref. b, ch. 4]
e. Pelican hooks [ref. b, Glossary]
f. 2 1/4” dielock chain [ref. b, ch. 4]
g. Detachable link [ref. b, ch. 4]
h. Bilge bolster [ref. d, fig. 6-18A]
i. Beach gear [ref. b, ch. 4]
j. Hydraulic cable puller [ref. b, ch. 4]
k. FADOSS [ref. e, ch. 2]
l. Towing machine [ref. b, ch. 4]
m. Traction winch [ref. b, Glossary]
n. Chain stopper [ref. b, Glossary]

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(Signature and Date)

111 HEAVY LIFTING EQUIPMENT FUNDAMENTALS (CONT'D)

111.3 Define and explain the following:

a. Bolster [ref. d, ch. 6]
b. Purchase [ref. d, ch. 6]
c. Falls [ref. d, sec. 6-3.2]
d. Buckle [ref. d, Glossary]
e. Tidal [ref. d, ch. 7]
f. Ballast [ref. c, Glossary]
g. Sawing [ref. d, ch. 6]
h. Parbuckling [ref. d, ch. 6]

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(Signature and Date)

.4 Describe the following lifts:

a. Belly or bolster [ref. d, ch. 7]
b. Bow [ref. d, ch. 7]
c. Jacking [ref. c, ch. 6]
d. Tidal [ref. d, ch. 7]
e. Dynamic [ref. b, ch. 4]

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(Signature and Date)

112 BEACH GEAR FUNDAMENTALS

References:

[a] NAVSEA SL740-AA-MAN-010, U.S. Navy Towing Manual
[b] NAVSEA S0400-AA-SAF-010, U.S. Navy Salvage Safety Manual
[c] NAVSEA S0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1
[d] NAVSEA S0300-A6-MAN-020, U.S. Navy Ship Salvage Manual, Vol. 2

112.1 Discuss the following as applied to beach gear:

a. Rigging phase [ref. c, ch. 7]
b. Laying phase [ref. c, ch. 8]
c. Getting in harness [ref. b, ch. 4]
d. Pulling phase [ref. c, ch. 8]
e. Recovery phase [ref. c, ch. 8]

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(Signature and Date)

.2 Describe the following as applied to beach gear:

a. Purchase blocks [ref. c, ch. 7]
b. Hydraulic puller [ref. c, ch. 7]
c. Carpenter stopper [ref. a, ch. 4]
d. Hydraulic power unit [ref. b, ch. 4]
e. Deck fittings [ref. b, ch. 4]
f. Roller chocks [ref. d, Glossary]
g. Capstans [ref. a, ch. 4]
h. Liverpool bridle [ref. a, app. l]
i. Tensiometer [ref. c, ch. 7]

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(Signature and Date)

113 OPEN WATER MOORING FUNDAMENTALS

References:

[a] NAVSEA S0400-AA-SAF-010, U.S. Navy Salvage Safety Manual
[b] NSTM S9086-TW-STM-010/CH-582, Mooring and Towing
[c] NAVSEA S0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1

113.1 Discuss the following equipment as applied to open water mooring:

a. Spring buoy [ref. a, ch. 4]
b. Retrieval pendant [ref. c, ch. 7]
c. Hawser [ref. b, Glossary]

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(Signature and Date)

.2 Discuss and draw a diagram of a standard 4-point moor with a standard mooring leg. [ref. b, sec. 2]

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(Signature and Date)

114 SALVAGE MACHINERY FUNDAMENTALS

References:

[a] NAVSEA S0400-AA-SAF-010, U.S. Navy Salvage Safety Manual
[b] NAVSEA S0600-AA-PRO-100/CH-10, Underwater Ships Husbandry Manual, Diver Tools
[c] NAVSEA S6269-AZ-MNO-010, Mobile Electric Power Unit 30 kW
[d] NAVSEA S0300-A6-MAN-020, U.S. Navy Ship Salvage Manual, Vol. 2
[e] NAVSEA S0300-BV-CAT-010, U.S. Navy Emergency Ship Salvage Material Catalog, Vol. 1

114.1 Describe the use of the following salvage machinery:

a. Lighting towers [ref. e, sec. 2]
b. Hydraulic cable puller [ref. a, ch. 4]
c. Diesel generator, 30 kW [ref. c, ch. 1]
d. Hydraulic power unit [ref. a, ch. 4]
e. Welder (400 amp) [ref. d, ch. 4]
f. Clyde winch [ref. a, ch. 4]
g. Pumps:

1. 6” diesel [ref. d, ch. 5, app. B]
2. 3” diesel [ref. d, ch. 5, app. B]
3. 6” submersible hydraulic [ref. d, ch. 5, app. B]
4. 4” submersible hydraulic [ref. d, ch. 5, app. B]
5. 4” submersible electric [ref. d, ch. 5, app. B]
6. Sump [ref. b, app. S]
7. Trash [ref. b, app. S]

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(Signature and Date)

115 TOWING FUNDAMENTALS

References:

[a] NAVSEA SL740-AA-MAN-010, U.S. Navy Towing Manual
[b] NAVSEA S0400-AA-SAF-010, U.S. Navy Salvage Safety Manual
[c] COMDTINST M16672.2D, Navigational Rules International-Inland

115.1 Describe the following in relation to a towing machine: [ref. a]

a. Modes of operation [app. L]
b. Type of wire rope [ch. 4]

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(Signature and Date)

.2 Describe the use of the traction winch: [ref. a, app. L]

_____
(Signature and Date)

.3 Describe the following equipment as applied to towing:

a. Pear shape detachable link [ref. b, ch. 4]
b. Plate shackle [ref. b, ch. 4]
c. Flounders plate [ref. c, Glossary]
d. Retrieval pendant [ref. a, ch. 4]
e. Messenger [ref. a, ch. 7]
f. Lateral control winch [ref. a, ch. 4]
g. Stern/quarter/retractable rollers [ref. a, ch. 6]
h. Towing padeye [ref. a, app. H]
i. Chain [ref. a, app. D]
j. Hawser [ref. a, ch. 4]
k. NATO link [ref. a, ch. 7]
l. Liverpool bridle [ref. a, app. l]
m. Cap rail [ref. a, ch. 4]
n. Synthetic rope coupling [ref. a, ch. 4]
o. Chafing gear [ref. a, ch. 4]
p. Carpenter stopper [ref. a, ch. 4]

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(Signature and Date)

115 TOWING FUNDAMENTALS (CONT'D)

115.4 Discuss the duties and responsibilities of the Tow Watch. [ref. a, ch. 6]

_____
(Signature and Date)

.5 Discuss the following approaches: [ref. a, ch. 6]

a. Parallel
b. Crossing the T
c. 45-degree

_____
(Signature and Date)

.6 State the type and size of chain used in towing operations. [ref. a, app. D]

_____
(Signature and Date)

.7 Discuss the following towing methods: [ref. a, app. I]

a. Single
b. Tandem
c. Christmas tree
d. Modified Christmas tree
e. Honolulu

_____
(Signature and Date)

.8 Discuss the following terms/procedures as applied to towing operations:

a. Hookup [ref. a, ch. 6]
b. Disconnect [ref. a, ch. 6]
c. Catenary [ref. a, app. M]
d. Bollard pull [ref. a, app. O]
e. Navigational lights [ref. a, ch. 5]
f. Dayshapes [ref. c, Rule 24]

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(Signature and Date)

116 DIVING SAFETY FUNDAMENTALS/ORM

References:
[a] OPNAVINST 3500.39B, Operational Risk Management
[b] OPNAVINST 5100.19D, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat
[c] OPNAVINST 5100.23F, Navy Occupational Safety and Health (NAVOSH) Program Manual for Safety Ashore
[d] OPNAVINST 5102.1D, Mishap Investigation and Reporting
[e] NAVSEA S0400-AD-URM-010/TUM, Tag-out Users Manual
[f] NAVSEA S0600-AA-PRO-020/CH-2, Underwater Ship's Husbandry Manual, General Information and Safety Precautions
[g] NAVSEA S9233-A3-MMO-010, Model 2 Diesel Hydraulic Power Unit
[h] NAVSEA S9086-CQ-STM-010/CH-081, Waterborne Underwater Hull Cleaning of Navy Ships
[i] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[j] TYCOM/Unit Instruction
[k] COMDTINST M16672.2D, Navigational Rules International-Inland
[l] NAVSEA 389-0288, Radiological Controls
[m] OPNAVINST 3120.32C, Standard Organization and Regulations Manual of the U.S. Navy (SORM)
[n] NAVSEA S0600-AA-PRO-100/CH-10, Underwater Ships Husbandry Manual, Diver Tools

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116.1 Discuss the concept of ORM. [ref. a]

_____
(Signature and Date)

.2 Discuss the following terms as they apply to ORM: [ref. a]

a. Identify hazards
b. Assess hazards
c. Make risk decisions
d. Implement controls
e. Supervise

_____
(Signature and Date)

.3 Discuss the responsibilities of all hands with respect to safety. [ref. b, ch. A2; ref. c, ch. 2]

_____
(Signature and Date)

116 DIVING SAFETY FUNDAMENTALS/ORM (CONT'D)

116.4 Discuss the following elements of a good Safety Program: [ref. b]

a. Establishment [ch. A2]
b. Monitoring [ch. A5]
c. Enforcement [ch. A3]
d. Corrective action [ch. A4]
e. Training [ch. A7]

_____
(Signature and Date)

.5 Discuss the reasons for an Accident Investigation Reporting system. [ref. b, ch. A6; ref. d]

_____
(Signature and Date)

.6 Discuss the preparation of accident/injury reports. [ref. e; ref. b, ch. A6; ref. d]

_____
(Signature and Date)

.7 Discuss the OPNAVINST 5100.19D safety precautions that pertain to Diving. [ref. b]

_____
(Signature and Date)

.8 State the purpose and use of the Tag-Out Program. [ref. e, ch. 1]

_____
(Signature and Date)

.9 Explain the importance of tag-out procedures for safe diving. [ref. e, app. E]

_____
(Signature and Date)

.10 Discuss the safety precautions to be taken in adverse weather. [ref. f, sec. 5]

_____
(Signature and Date)

.11 What safety precautions must be taken when working with or near rotating equipment? [ref. g, ch. 1]

_____
(Signature and Date)

116 DIVING SAFETY FUNDAMENTALS/ORM (CONT'D)

116.12 Discuss the safety precautions to be followed when operating a diesel engine. [ref. f, ch. 1]

_____
(Signature and Date)

.13 What action is required in the event of an oil spill or when sighting an oil spill? [ref. h, sec. 3]

_____
(Signature and Date)

.14 Describe and discuss the following steps of the ship's safety check-off list:

a. Ship's tag-out procedures [ref. i, ch. 4; ref. j]
b. Visual signals (flags, day shapes, and lights) [ref. i, ch. 4; ref. k, Rule 30]
c. Word to be passed [ref.i c, ch. 4]
d. Dive boat safety rules [ref. i, ch. 4]
e. Radiological control requirements [ref. l, art. 227]
f. Jacking gear in use [ref. m, ch. 6]

_____
(Signature and Date)

.15 Discuss safety precautions involved in the following:

a. Underwater electrical equipment [ref. i, ch. 6]
b. Diving in enclosed spaces [ref. i, ch. 4]
c. No direct access to surface [ref. i, ch. 5]
d. Use of hydraulic tools [ref. n, Safety Summary]
e. Working around underwater rigging [ref. f, ch. 2]
f. Separators and safe diving distances [ref. f, sec. 6]

_____
(Signature and Date)

.16 Discuss the general safety precautions involved in planning a dive. [ref. i, chs. 6, 7, 11]

_____
(Signature and Date)

116 DIVING SAFETY FUNDAMENTALS/ORM (CONT'D)

110.17 Discuss the safety precautions involved in the following dives: [ref. i]

a. Scuba [ch. 7]
b. Surface-supplied air [ch. 8]
c. Mixed gas surface-supplied [chs. 10, 13, 14]
d. Closed circuit oxygen [ch. 18]
e. Closed circuit mixed gas [ch. 17]

_____
(Signature and Date)

.18 Discuss the safety precautions involved in the following: [ref. i]

a. Underwater search and recovery operations [ch. 8]
b. Diving in heavy currents/surf zone [ch. 6]
c. Diving in cold water [ch. 6]
d. Diving in warm water [ch. 6]
e. Diving in polluted waters [ch. 6]
f. Sonar hazards [app. 1A]
g. Altitude diving [chs. 6, 9]
h. Ascent to altitude after diving [ch. 9]

_____
(Signature and Date)

.19 What general safety precautions must be observed when using hyperbaric chambers? [ref. i, ch. 22]

_____
(Signature and Date)

.20 Discuss the safety precautions involved when: [ref. i]

a. Handling compressed gas cylinders [ch. 7]
b. Using high-pressure air/gases [ch. 7]
c. Using oxygen [chs. 3, 18, 19]
d. Using TX gases [ch. 21]
e. Using NITROX [ch. 10]

_____
(Signature and Date)

116 DIVING SAFETY FUNDAMENTALS/ORM (CONT'D)

110.21 Describe and discuss the safety precautions and the use of hot water heaters and hot water suits during diving operations. [ref. i, chs. 11, 15]

_____
(Signature and Date)

.22 What safety precautions are needed when inspecting underwater hull coatings? [ref. f, sec. 2]

_____
(Signature and Date)

.23 What precautions must be taken when using the HP water jet system on propellers? [ref. h, ch. 4]

_____
(Signature and Date)

117 UNDERWATER HULL AND APPENDAGES FUNDAMENTALS

References:

[a] NAVSEA S0600-AA-PRO-020/CH-2, Underwater Ship's Husbandry Manual
[b] NSTM S9086-TV-STM-000/CH-581, Anchoring

117.1 Discuss content and use of ship's docking plans. [ref. a, sec. 2]

_____
(Signature and Date)

.2 What is the definition of an appendage? [ref. a, sec. 2]

_____
(Signature and Date)

.3 Describe and discuss the following:

a. Propellers (various controlled and fixed) [ref. a, sec. 2]
b. Shafts [ref. a, sec. 2]
c. Struts and bearings [ref. a, sec. 2]
d. Fairwaters [ref. a, sec. 2]
e. Rope guards [ref. a, sec. 2]
f. Dunce cap [ref. a, sec. 2]
g. Rudder and post [ref. a, sec. 2]
h. Pitsword (rodmeter) [ref. a, sec. 2]
i. Fin stabilizers [ref. a, sec. 2]
j. Bilge keels [ref. a, sec. 2]
k. Prairie air system/emitter belts [ref. a, sec. 2]
l. Sonar domes [ref. a, sec. 2]
m. Impressed current [ref. a, sec. 2]
n. Sacrificial anodes [ref. a, sec. 2]
o. Hull openings [ref. a, sec. 2]
p. Stern tube [ref. a, sec. 2]
q. Bow thruster [ref. a, sec. 2]
r. Auxiliary Power Unit (APU)/SPM [ref. a, sec. 2]
s. Anchors [ref. a, sec. 2; ref. b, sec. 3]
t. Ballast tank [ref. a, sec. 2]
u. Transducers [ref. a, sec. 2]
v. Frame Spacing and Numbering [ref. a, sec. 2]

_____
(Signature and Date)

118 UNDERWATER HULL INSPECTIONS FUNDAMENTALS

References:

[a] NAVSEA S9086-CQ-STM-010/CH-081, Waterborne Underwater Hull Cleaning of Navy Ships
[b] Rupert Scale Instructions
[c] NAVSEA S0600-AA-PRO-170/CH-17, Underwater Ship Husbandry Manual Inspection Procedures

118.1 What is the purpose for underwater hull cleaning? [ref. a, sec. 1]

_____
(Signature and Date)

.2 Discuss the following in regards to a preinspection: [ref. a, sec. 1]

a. Fouling Rate (FR)
b. Propellers
c. Sonar domes
d. Docking block bearing surfaces
e. Sea chests
f. Masker emitter belts
g. Hull
h. Propulsion shafts

_____
(Signature and Date)

.4 Discuss the Paint Deterioration Rate (PDR) scale. [ref. a, sec. 1]

_____
(Signature and Date)

.5 What is the difference between a full cleaning and an interim cleaning? [ref. a, sec. 2]

_____
(Signature and Date)

.6 State the purpose of propeller polishing. [ref. a, sec. 1]

_____
(Signature and Date)

118 UNDERWATER HULL INSPECTIONS FUNDAMENTALS (CONT'D)

118.7 Discuss the purpose of the Rupert scale and how it is used in comparing propeller roughness after cleaning and polishing. [ref. b]

_____
(Signature and Date)

.8 What device is used to clean the prairie masker system/propeller? [ref. a, sec. 4]

_____
(Signature and Date)

.9 Why is a survey plan recommended? [ref. a, sec. 2]

_____
(Signature and Date)

.10 What cleaning equipment is used to clean hulls, propellers, and sonar domes? [ref. a, ch. 4]

_____
(Signature and Date)

.11 Describe a Level 1 and Level 2 hull inspection. [ref. c, ch. 1]

_____
(Signature and Date)

119 UNDERWATER SHIP'S HUSBANDRY EQUIPMENT AND ORGANIZATIONAL FUNDAMENTALS

References:

[a] NAVSEA S0600-AA-PRO-030/CH-3, Propellers
[b] NAVSEA S0600-AA-PRO-160/CH-16, Cofferdams
[c] NAVSEA S0600-AA-PRO-100/CH-10, Underwater Ship's Husbandry Manual, Diver Tools
[d] NAVSEA SG700-D6-MMO-010, Power Unit, MK 9 MOD 0
[e] NAVSEA S0600-AA-PRO-120/CH-12, Controllable Pitch Propellers
[f] NAVSEA S0400-AD-URM-010/TUM, Tag-Out Users Manual

119.1 Discuss the methods for removal and installation of the following propellers:

a. Solid/built-up [ref. a, ch. 3]
b. Controllable pitch [ref. e, secs. 2, 5, 7]

_____
(Signature and Date)

.2 Describe the configurations for diver-powered hydraulic tools. [ref. c, app. A]

_____
(Signature and Date)

.3 Describe the characteristics and capabilities of the following: [ref. c]

a. HP tool hose [app. A]
b. Divers hand-operated hydraulic pump [app. E]
c. Wire rope cutter [app. B]
d. Hydraulic cutter [app. B]
e. Jack rams [app. C]
f. Hydraulic power tool hose and reel [app. X]
g. Hydraulic flow divider assembly [app. F]
h. Chain saw [app. Q]
i. Cutoff saw [app. I]
j. Grinder [app. J]
k. Impact wrenches [apps. L thru N]
l. Heavy-duty impact wrench [app. O]
m. Come-along [app. H]
n. Sump pump with jetting nozzle [app. S]
o. Chipping hammer [app. G]

_____
(Signature and Date)

119 UNDERWATER SHIP'S HUSBANDRY EQUIPMENT AND ORGANIZATIONAL FUNDAMENTALS (CONT'D)

119.4 State the approved fluid for use in hydraulic power units. [ref. c, ch. 2; ref. d, ch. 2]

_____
(Signature and Date)

.5 Discuss proper maintenance and stowage of hydraulic tool packages. [ref. d, chs. 4 thru 6]

_____
(Signature and Date)

.6 How are overheating problems controlled in the hydraulic fluid? [ref. c, ch. 2]

_____
(Signature and Date)

.7 How is the fluid viscosity level reduced in PR 1192 fluid for extreme cold weather use? [ref. d, par. 2.4]

_____
(Signature and Date)

.8 What indications would be seen with water contamination in the hydraulic fluid? [ref. c, ch. 2]

_____
(Signature and Date)

.9 What are the pressure ranges for hydraulic-powered tools? [ref. c, apps. A thru X]

_____
(Signature and Date)

119 UNDERWATER SHIP'S HUSBANDRY EQUIPMENT AND ORGANIZATIONAL FUNDAMENTALS (CONT'D)

119.10 Describe and discuss the following: [ref. b]

a. Cofferdam [sec. 1]
b. DC plug [sec. 2]
c. Expandable plugs [sec. 2]
d. Flat patch [sec. 2]
e. Box patch [sec. 2]
f. Eductors [sec. 5]
g. Shaft wrap [sec. 7]
h. Shaft seal cofferdam [sec. 7]
i. Bintsuke [app. A]

_____
(Signature and Date)

.11 Describe and discuss the following: [ref. f, app. G]

a. Pressure barrier
b. Types of barriers
c. Barrier isolation protection
d. Single barrier protection
e. Double barrier protection

_____
(Signature and Date)

.12 Describe a differential pressure seal on a cofferdam patch. [ref. b, sec. 5]

_____
(Signature and Date)

.13 When is a dewatering eductor secured? [ref. b, sec. 5]

_____
(Signature and Date)

.14 Describe templating and it's purpose. [ref. b, sec 8]

_____
(Signature and Date)

.15 What is the required cofferdam gasket material and the uncompressed thickness? [ref. b, sec. 5]

_____
(Signature and Date)

119 UNDERWATER SHIP'S HUSBANDRY EQUIPMENT AND ORGANIZATIONAL FUNDAMENTALS (CONT'D)

119.16 Describe the requirements of the Patch and Plug Inspection Checksheet. [ref. b, app. C]

_____
(Signature and Date)

.17 Describe the requirements of the Patch and Plug Installation Checksheet. [ref. b, app. D]

_____
(Signature and Date)

120 UNDERWATER PHYSIOLOGY AND FIRST AID FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

120.1 Discuss the following conditions:

a. Hypoxia [chs. 3, 17 thru 19]
b. Oxygen toxicity [chs. 14, 15, 17,18, 21]
c. Carbon monoxide poisoning [chs. 3, 19]
d. Carbon dioxide excess (hypercapnia) [chs. 3, 15, 17 thru 19]
e. Asphyxia [ch. 3]
f. Hyperventilation [chs. 3, 19]
g. Barotrauma [chs. 3, 19]
h. Pulmonary over inflation syndromes [chs. 3, 19]
i. Dehydration [ch. 3]
j. Hyperthermia [chs. 3, 19]
k. Hypothermia [chs. 3, 11, 19]

_____
(Signature and Date)

.2 What methods are used for the prevention of:

a. DCS [ch. 3]
b. Pulmonary over-inflation syndrome [chs. 3, 19]

_____
(Signature and Date)

.3 Define the following diving disorders:

a. Type I DCS [chs. 15, 20]
b. Type II DCS [chs. 15, 20]
c. Altitude DCS [ch. 20]
d. Gas embolism [ch. 20]
e. Pulmonary over-inflation syndrome [chs. 3, 19]

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(Signature and Date)

120 UNDERWATER PHYSIOLOGY AND FIRST AID FUNDAMENTALS (CONT'D)

120.4 Define the following basic life support techniques: [app. 5B]

a. Pulmonary resuscitation
b. Mouth-to-mouth resuscitation
c. Cardiac resuscitation
d. Control of bleeding
e. Pressure points
f. Shock TX

_____

(Signature and Date)

121 DIVING ORGANIZATION FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] Command Standard Organization and Regulations Manual (SORM)
[c] OPNAVINST 3150.27A, Navy Diving Program

121.1 Identify the chain-of-command for your command's diving organization. [ref. b]

_____
(Signature and Date)

.2 What are the responsibilities of the following personnel during diving operations: [ref. a]

a. Commanding Officer (CO) [ch. 6]
b. Executive Officer (XO) [figs. 6-19, 6-20]
c. Command Duty Officer/Officer of the Deck (CDO/OOD) [figs. 6-19, 6-20]
d. First Lieutenant [figs. 6-19, 6-20]
e. Engineering Officer [figs. 6-19, 6-20]
f. Command Diving Officer [ch. 6]
g. Master Diver [ch. 6]
h. Dive Station Diving Officer (ch. 6)
i. Diving Supervisor [ch. 6]
j. Diving Medical Officer/Diving Medical Corpsman [ch. 6]
k. Navy qualified divers [ch. 6]

_____
(Signature and Date)

.3 What are the functions and responsibilities of the following organizations: [ref. c]

a. NAVSEA 00C
b. COMNAVFACENGCOM
c. Naval Safety Center
d. CNO N773
e. BUMED 21
f. NEDU
g. CENEODDIVE
h. Community Manager
i. BUPERS 401

_____
(Signature and Date)

122 DIVE PLANNING PROCEDURES FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NSTM S9086-TX-STM-010/CH-583, Boats and Small Craft

122.1 What are the ten steps in planning a diving operation? [ref. a, ch. 6]

_____
(Signature and Date)

.2 How would various underwater conditions at the dive site influence your selection of the type of equipment to be used? [ref. a, ch. 7]

_____
(Signature and Date)

.3 Describe the advantages and disadvantages of each type of diving equipment. [ref. a, chs. 4, 6 thru 8, 11, 13]

_____
(Signature and Date)

.4 Describe the effects of tides, currents, and atmospheric conditions. [ref. a, ch. 6]

_____
(Signature and Date)

.5 Explain the hazards peculiar to diving operations and discuss the safety precautions to be observed before diving. [ref. a, chs. 2, 6, 17 thru 19]

_____
(Signature and Date)

.6 Describe the normal and emergency communication methods utilized in surface supplied diving operations. [ref. a, ch. 8]

_____
(Signature and Date)

.7 Describe the restrictions and operational considerations for each type of diving equipment. [ref. a, chs. 4, 6 thru 8, 11, 13]

_____
(Signature and Date)

122 DIVE PLANNING PROCEDURES FUNDAMENTALS (CONT'D)

122.8 Describe the diving boat safety checklist. [ref. b, sec. 5]

_____
(Signature and Date)

.9 Describe the manning requirements for the various diving capabilities of your command. [ref. a, ch. 6]

_____
(Signature and Date)

.10 Describe the emergency assistance checklist. [ref. a, ch. 6]

_____
(Signature and Date)

.11 State the requirements for the selection of diver dress in the following environments: [ref. a, chs. 1, 6]

a. Cold water
b. Warm water
c. Contaminated water

_____
(Signature and Date)

123 DIVING SYMBOLS AND FORMULAS FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

123.1 Discuss and compute the following as utilized in diving:

a. Atmospheres absolute [ch. 2]
b. Depth to psig [ch. 2]
c. Compressor output [ch. 8]
d. Minimum manifold pressure [ch. 8]
e. Compressor output (maximum depth) [chs. 4, 8]
f. Converting standard cubic feet to actual cubic feet and actual cubic feet to standard cubic feet [ch. 2]
g. Cubic foot of gas in stowage [ch. 2]
h. Cubic foot of gas available for use [ch. 2]
i. Air diver consumption [ch. 2]
j. Gas partial pressures [ch. 2]

_____
(Signature and Date)

124 DIVING RECORDS AND REPORTS FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] MILPERSMAN 1220-100, The Diver/EOD/SEAL/UCT Program

124.1 Identify the diving logs and records maintained at your command. [ref. a, ch. 5]

_____
(Signature and Date)

.2 State the purpose of each of your command's diving logs and records. [ref. a, ch. 5]

_____
(Signature and Date)

.3 Discuss the following: [ref. a, ch. 5]

a. Command smooth diving log
b. Dive reporting system
c. Diver's personal dive log
d. Diving mishap/hyperbaric TX/death report
e. Accident/incident equipment status report
f. FAR

_____
(Signature and Date)

.4 Explain the correct procedure to follow concerning the divers equipment in the event of a diving casualty. [ref. a, ch. 5]

_____
(Signature and Date)

.5 Explain the qualification and requalification requirements for diving personnel and the documentation required. [ref. b, sec. 260]

_____
(Signature and Date)

124 DIVING RECORDS AND REPORTS FUNDAMENTALS (CONT'D)

124.6 Explain the requalification requirements for personnel under the following conditions: [ref. b, sec. 260]

a. Lapsed for more than 1 year
b. Lapsed for more than 3 years

_____
(Signature and Date)

125 AIR DIVING DECOMPRESSION TABLES FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

125.1 Define the following terms used in diving operations:

a. Descent time [ch. 9]
b. Total bottom time [chs. 6, 9]
c. Decompression table [chs. 9]
d. Decompression schedule [ch. 9]
e. Decompression stop [ch. 9]
f. Deepest depth [chs. 6, 7, 9]
g. Maximum depth [ch. 9]
h. Stage depth [ch. 9]
i. Equivalent single dive bottom time [ch. 9]
j. No decompression limits [ch. 9]
k. Repetitive dive [ch. 9]
l. Repetitive group designation [ch. 9]
m. Residual nitrogen [ch. 9]
n. RNT [ch. 9]
o. Single dive [ch. 9]
p. Single repetitive dive [ch. 9]
q. Surface interval [ch. 9]

_____
(Signature and Date)

.2 Discuss the criteria for selecting the decompression tables:

a. No-decompression limits and repetitive group designation table [ch. 9]
b. Standard air decompression table [ch. 9]
c. SUR-D table using air [ch. 9]
d. SUR-D table using oxygen [ch. 9]
e. Residual nitrogen timetables for repetitive air diving [ch. 9]
f. Altitude diving [ch. 9]
g. NITROX tables [ch. 10]

_____
(Signature and Date)

.3 Explain the rules for correcting variations in rate of ascent. [ch. 9]

_____
(Signature and Date)

125 AIR DIVING DECOMPRESSION TABLES FUNDAMENTALS (CONT'D)

125.4 Explain an exceptional exposure dive. [ch. 9]

_____
(Signature and Date)

.5 Explain the RNT exception rule. [ch. 9]

_____
(Signature and Date)

126 SURFACE SUPPLIED MIXED GAS DIVING FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual, Ch. 14

126.1 Discuss the limitations of gas mixtures and percentages.

_____
(Signature and Date)

.2 Discuss the special procedures for descent with less than 16 percent oxygen.

_____
(Signature and Date)

.3 Discuss the procedures for shifting to 50 percent helium/50 percent oxygen at 90 FSW.

_____
(Signature and Date)

.4 Discuss the procedures for shifting to 100 percent oxygen during in-water decompression.

_____
(Signature and Date)

.5 Discuss the following decompression procedures:

a. SUR D procedures using oxygen
b. In-water decompression
c. Aborted dive during descent

_____
(Signature and Date)

.6 Discuss EGS limitations and requirements

_____
(Signature and Date)

.7 Discuss variation in rate of ascent.

_____
(Signature and Date)

126 SURFACE SUPPLIED MIXED GAS DIVING FUNDAMENTALS (CONT'D)

126.8 Discuss the procedures for repetitive mixed gas diving.

_____
(Signature and Date)

.9 Discuss ascent to altitude following mixed gas diving [ref. a, ch. 9].

_____
(Signature and Date)

.10 Discuss mixed gas charting procedures.

_____
(Signature and Date)

.11 Discuss manning requirements and responsibilities [ref.a, ch. 13].

_____
(Signature and Date)

.12 Discuss the four methods of mixing gas [ref. a., ch. 16]

_____
(Signature and Date)

127 RECOMPRESSION TREATMENT FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

127.1 State what tables are used in recompression TXs and their application. [ch. 21]

_____
(Signature and Date)

.2 Define the following terms as each applies to recompression TX:

a. DCS [ch. 20]
b. Type I DCS [ch. 20]
c. Type II DCS [ch. 20]
d. Gas embolism [ch. 20]
e. Neurological symptoms [ch. 20]
f. Altitude DCS [ch. 20]
g. Omitted decompression [ch. 21]
h. Oxygen toxicity [ch. 21]
i. Pulmonary over-inflation syndromes [ch. 19]
j. In-water TX [ch. 21]
k. Ancillary care [ch. 21]
l. Rate of descent [ch. 21]
m. Carbon monoxide poisoning [ch. 19]
n. Neurological exam [app. 5A]
o. Dive profile [ch. 20]

_____
(Signature and Date)

.3 Define the following as each applies to recompression TX:

a. Rules for recompression TX [ch. 21, Table 21-2]
b. Manning requirements [ch. 21]
c. Medical personnel requirements for TX [ch. 21]

_____
(Signature and Date)

127 RECOMPRESSION TREATMENT FUNDAMENTALS (CONT'D)

127.4 Describe the steps for TX of:

a. Type I DCS [fig. 21-4]
b. Type II DCS [fig. 21-5]
c. Gas embolism [fig. 21-5]
d. Recurrence during TX [fig. 21-6]
e. Recurrence following TX [fig. 21-6]
f. Omitted decompression [Table 21-3]
g. Overinflation syndromes [ch. 19]

_____
(Signature and Date)

.5 Describe the steps to be taken if:

a. Oxygen breathing during TX must be interrupted due to onset of O_2 toxicity symptoms [ch. 21]
b. Oxygen TX table must be extended [ch. 21]
c. Relief is not complete [figs. 21-4, 21-5]
d. Worsening symptoms [fig. 21-5]

_____
(Signature and Date)

.6 How is the proper TX table selected? [figs. 21-4, 21-5]

_____
(Signature and Date)

.7 Discuss the use of high oxygen treatment mixes. [ch. 21]

_____
(Signature and Date)

.8 What are the symptoms of:

a. CNS oxygen toxicity [ch. 19]
b. Pulmonary oxygen toxicity [ch. 21]

_____
(Signature and Date)

.9 Discuss temperature control and patient hydration. [ch. 21]

_____
(Signature and Date)

127 RECOMPRESSION TREATMENT FUNDAMENTALS (CONT'D)

127.10 Explain the in-water TX protocols when no chamber is available. [ch. 21]

_____
(Signature and date)

.11 Discuss the transporting of a diver requiring TX, when the chamber is not at the dive site. [ch. 21]

_____
(Signature and Date)

.12 Discuss post treatment care/observation and restrictions for future diving. [ch. 21]

_____
(Signature and Date)

.13 Discuss inside tender O_2 considerations. [Table 21]

_____
(Signature and Date)

.14 Discuss patient eating/sleeping during TX. [ch. 21]

_____
(Signature and Date)

.15 Define the following: [ch. 22]

a. On-site chamber
b. On-station chamber
c. Emergency chamber

_____
(Signature and Date)

128 RECOMPRESSION CHAMBER FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

128.1 Identify the types of recompression chambers utilized in the U.S. Navy. [ch. 22]

_____
(Signature and Date)

.2 Discuss the use and application of the recompression chamber. [ch. 21]

_____
(Signature and Date)

.3 State the maximum operating pressure of a recompression chamber. [fig. 22-13]

_____
(Signature and Date)

.4 Discuss the minimum primary and secondary air supply requirements. [ch. 22]

_____
(Signature and Date)

.5 Discuss the rules for ventilation with BIBS dump/without BIBS dump. [ch. 22]

_____
(Signature and Date)

.6 What types of materials are not allowed in a recompression chamber? [ch. 22]

_____
(Signature and Date)

.7 Discuss the contents and location of the primary and secondary medical kit. [ch. 21, Tables 21-7, 21-8]

_____
(Signature and Date)

128 RECOMPRESSION CHAMBER FUNDAMENTALS (CONT'D)

128.8 Discuss normal/emergency methods of communication. [ch. 22]

_____
(Signature and Date)

.9 State the pressure setting for the oxygen regulator. [fig. 22-11]

_____
(Signature and Date)

.10 Discuss the predive and postdive checks conducted on the recompression chamber. [figs. 22-11, 22-12]

_____
(Signature and Date)

.11 Discuss the methods of extinguishing a fire. [ch. 22]

_____
(Signature and Date)

.12 Discuss the maximum permissible oxygen and carbon dioxide levels in the recompression chamber. [ch. 21]

_____
(Signature and Date)

129 OPEN CIRCUIT SCUBA FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA ltr 10560 Ser00C/3112 of 15 May 97, Authorized for Navy Use List (http://www.supsalv.org/pdf/new_anu.pdf)
[c] PMS MRC 5921/019, R-2, Clean and Disinfect SCUBA Breathing Apparatus

---

129.1 State the minimum equipment required by a scuba diver. [ref. a, fig. 6-23]

_____
(Signature and Date)

.2 Where is the minimum equipment required for use by Navy scuba divers listed? [ref. a, ch. 7]

_____
(Signature and Date)

.3 What are the depth limitations for scuba when using a MK-20 (FFM)? [ref. a, ch. 7]

_____
(Signature and Date)

.3 Discuss the types of scuba cylinders, their working pressures, and reserve pressures. [ref. a, Table 7-1]

_____
(Signature and Date)

.4 Discuss the air reserve mechanism operation. [ref. a, ch. 7]

_____
(Signature and Date)

.5 Describe the types of life preservers and buoyancy compensators authorized for Navy use, including:

a. Depth limitation [ref. b, ch. 7]
b. Minimum CO_2 cartridge weight (if applicable) [ref. b, ch. 7]
c. Method of inflation [ref. a, ch. 7-2]

_____
(Signature and Date)

129 OPEN CIRCUIT SCUBA FUNDAMENTALS (CONT'D)

129.6 Describe predive and surface checks. [ref. a, ch. 7]

_____
(Signature and Date)

.7 Discuss the means of communication used between scuba divers and topside. [ref. a, ch. 7]

_____
(Signature and Date)

.8 List the requirements for diving under floating hulls or where no free access to the surface is available. [ref. a, ch. 7]

_____
(Signature and Date)

.9 Describe the conditions and requirements necessary to conduct decompression scuba dives. [ref. a, ch. 7]

_____
(Signature and Date)

.10 List the following restrictions as applied to scuba diving: [ref. a]

a. Normal working limit [fig. 6-14]
b. Maximum working limit [fig. 6-14]
c. Maximum current [fig. 6-23]
d. Minimum manning [fig. 6-16]
e. Diving>60 FSW [fig. 6-14]
f. Diving>100 FSW [fig. 6-14]

_____
(Signature and Date)

.11 Discuss the advantages and disadvantages of diving scuba. [ref. a, fig. 6-23]

_____
(Signature and Date)

.12 Discuss the visual inspection and hydrostatic test requirements for scuba cylinders. [ref. a, ch. 7]

_____
(Signature and Date)

129 OPEN CIRCUIT SCUBA FUNDAMENTALS (CONT'D)

129.13 Describe the minimum equipment requirements for a standby scuba diver. [ref. a, ch. 6]

_____
(Signature and Date)

.14 Describe the following concerning scuba regulators:

a. Over-bottom pressure setting [ref. a, ch. 7]
b. Hygienic maintenance [ref. c]
c. Cold water diving [ref. a, ch. 11]

_____
(Signature and Date)

130 SURFACE SUPPLIED DIVING FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

130.1 Describe the types of surface supplied air and mixed gas diving UBAs. [ch. 6, figs. 6-24, 6-25]

_____
(Signature and Date)

.2 What are the applications, advantages and disadvantages of each UBA? [ch. 6, figs. 6-24, 6-25]

_____
(Signature and Date)

.3 Calculate minimum manifold pressure for each command UBA. [ch. 8]

_____
(Signature and Date)

.4 Calculate SCF of air required for a dive at your command. [ch. 8]

_____
(Signature and Date)

.5 State the minimum number of personnel required to man the side for each UBA. [fig. 6-16]

_____
(Signature and Date)

.6 What are the normal and maximum working limits of air and mixed gas diving UBAs? [chs. 6, 13, 17, 18]

_____
(Signature and Date)

.7 Describe the EGS assembly requirements for enclosed space and open water diving. [ch. 8]

_____
(Signature and Date)

130 SURFACE SUPPLIED DIVING FUNDAMENTALS (CONT.)

130.8 Describe the different types of certified portable surface supplied diving systems. [ch. 8]

_____
(Signature and Date)

.9 State the requirements for deploying standby diver as a working diver. [ch. 6]

_____
(Signature and Date)

.10 Discuss the actions taken in the event of a trapped diver, equipment failure, loss of gas supply and loss of communications. [ch. 6]

_____
(Signature and Date)

131 EXPLOSIVE ORDNANCE DISPOSAL (EOD) FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

131.1 Explain the operational tasks of EOD. [ref. a, ch. 6]

_____
(Signature and Date)

.2 Name the two primary UBAs used in EOD diving operations. [ref. a, ch. 18]

_____
(Signature and Date)

.3 Describe the purpose and uses for the following support equipment: [ref. a, ch. 18]

a. OTPA
b. TRCS
c. FARCC
d. EBSIII
e. Dukane sonar
f. Portable compressor

_____
(Signature and Date)

.4 Describe the functions for the F-470 and MK 5 inflatable boats. [ref. a, ch. 17]

_____
(Signature and Date)

132 CLOSED CIRCUIT OXYGEN UNDERWATER BREATHING APPARATUS (UBA) FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA SS600-A3-MMA-010/53833, Marine Corps TM 09603B-14&P/1 MK 25 Mod 2 Underwater Breathing Apparatus (UBA) Rev 1

132.1 Discuss the standard precautions involved in the following areas:

a. Competence and performance of operation [ref. a, ch. 19; ref. b, ch. 1]
b. Operations planning [ref. a, ch. 18; ref. b, ch. 2]
c. Adherence to approved operating, emergency, and maintenance procedures [ref. a, ch. 19; ref. b, ch. 2, 4, 6]

_____
(Signature and Date)

.2 Discuss the general description of the MK 25 Mod 2. [ref. a, ch. 19; ref. b, ch. 1]

_____
(Signature and Date)

133 HAZARDOUS MATERIAL/HAZARDOUS WASTE (HM/HW) FUNDAMENTALS

References:

[a] OPNAVINST 5100.19D, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat, Vol. 1
[b] COMNAVSURFLANT/COMNAVSURFPACINST 4400.1J, Surface Force Supply Procedures

133.1 What are the six categories of HM? [ref. a, sec. B-3]

_____
(Signature and Date)

.2 Explain incompatible material and describe an example. [ref. a, sec. B-3]

_____
(Signature and Date)

.3 Explain the information and procedures to be followed when a HM/HW spill is discovered. [ref. a, sec. B-3]

_____
(Signature and Date)

.4 State the personal protection equipment required when handling HM/HW. [ref. a, sec. B-12]

_____
(Signature and Date)

.5 Discuss the underway and import discharge limitations for the following:

a. Trash [ref. b, ch. 11]
b. Garbage [ref. b, ch. 11]
c. Plastic [ref. b, ch. 11]
d. Sewage [ref. b, ch. 11]
e. Oily waste [ref. a, sec. B-3]
f. Paint/mineral spirits [ref. a, sec. B-3]

_____
(Signature and Date)

134 MK 16 UNDERWATER BREATHING APPARATUS (UBA) FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA SS600-AQ-MMO-010 Operations and Organizational Level Maintenance Manual for MK 16 MOD 1
[c] 2177-A05-HB M-48 Super Mask Operations and Maintenance Manual
[d] MK 11 MOD 0 USN O&M Technical Manual

134.1 Discuss the applications of the MK 16 MOD 0 and MOD 1. [ref. a, ch. 17, 18]

_____
(Signature and Date)

.2 Define and explain LOMU. [ref. b, ch. 2]

_____
(Signature and Date)

.3 Discuss the function of the following: [ref. b, ch. 2]

a. Housing/equipment case subassembly
b. Recirculation system
c. Electronics system
d. Pneumatics system

_____
(Signature and Date)

.4 Discuss depth and duration limits of the MK 16 MOD 0 & 1. [ref. a, ch. 17, 18]

_____
(Signature and Date)

.5 Discuss the following diving procedures: [ref. a, ch. 18]

a. Single-marked diving
b. Paired-marked diving
c. Tended diving

_____
(Signature and Date)

134 MK 16 UNDERWATER BREATHING APPARATUS (UBA) FUNDAMENTALS (CONT'D)

134.6 Discuss the minimum diving equipment and manning required to conduct a MK 16 Mod 0 and Mod 1 dive. [ref. a, ch. 17, 18]

_____
(Signature and Date)

.7 When is a FFM required for MK 16? [ref. a, ch. 18]

_____
(Signature and Date)

.8 Discuss what items should be checked during the predive checklist and surface check for the MK 16. [ref. b, ch. 3]

_____
(Signature and Date)

.9 Discuss the inspection and hydro requirement for the MK 16 cylinders. [ref. b, ch. 4]

_____
(Signature and Date)

.10 Discuss the diver's timer/depth gauge requirement and the information it provides. [ref. b, ch. 2]

_____
(Signature and Date)

.11 Discuss the advantages of the M-48 FFM, when diving in a cold water/ice diving environments: [ref. c, ch 1]

_____
(Signature and Date)

134 MK 16 UNDERWATER BREATHING APPARATUS (UBA) FUNDAMENTALS (CONT'D)

134.12 Discuss the following components of the M-48 Super Mask: [ref. c]

a. Harness Quick Release
b. Harness Spider Assembly
c. Mask Skirt
d. Communication Port and Plug
e. Lens
f. Buckle Assembly
g. Hook & Cover
h. Mask Frame/Retainer
i. POD/Frame/Cover/Hook
j. T-Bit
k. Hose Assembly
l. Open/Close Barrel Valve
m. Accessories Access Port

_____
(Signature and Date)

.13 Discuss the M-48 FFM interface with the EBS III: [ref. c, ch. 8]

_____
(Signature and Date)

.14 Discuss the following components of the MK 11 BCD: [ref. d, chs 1, 2]

a. Harness Assembly
b. Bladder Assembly
c. Quick Release Assembly
d. Air Inflation System
e. Regulator
f. Power Inflator

135 SEMI-CLOSED MIXED GAS UBA VIPER VSW

References:

[a] VIPER Operating Manual Model 24007-A07 Rev D

135.1 Describe how a mixed gas semi-closed UBA operates. [ref. a, ch. 1]

_____
(Signature and Date)

.2 What is the primary mission use of the Viper? [ref. a, ch. 1]

_____
(Signature and Date)

.3 What gas mixture is charged into the Viper flasks? [ref. a, ch. 1]

_____
(Signature and Date)

.4 Explain EAD Equivalent Air Depth. [ref. a, ch. 1]

_____
(Signature and Date)

.5 Discuss the following: [ref. a, ch. 1]

a. Operational depth
b. Limited excursion depth and time
c. Duration limits

_____
(Signature and Date)

.6 Describe the following system components, to include sub-components: [ref. a, ch. 1]

a. Integrated Buoyancy Compensator
b. Counterlung
c. Backpack Assemble
d. Mouth piece/full facemask

_____
(Signature and Date)

135 SEMI-CLOSED MIXED GAS UBA VIPER VSW (CONT)

135.7 Discuss the following supporting equipment: [ref. a, ch. 2]

a. Calibration panel
b. Hand held flow meter
c. Calibration accessories kit

_____
(Signature and Date)

.8 What are the Viper Environmental operating limits? [ref. a, ch. 2]

_____
(Signature and Date)

.9 Discuss the maximum allowable counterweights and Viper counterweight options. [ref. a, ch. 2]

_____
(Signature and Date)

.10 Describe the purpose of the absorbent canister. [ref. a, ch. 2]

_____
(Signature and Date)

136 DLSS COMPRESSOR FUNDAMENTALS

References:

[a] BAUER INSTRUCTION MANUAL
[b] NAVSEA SS521-AG-PRO-010, U.S. NAVY DIVING MANUAL

136.1 Describe the characteristics and functions of the following: [Ref.a]

a. BAUER Breathing Air Purification System
b. Air-cooled Interstage Coolers and Afercoolers
c. Interstage and Final Separator with Manual Drains
d. Interstage and Final Relief Valves
e. Belt guards
f. Inlet filter
g. High temperature Switch
h. Hour meter
i. Low Oil Pressure Switch
j. Oil Pressure Gauge
k. Final Pressure Switch
l. Final Pressure Gauge
m. Automatic Condensate Drain
n. Securus Electronic Purification Monitoring System

_____
(Signature and Date)

.2 State the approved lubricant used in DLSS compressors. [ref.b, ch.8]

_____
(Signature and Date)

.3 Discuss the Military Diver's Air Breathing Specifications and periodicity's. [ref. B. ch 8]

_____
(Signature and Date)

137 DIVER PROPULSION DEVICE (DPD) FUNDAMENTALS

References:

[a] USMC Course Conduct Publication for the Diver Propulsion Device (DPD)
[b] STIDD Systems, Inc., DPD User Manual
[c] NDSTC Trainee Guide for DPD (44.1 MK-25 MOD 2 Diving)

137.1 Discuss the DPD specifications:

a. Authority for training (ref. a)
b. Length [ref. b, ch. 1]
c. Beam [ref. b, ch. 1]
d. Weight [ref. b, ch. 1]
e. Operating Depth [ref. b, ch. 1]
f. Speed [ref. b, ch. 1]

_____
(Signature and Date)

.2 Describe the DPD sub-systems:

a. Hull Sub-system (ref. b, ch. 2)
b. Electric Propulsion Subsystem (ref. b, ch. 2)
c. Navigational Instrumentation (ref. b, ch. 2)
d. Control Sub-system (ref. b, ch. 2)

_____
(Signature and Date)

.3 Describe the following DPD components:

a. Forebody (ref. b, ch. 2)
b. Aftbody (ref. b, ch. 2)
c. Viewport (ref. b, ch. 2)
d. Gage Console (ref. b, ch. 2)
e. Throttle (ref. b, ch. 2)]
f. Steering Control Yoke (ref. b, ch. 2)
g. Battery Status Indicator (ref. b, ch. 2)]
h. Thruster (ref. b, ch. 2)
i. Thruster Shroud (ref. b, ch. 2)]
i. Lithium-Ion Battery (ref. b, ch. 2)
k. Fresh Water Wedge (ref. b, ch. 2)
l. Stern Planes (ref. b, ch. 2)
m. Bow Planes (ref. b, ch. 2)

137 DIVER PROPULSION DEVICE (DPD) FUNDAMENTALS (CONT'D)

137.3 n. Extended Range Kit (ref. b, ch. 2)]
o. Shipping Container (ref. b, ch. 2)

_____
(Signature and Date)

.4 Discuss the following precautions:

a. Replacement Batteries (ref. b, ch. 1)
b. Battery Storage (ref. b, ch 6 and 7)
c. Propeller Operation (ref. b, ch. 1, 2 and 7)
d. Thruster Operation (ref. b, ch. 1 and 2)]
e. Lifting (ref. b, ch. 1 and 2)]

_____
(Signature and Date)

.5 Discuss the following operations:

a. Mounting the DPD (ref. c, ch 44.1)
b. Tactical Peeks (ref. c, ch 44.1)
c. Cache of the DPD (ref. c, ch 44.1)
d. Helo Cast procedures (ref. c, ch 44.1)
e. Fresh Water Ops (ref. b, ch 5)
d. Launching from small craft (ref. b, ch 5)
e. Optimizing speed u/w (ref. b, ch 3)
f. DPD and Operator buoyancy (ref. b, ch 2)
g. Extended range dual battery option (ref. b, ch 2)
l. Preparing for shipment [ref. b, ch. 4]
m. Pilot/rider leg signals (ref. c, ch 44.1)
n. Bottoming out of the DPD(ref c, ch 44.1)

_____
(Signature and Date)

138 ORDNANCE/SECURITY SEARCHING

References:

[a] EODB 60A-1-1-37, Underwater Ordnance (UWO), Operations and Procedures
[b] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[c] EODB 60A-1-1-22, General EOD Safety Precautions
[d] EODB 60A-2-1-62 U.S. Sonar Set, Hand-Held, AN/PQS-2A
[e] COMDTINST M16672.2, U.S. Coast Guard Navigation Rules International-Inland

138.1 Describe the general safety precautions that apply to underwater reconnaissance operations.
(ref.a, sec. c)

_____
(Signature and Date)

.2 Discuss the safety precautions for the following underwater ordnance. (ref. a.)

a. Contact mines
b. Influence mines
c. Drill mines
d. Drifting mines
e. Limpet Mines

_____
(Signature and Date)

.3 Discuss safe separation distance for HERO unsafe and HERO susceptible ordnance. (ref. b, ch. 3)

_____
(Signature and Date)

.4 Discuss the following conditions that affect underwater explosions.
(ref. a, appendix a)

a. Type of explosion and size of charge.
b. Characteristics of the seabed.
c. Location of the explosive charge.
d. Water depth.
e. Distance from the explosion.

_____
(Signature and Date)

138 ORDNANCE/SECURITY SEARCHING (CONT'D)

138.5 Discuss the safety precautions for explosive ordnance. (ref a, ch. 2)

_____
(Signature and Date)

.6 Discuss the following factors that affect U/W operations. (ref. b, ch. 2-5)

a. Environmental conditions
b. Bottom conditions
c. Depth
d. Intelligence (Threat assessment)
e. Search techniques
f. Support craft
g. Support personnel

_____
(Signature and Date)

.7 Describe U/W search procedures.

a. Jackstay (ref. b, ch. 8-11.3)
b. Circle line (ref. b, ch. 8-11.3)
c. AN/PQS-2A sonar (ref. h, ch. 3)

_____
(Signature and Date)

.8 Discuss the requirements for navigational lighting. (ref. g)

_____
(Signature and Date)

139 SURVIVAL EGRESS AIR (SEA), USMC FUNDAMENTALS

References:

[a] Aqua Lung S.E.A. (Survival Egress Air) Users Manual, P/N 108349-Rev. 12/2000

139.1 Discuss the SEA general specifications.

a. Cylinder Volume [ref. a]
b. Cylinder Material [ref.a]
c. Rated Cylinder Pressure [ref. a]
d. Weight [ref. a]
e. Operating Depth [ref. a]

_____
(Signature and Date)

.2 Discuss the duration of the air supply. [ref. a]

_____
(Signature and Date)

.3 Describe the required receipt inspection. [ref. a]

_____
(Signature and Date)

.4 Describe the required annual maintenance. [ref. a]

_____
(Signature and Date)

.5 Discuss the following precautions. [ref. a]

a. Intended Use
b. Receipt Inspection/First Use
c. Required Scheduled Maintenance
f. Filling the SEA Bottle
g. Breathing Medium
f. Use of lubricants
h. Use of aerosol sprays on SEA
i. Training with the SEA
j. Air dryness for the SEA
k. Maximum charging rates

_____
(Signature and Date)

140 TACTICAL COMMUNICATIONS FUNDAMENTALS

References:

[a] TM 11-5820-890-10-1, SINCGARS Radio Operator's Manual (PCN 35159745100)
[b] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
[c] SECNAVINST 5510.30A, Department of Navy Personnel Security Program
[d] NAVEDTRA 14234, Seabee Combat Handbook, Vol. 1
[e] NAVEDTRA 14222, Information Systems Technician Training Series Module 01- Admin and Security
[f] NAVEDTRA 14226, Information Systems Training Series Module 5-Comms Center Ops
[g] Material Safety Data Sheet (MSDS)
[h] Construction Battalion Battle Skills Guide Book 1, P1160
[i] Communications Security Material Guide, CMS-1A
[j] TM 07508A-14, Antenna, AS-2259/GR
[k] TM 11-5820-890-8, SINCGARS Ground Combat Net Radio, ICOM Operator's Guide
[l] Harris Guide, 10415-0108-4100
[m] TM-11-5825-291-13, Satellite Signals Navigation Set, AN/PSN-11
[n] Hazardous Material User's Guide (HMUG)

140.1 Discuss the maximum transmission ranges for each of the following settings: [ref. a, ch1, p 6]

a. LO (low power)
b. M (medium power)
c. HI (high power)
d. PA (power amplifier)

_____
(Signature and Date)

.2 Discuss Communications Security (COMSEC) and the role of the Communications Security Material System (CMS) custodian. [ref. h, ch. 3]

_____
(Signature and Date)

.3 What is meant by the term Two-Person Integrity (TPI)? [ref. e, ch. 3]

_____
(Signature and Date)

140 TACTICAL COMMUNICATIONS FUNDAMENTALS (CONT)

140.4 Discuss the following terms:

a. Encryption [ref. e, app. I]
b. Access [ref. c, ch. 9]
c. Classification [ref. c, ch. 9]
d. Compromise [ref. c, Annex A]
e. Need to know [ref. c, ch. 9]
f. Restricted area [ref. e, ch. 5]
g. Clearance [ref. c, ch. 8]

_____
(Signature and Date)

.5 Discuss the proper use of the phonetic alphabet, numerals, and prowords. [ref. h, Attachment 2]

_____
(Signature and Date)

.6 Define the following terms:

a. Minimize [ref. e, ch. 2]
b. EEFI Essential Elements of Friendly Fire [ref. f, ch. 2]
c. BEADWINDOW [ref. f, ch. 2]

_____
(Signature and Date)

.7 Discuss the following with respect to the communication equipment in the TOA:

a. HF [ref. j]
b. VHF [ref. k]
c. UHF [ref. l]

_____
(Signature and Date)

.8 Define the following classification categories: [ref. e, ch. 5]

a. Confidential
b. Secret
c. Top secret

_____
(Signature and Date)

140 TACTICAL COMMUNICATIONS FUNDAMENTALS (CONT)

140.9 Define the term emergency destruction as it applies to: [ref. e, ch. 3]

a. Communication equipment
b. CMS

_____
(Signature and Date)

.10 Discuss the three methods of communications in the defense area and which is most dependable. [ref. d, ch. 11]

_____
(Signature and Date)

.11 Discuss the factors that affect the capabilities of radio communications. [ref. d, ch. 11]

_____
(Signature and Date)

.12 Discuss the characteristic, shipping, handling, and storage of the following batteries: [ref. g; ref. n, Group 21]

a. NiCAD
b. Lithium
c. Alkaline

_____
(Signature and Date)

.13 Explain which radios are used with the following antennas:

a. OE-254 [ref. l]
b. RF-1912 (TR-72) [ref. j]
c. AS-2259 [ref. j]

_____
(Signature and Date)

141 NUCLEAR BIOLOGICAL AND CHEMICAL (NBC) DEFENSE FUNDAMENTALS

References:

[a] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
[b] MCRP 3-37A, NBC Field Handbook (PCN 14400004300)
[c] NAVEDTRA 14295, Hospital Corpsman

141.1 Explain the following: [ref. b, ch 2,4,5]

a. Chemical warfare
b. Biological warfare
c. Radiological warfare
d. Routes by which agents enter the body

_____
(Signature and Date)

.2 Explain the shape, colors, and purposes of the standard North Atlantic Treaty Organization (NATO) Nuclear, Biological, and Chemical (NBC) contamination markers and the information contained on them. [ref. a, pp. 1-20-1 thru 1-20-3]

_____
(Signature and Date)

.3 Discuss the purpose of the M-45 field protective mask. [ref. a, p. 1-20-5]

_____
(Signature and Date)

.4 Identify the following NBC alarms: [ref. a, pp. 1-20-19, 1-20-20]

a. Vocal
b. Visual
c. Percussion

_____
(Signature and Date)

.5 Explain Mission Oriented Protective Posture (MOPP) levels. [ref. a, p. 1-20-27]

_____
(Signature and Date)

141 NUCLEAR BIOLOGICAL AND CHEMICAL (NBC) DEFENSE FUNDAMENTALS

141.6 State how long the Chemical Protective Over garment (CPO) suit will provide protection from chemical agents once they are removed from the packaging under the following conditions: [ref. b]

a. Exposed to chemical agents
b. Not exposed to chemical agents

_____
(Signature and Date)

.7 Explain the uses of the following: [ref. a, pp. 1-20-39, 1-20-40]

a. M-8 paper
b. M-9 paper
c. M-256 test kit
d. M-291 decon kit
e. M-295 decon kit

_____
(Signature and Date)

.8 Discuss the three levels of decontamination. [ref. b, pp. 3-34, 3-35]

_____
(Signature and Date)

.9 Define and discuss the types, symptoms, and treatment for the following chemical agents: [ref. c, pp. 8-5 thru 8-10]

a. Nerve
b. Blister
c. Blood
d. Choking
e. Riot control/harassing

_____
(Signature and Date)

142 EXPEDITIONARY OPERATIONS FUNDAMENTALS

References:

[a] Marine Corps Common Skills Handbook, Book 1A (PCN 50600000900)
[b] Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
[c] FM 3-25.26 Map Reading and Land Navigation
[d] FMFM 6-5, Marine Rifle Squad (PCN 13900050000)
[e] NAVEDTRA 14234, Seabee Combat Handbook, Vol. 1
[f] NAVEDTRA 14235, Seabee Combat Handbook, Vol. 2
[g] Blue Jackets' Manual, 23rd Edition
[h] P-1160, Construction Battalion Battle Skills Guide Book 1
[i] P-1161, Construction Battalion Battle Skills Guide, Book 2
[j] Chairman of the Joint Chiefs of Staff Instruction 3121.01A, Standing Rules of Engagement for U.S. Forces
[k] OPNAVIST 5530.15A (CH-1), PHYSICAL SECURITY, Physical Security
[l] MCRP 4-11.3F, Convoy Operations Handbook
[m] FMFM 4-9, Motor Transport Manual

142.1 Explain the six articles of the Code of Conduct.
[ref. a, pp. 1-10-1, 1-10-2]

_____
(Signature and Date)

.2 State the standard issue of 782 / tactical gear. [ref. b, ch. 2]

_____
(Signature and Date)

.3 Explain unaided day and night observation techniques.
[ref. b, pp. 1-13-1 thru 1-13-3]

_____
(Signature and Date)

.4 Discuss cover and concealment. [ref. b, ch. 4]

_____
(Signature and Date)

.5 Discuss the military aspects of terrain as it applies to a defensive force using KOCOA. [ref. f, ch. 4]

_____
(Signature and Date)

142 EXPEDITIONARY OPERATIONS FUNDAMENTALS (CONT)

142.6 State the five basic colors used and how they are applied to a military map. [ref. c, ch 3].

_____
(Signature and Date)

.7 Describe the grid system utilized on all military maps. [ref. c]

_____
(Signature and Date)

.8 Explain resection and intersection. [ref. c, 6-7, 6-8]

_____
(Signature and Date)

.9 Discuss the use and care of the following: [ref. c]

a. Topographic map
b. Lensatic compass

_____
(Signature and Date)

.10 Define the five-paragraph order (SMEAC, BAMCIS). [ref. b, ch. 11]

_____
(Signature and Date)

.11 Describe the purpose of the following: [ref. e, ch. 4]

a. Security patrol
b. Reconnaissance patrol

_____
(Signature and Date)

.12 Discuss the priorities of establishing a defense. [ref. e, ch. 4]

_____
(Signature and Date)

.13 Discuss sectors of fire and fire discipline. [ref. f, ch. 4]

_____
(Signature and Date)

142 EXPEDITIONARY OPERATIONS FUNDAMENTALS (CONT)

142.14 Describe the members of a rifle squad. [ref. d, ch. 1]

_____
(Signature and Date)

.15 Discuss an individual's responsibilities under the code of conduct. [ref. g, ch. 4]

_____
(Signature and Date)

.16 Describe force protection/threat conditions. [ref. k, app. A]

_____
(Signature and Date)

.17 Discuss who defines rules of engagement, how it applies and who is responsible for enforcing. [ref. j, encl. A]

_____
(Signature and Date)

.18 Describe circumstances when deadly force would normally be authorized. [ref. j, app. A]

_____
(Signature and Date)

.19 State the eleven general orders of a sentry. [ref. g, ch. 6]

_____
(Signature and Date)

.20 Discuss challenge and password. [ref. e, ch. 11]

_____
(Signature and Date)

.21 Discuss the purpose of combat hand and arm signals in the field. [ref. f, ch. 11]

_____
(Signature and Date)

142 EXPEDITIONARY OPERATIONS FUNDAMENTALS (CONT)

142.22 Describe the following vehicle convoys: [ref. l, ch. 4, sec. 2.4201]

a. March column
b. Serial column
c. Unit column

_____
(Signature and Date)

.23 Define the term checkpoint. [ref. c]

_____
(Signature and Date)

.24 Define the term rally point. [ref. c]

_____
(Signature and Date)

.25 Define the following types of rally points: [ref. c]

a. Initial
b. En route
c. Objective

_____
(Signature and Date)

143 EXPEDITIONARY SALVAGE FUNDAMENTALS

References:

[a] Marine Corps Doctrinal Publication - 3
[b] MDSU SORM
[c] MDSU ROC & POE
[d] System T & M Manual
[e] Subject Matter Expert, NDC or above
[f] NAVEDTRA 14109 Gunner's mate 3 and 2
[g] Vehicle T & M Manual
[h] ESSM Catalog

143.1 Define and discuss Expeditionary Operations. [ref. a]

_____
(Signature and Date)

.2 Discuss the difference between Expeditionary Salvage and Traditional Salvage Operations. [ref. e]

_____
(Signature and Date)

3. Explain the function, location and characteristics for the following:

a. Naval Expeditionary Combat Command (NECC)
b. Explosive Ordinance Disposal Groups (EODGRU)
c. MDSU ONE
d. MDSU TWO

_____
(Signature and Date)

.4 State the mission of a Mobile Diving and Salvage Unit. [ref. c]

_____
(Signature and Date)

143 EXPEDITIONARY SALVAGE FUNDAMENTALS (CONT)

143.5 Describe the duties and responsibilities of the following personnel as related to Expeditionary Salvage Operations: [ref. b]

a. Commanding Officer
b. Executive Officer
c. CMDCM
d. Operations Officer
e. Readiness and Training
f. Officer In Charge
g. Master Diver
h. LCPO
i. LPO
j. SCDD

_____
(Signature and Date)

.6 Discuss the following components utilized in support of Expeditionary Salvage Operations: [ref. e]

a. CBR Defense
b. Tactical Convoy
c. Tactical Communications
d. SMUT
e. Tactical Bivouac
f. Logistic Support

_____
(Signature and Date)

.7 Discuss function and characteristics of the following: [ref. f, ref. d]

a. M-60
b. M-16
c. M-9
d. M 500
e. M 203
f. Weapon Optics

_____
(Signature and Date)

143 EXPEDITIONARY SALVAGE FUNDAMENTALS (CONT)

143.8 Describe the function and characteristics of the following: [ref. g]

a. LSSV
b. HMMVV
c. MTVR
d. 1 ¼ Ton Trailer

_____
(Signature and Date)

.9 Describe the function and characteristics of the following: [ref. d]

a. LWDS
b. FADS III
d. SNDL
e. TRCS

_____
(Signature and Date)

.10 Describe the function and characteristics of Vessels of Opportunity. [ref. e]

_____
(Signature and Date)

.11 Discuss various types of Vessels of Opportunity available for Expeditionary Salvage Operations. [ref. e]

_____
(Signature and Date)

.12 Describe the contents of Expeditionary detachment ESSM load. [ref. h]

_____
(Signature and Date)

144 NAVAL SPECIAL WARFARE MISSION FUNDAMENTALS

References:

[a] Special Operations Forces Reference Manual, June 2005, FOUO, Joint Special Operations University.
[b] Navy Tactics, Techniques, and Procedures, Naval Special Warfare Submarine Operations Manual, NTTP 3-05.4 (REV.A)
[c] 774V6P3, "Chapter 4-7-4", S9SSN-ZQ-SSM-SPO/(U)
[d] SSGN V4P7C4 "Chapter 4-7-4", S9SSG-AA-SSM-NMO/(U)
[e] Subject Matter Expert, NDC or above

144.1 Define the following:

a. Special Operations [ref. a, ch. 1]
b. Characteristics of Special Operations [ref. a, ch. 1]

_____
(Signature and Date)

.2 State the mission of United States Special Operations Command (USSOCOM) [ref. a, ch. 2]

_____
(Signature and Date)

.3 Explain Naval Special Warfare position in the USSOCOM chain of command. [ref. a, ch. 2]

_____
(Signature and Date)

.4 Explain the function, location and characteristics for the following:

a. NAVSPECWARCOM Organization. [ref. a, ch. 4]
b. Naval Special Warfare Groups [ref. a, ch. 4]
c. Naval Special Warfare Logistics Support Units [ref. a, ch. 4]
d. Seal Teams [ref. a, ch. 4]
e. SDV Team TWO (SDVT-2) [ref. a, ch. 4]
f. SDV Team ONE (SDVT-1) [ref. a, ch. 4]

_____
(Signature and Date)

144 NAVAL SPECIAL WARFARE MISSION FUNDAMENTALS (CONT'D)

144.5 Describe the function and characteristics of the MK VIII SDV [ref. a, ch. 4]

_____
(Signature and Date)

.6 Describe the function and characteristics of the Dry Deck Shelter (DDS) [ref. a, ch. 4]

_____
(Signature and Date)

.7 Describe the function and characteristics of the Advanced SEAL Delivery System (ASDS) [ref. a, ch. 4]

_____
(Signature and Date)

.8 Describe the key characteristics of the following Submarine Special Warfare Operations:

a. Surface Launch [ref. b, ch. 1, 1.4]
b. Lock In/Out Operations [ref. b, ch. 1, 1.4]
c. Mass Swimmer Lock Out/In [ref. b, ch. 1, 1.4]
d. SEAL Delivery Vehicle [ref. b, ch. 1, 1.4]
e. Advanced SEAL Delivery System [ref. b, ch. 1, 1.4]

_____
(Signature and Date)

.9 Describe the function and characteristics of the USS VIRGINIA class submarine Lockout Trunk (LOT) [ref. c]

_____
(Signature and Date)

.10 Describe the function and characteristics of the USS OHIO class submarine Lockout Chamber (LOC) [ref. d]

_____
(Signature and Date)

144 NAVAL SPECIAL WARFARE MISSION FUNDAMENTALS (CONT'D)

144.11 Disscuss a Navy Divers role in the NSW mission, when assigned at the following duty stations: [ref.e]

a. Seal Team
b. NSW Center
c. LOGSU
d. SDV Team
e. DDS Platoon
f. NSWU
g. NSWDEVGRU

_____
(Signature and Date)

145 UNITED STATES MARINE CORPS DIVING OPERATIONS FUNDAMENTALS

References:

[a] Marine Corps Order (MCO) 3500.20 series
http://www.usmc.mil/directiv.nsf/82001916d226893285256d12004936dd/98c634f06e3197b785256aae00468596?OpenDocument

[b] PQS for Fleet Marine Force (FM) Enlisted Warfare Specialist, NAVEDTRA 43908-series

[c] USMC Command Locater
http://www.usmc.mil/marinelink/websites.nsf/unitslocation

[d] 4th Marine Division http://www.mfr.usmc.mil/4thMARDIV/4thRecon/

[e] Marine Corps Combatant Development Command (MCCDC)
https://www.mccdc.usmc.mil/

[f] I-MEF Order 4000.1(Series)

145.1 Identify the location of the USN manned diving lockers serving the Marine Corps.

a. I- MEF [ref. c]
b. II-MEF [ref. c]
c. III-MEF [ref. c]
d. 4th Marine Division (Reserves) [ref. d]
e. MCCDC [ref. e]

_____
(Signature and Date)

.2 Discuss mission of USMC combat divers. [ref a, pp 1]

_____
(Signature and Date)

.3 Discuss the relationship between the USMC Dive Lockers and the following. [ref a]

a. Marine Corps Systems Command (MARCORPSYSCOM) [ref a, pp 3., b., (4)]
b. Naval Sea Systems Command (NAVSEA) [ref a, pp 3., a., (2), (a), (5)]
c. CMC (DC, PP&O) [ref a, pp 3., b., (1)]
d. Master Diver/Diving Officer
e. Divers First Class
f. Special Amphibious Reconnaissance Corpsman (SARC)

_____
(Signature and Date)

145 UNITED STATES MARINE CORPS DIVING OPERATIONS FUNDAMENTALS (CONT'D)

145.4 Discuss the following dive equipment utilized by Marine Corps Divers.

a. MK-25 UBA
b. SCUBA
c. Diver Propulsion Device (DPD)
d. Survival Egress Apparatus (SEA)
e. Rapid Deployable Oxygen Transfer System (RDOTPS)
f. Transportable Recompression Chamber System (TRCS)
g. Mobile Recharging Station (MRS)

_____
(Signature and Date)

.5 Discuss the following concerning USMC diving.

a. Relationship of USN serving in USMC commands [ref a, pp 3, a, (2), (a), (6)]
b. Marine Combat Diver qualifications [ref a, pp 3., a., (2), (b)]
c. USMC Diving Supervisors [ref a, pp 3., b., (8)]
d. MK-25 Maintenance Technician [ref a, Encl (2), pp
e. Individual Qualification Standards (IQS) [ref a, Encl (5)]

_____
(Signature and Date)

.6 Discuss the additional standards Divers face while attached to USMC dive Lockers. [ref (b)]

a. Weapons qualifications.
b. Deployability.
c. Uniforms
d. Demo qualifications.
e. Squad participation, communications, and control.
f. Field First Aid
g. USMC customs, SOP's, etc.

_____
(Signature and Date)

145 UNITED STATES MARINE CORPS DIVING OPERATIONS FUNDAMENTALS (CONT'D)

145.7 Discuss the main mission of USN personnel attached to USMC Lockers. [ref. a, b, f]

a. Store, maintain and issue dive and dive support equipment.
b. Instructors for Diver Propulsion Device Pilot course.
c. Instructors for Combat Dive Supervisor Course.
d. Diving Officer and SME's for MEF, FORECON and RECON BN Commanders, platoon C.O.'s, etc.

_____

(Signature and Date)

146 SATURATION DIVING FUNDAMENTALS

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

146.1 State the purpose of saturation diving. [ref. a, ch. 15]

_____
(Signature and Date)

.2 Saturation diving systems are required to meet what three objectives. [ref. a, ch. 15]

_____
(Signature and Date)

.3 State the purpose of the Master protocol. [ref. a, ch. 15]

_____
(Signature and Date)

.4 What are the gas percentages for Saturation Treatment, Emergency, and UBA gasses. [ref. a, ch. 15]

_____
(Signature and Date)

.5 State the two methods used in establishing a saturation atmosphere on initial complex compression. [ref. a, ch. 15]

_____
(Signature and Date)

.6 Describe the Fire Zone, and at what depth is the complex out of the Fire Zone. [ref. a, ch.15]

_____
(Signature and Date)

.7 Discuss how oxygen partial pressure and percentage react when you compress the complex to storage depth. [ref. a, ch. 15]

_____
(Signature and Date)

146 SATURATION DIVING FUNDAMENTALS (CONT)

146.8 State the purpose of the unlimited excursion tables. [ref. a, ch. 15]

_____
(Signature and Date)

.9 Describe saturation decompression. [ref. a, ch. 15]

_____
(Signature and Date)

.10 Who is authorized to change the master protocol during a dive. [ref. a, ch. 15]

_____
(Signature and Date)

147 SUBMARINE RESCUE FUNDAMENTALS

References:

[a] NAVSEA S9086-T9-STM-010/CH-594, Naval Ships' Technical Manual Chapter 594, Salvage—Submarine Safety Escape and Rescue Systems
[b] NAVSEA SS750-AA-MMA-010/850FT, Technical Manual for Modernized 850 Foot Submarine Rescue Chamber (SRC) Operation and Maintenance

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147.1 List the current U.S. Navy Submarine Rescue assets. [ref. a, ch.1]

_____
(Signature and Date)

.2 Discuss the general factors that influence submarine rescue and escape operations. [ref. a, ch. 1]

_____
(Signature and Date)

.3 Describe the function of the Submarine Rescue Chamber. [ref. a, ch. 2]

_____
(Signature and Date)

.4 Describe the following limitations: [ref. a, ch. 2]

a. Angles to which SRC can make a seal
b. Maximum operating depth
c. Minimum manning inside SRC
d. Number of rescuees/maximum weight allowed per sortie

_____
(Signature and Date)

.5 Discuss the methods by which the SRC makes a seal to a DISSUB. [ref. a, ch. 2]

_____
(Signature and Date)

.6 Describe the methods used to ensure a stable at-sea platform for SRC operations. [ref. b, ch. 4]

_____
(Signature and Date)

200 INTRODUCTION TO SYSTEMS

200.1 BASIC BUILDING BLOCKS

In this section, the system and/or mission area is broken down into smaller, more comprehensible, functional systems as basic building blocks in the learning process. Each system/mission area is written to reflect specific warfare specialist requirements by identifying the equipment most relevant.

200.2 SYSTEMS AND SYSTEM PARTS

For learning purposes each system/mission area is disassembled into two levels. Mission areas have systems and systems have parts. Do not expect to see every item which appears on a parts list to be in the PQS. Only those items which must be understood for operation are listed. Normally a number of very broad (overview) mission areas are disassembled into their systems or system parts with the big picture as the learning goal.

200.3 FORMAT

Each system/mission area is organized within the following format:

- It lists the references to be used for study and asks you to explain the function of each system/mission area.
- It asks for the static facts of what or where the system and system parts are in relation to the system/mission area.
- It directs attention to the dynamics of how the system and system parts operate to make the system/mission area function.
- It specifies the parameters that must be immediately recalled.
- It requires study of the relationship between the system/mission area being studied and other systems/mission areas.

200.4 HOW TO COMPLETE

The systems/mission areas you must complete are listed in the Prerequisites section of each watchstation. When you have mastered one or more systems/mission areas, contact your Qualifier. The Qualifier will give you an oral examination on each system/mission area and, if satisfied you have sufficient knowledge of the system/mission area, will sign the appropriate system/mission area line items. You will be expected to demonstrate through oral or written examinations a thorough understanding of each system/mission area required for your watchstation.

201 OPEN CIRCUIT SCUBA SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

201.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each: [ch. 7]

A. What is its function?
B. Where is it located?
C. What are the modes of operation or control?
D. What are the safety/protective devices for this component/component part?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
201.1.1	Open circuit scuba system	A
.2	Scuba regulator	A C
.3	Octopus regulator	A B C
.4	Scuba bottle manifold	A B C D F
.5	Cylinder	A B
.6	Reserve valve	A B C E F
.7	HP blow out plug	A B E F

_____
(Signature and Date)

201.2 PRINCIPLES OF OPERATION

201.2.1 How do the components work together to achieve the system's function? [ch. 7]

_____
(Signature and Date)

201 OPEN CIRCUIT SCUBA SYSTEM (CONT'D)

201.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [chs. 6, 7]

A. What are the depth limits?
B. What is the minimum/maximum operating pressure?
C. What is the reserve operating pressure?
D. What is the maximum charging rate?

		Questions
201.3.1	Open circuit scuba system	A B C D

_____
(Signature and Date)

201.4 SYSTEM INTERFACE

201.4.1 How does this system interface with the MK 20 MOD 0 UBA? [ch. 7]

_____
(Signature and Date)

201.5 SAFETY PRECAUTIONS

201.5.1 What safety precautions must be observed when operating this system? [ch. 7]

_____
(Signature and Date)

202 MK 20 MOD 0 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA SS600-AK-MMO-010, Underwater Breathing Apparatus (UBA), MK 20 MOD 0
[c] NAVSEA SS521-AH-PRO-010, U.S. Navy Diving Umbilical Description, Materials and Assembly Manual (UBA MK 20 and MK 21)

202.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the safety/protective devices for this component/component part?
D. What protection is provided by this component/component part?
E. What are the probable indications if this component fails?
F. What are the ratings of this component?

		Questions
202.1.1	MK 20 MOD 0 UBA system [ref. a, ch. 8; ref. b, chs. 2, 3]	A
.2	FFM [ref. b, chs. 2, 3]	A C E
	a. FFM demand regulator	A C E
.3	Umbilical assembly [ref. b, chs. 2, 3; ref. c, secs. 1, 2]	A E
.4	Communications system [ref. b, chs. 2, 3]	A B E
.5	Hose assembly, umbilical to mask [ref. c, secs. 1, 2]	A B E
.6	Harness assembly [ref. b, chs. 2, 3]	A B D E
.7	Emergency gas supply [ref. a, ch. 8]	A B C D F

_____
(Signature and Date)

202.2 PRINCIPLES OF OPERATION

202.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 2]

_____
(Signature and Date)

202 MK 20 MOD 0 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM (CONT'D)

202.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. a, ch. 8; ref. b, ch. 2]

A. What are the operating depths?

		Questions
202.3.1	MK 20 MOD 0 UBA:	
	a. Surface supplied diving	A
	b. Scuba mode	A

_____
(Signature and Date)

202.4 SYSTEM INTERFACE – None to be discussed.

202.5 SAFETY PRECAUTIONS

202.5.1 What safety precautions must be observed when diving with MK 20 MOD 0 UBA? [ref. a, ch. 6; ref. b, Safety Summary]

_____
(Signature and Date)

203 MK 21 MOD 1 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA S6560-AG-OMP-010, Underwater Breathing Apparatus (UBA), MK 21 MOD 1
[c] NAVSEA SS521-AH-PRO-010, U.S. Navy Diving Umbilical Description, Materials and Assembly Manual (UBA MK 20 and MK 21)

203.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the modes of operation or control?
D. What are the safety/protective devices for this component/component part?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
203.1.1	MK 21 MOD 1 UBA [ref. a, ch. 8; ref. b, ch. 3]	A C D E F
.2	Helmet shell assembly [ref. b, ch. 3]	A B D E F
.3	Side block and bent tube assembly [ref. b, chs. 3, 6]	A B C
.4	Demand regulator [ref. b, chs. 2, 3]	A B C E F
.5	Oral nasal assembly [ref. b, chs. 2, 3]	A B D
.6	Gas train assembly [ref. b, chs. 2, 3]	A B
.7	Earphones, microphone, and communications cable [ref. b, chs. 2, 3]	A B F
.8	Umbilical assembly [ref. b, ch. 2; ref. c, secs. 1, 2]	A F
.9	Emergency gas supply system [ref. a, ch. 3; ref. b, ch. 2]	A B D F
.10	Diver's safety harness [ref. b, chs. 2, 3]	A B E F

_____
(Signature and Date)

203.2 PRINCIPLES OF OPERATION

203.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 2]

_____
(Signature and Date)

203 MK 21 MOD 1 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM (CONT'D)

203.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. a, ch. 6; ref. b, ch. 2]

A. What is the maximum operating depth?

		Questions
203.3.1	MK 21 MOD 1 UBA:	
a.	Without emergency gas cylinder	A
b.	With emergency gas cylinder in enclosed spaces	A
c.	With emergency gas cylinder in open water	A
d.	Mixed gas diving	A

_____
(Signature and Date)

204.4 SYSTEM INTERFACE – None to be discussed.

203.5 SAFETY PRECAUTIONS

203.5.1 What safety precautions must be observed when diving with MK 21 MOD 1 UBA? [ref. a, chs. 6, 8; ref. b, Safety Summary]

_____
(Signature and Date)

204 EXO BR MS FULL FACE MASK (FFM) SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] Operations & Maintenance Manual EXO BR MS Balanced Regulator Full Face Mask Military Standard DSI Part #100-036

204.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the safety/protective devices for this component/component part?
D. What protection is provided by this component/component part?
E. What are the probable indications if this component fails?
F. What are the ratings of this component?

		Questions
204.1.1	EXO BR MS FFM system [ref. a, ch. 8; ref. b, ch. 1]	A
.2	FFM [ref. b, ch. 1]	A E
.3	Balanced demand regulator [ref. b, chs. 1, 2]	A E F
.4	LP high flow hose and air inlet swivel [ref. b, ch. 6]	A B E
.5	Communications [ref. b, ch. 2]	A B E
.6	Manifold block and one-way valve [ref. b, ch. 2]	A B C D E
.7	Harness assembly [ref. b, ch. 2]	A B D E
.8	Emergency gas supply [ref. a, chs. 1, 2]	A B D F

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(Signature and Date)

204.2 PRINCIPLES OF OPERATION

204.2.1 How do the components work together to achieve the system's function? [ref. a, ch. 8]

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(Signature and Date)

204 EXO BR MS FULL FACE MASK (FFM) SYSTEM (CONT'D)

204.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. a, ch. 8]

A. What is the maximum operating depth?

		Questions
204.3.1	Scuba mode	A
.2	Surface supplied mode	A
.3	With emergency gas cylinder in enclosed spaces	A
.4	With emergency gas cylinder in open water	A

_____
(Signature and Date)

204.4 SYSTEM INTERFACE – None to be discussed.

204.5 SAFETY PRECAUTIONS

204.5.1 What safety precautions must be observed when diving using the EXO BR MS? [ref. a, chs. 6, 8; ref. b, chs. 1, 2]

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(Signature and Date)

205 MK 16 MOD 0 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA SS600-AH-MMA-010, Underwater Breathing Apparatus, MK 16 MOD 0

205.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?

		Questions
205.1.1	MK 16 MOD 0 UBA system [ref. a, ch. 17; ref. b, ch. 1]	A
.2	Housing assembly [ref. b, ch. 2]	A B E F
.3	Harness assembly [ref. b, ch. 2]	A B E F G
.4	Mouthpiece/hose assembly [ref. b, chs. 1, 2]	A B D G
.5	Scrubber/moisture absorber [ref. a, ch. 17; ref. b, ch. 2]	A B G
.6	O_2 sensor and controls [ref. a, ch. 17; ref. b, chs. 2, 5]	A B C F G
.7	Primary electronics [ref. a, ch. 17; ref. b, chs. 1 thru 3]	A B C D E F G
.8	Primary indicator [ref. a, ch. 17; ref. b, chs. 2, 3]	A B C G
.9	Secondary indicator [ref. a, ch. 17; ref. b, chs. 1, 2, 6]	A B C G
.10	O_2 cylinder [ref. b, ch. 1]	A B E
.11	Diluent cylinder [ref. b, ch. 1]	A B E

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(Signature and Date)

205 MK 16 MOD 0 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM (CONT'D)

205.2 PRINCIPLES OF OPERATION

205.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 2]

_____
(Signature and Date)

.2 Draw a diagram of this system. [ref. a, ch. 17; ref. b, ch. 2]

_____
(Signature and Date)

205.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. a, ch. 17; ref. b, chs. 1, 2]

A. Where are the parameters sensed or monitored?
B. What is the physical location of the indicators?
C. What is the alarm set point?
D. What is minimum drive pressure for O_2 reducer?
E. What is canister duration limits?
F. What is maximum depth limitations?

		Questions
205.3.1	MK 16 MOD 0 UBA	A B C D E F

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(Signature and Date)

205.4 SYSTEM INTERFACE

205.4.1 How does this system interface with the EBS? [ref. a, ch. 17]

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(Signature and Date)

205.5 SAFETY PRECAUTIONS

205.5.1 What safety precautions must be observed when operating MK 16 MOD 0 UBA? [ref. a. ch. 6; ref. b, Safety Summary]

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(Signature and Date)

206 MK 23 MOD 0 OXYGEN TRANSFER PUMP ASSEMBLY (OTPA) SYSTEM

References:

[a] NAVSEA SS500-AX-MMA-010, Oxygen Transfer Pump Assembly (OTPA)

206.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?

		Questions
206.1.1	OPTA [ch. 4, Table 4-1]	A
.2	Haskell model AGT-15/30 [ch. 4]	A B C D E F
.3	Oxygen supply pressure gauge [ch. 4, Table 4-1]	A B
.4	Oxygen supply valve [ch. 4, Table 4-1]	A B
.5	Oxygen outlet pressure gauge [ch. 4, Table 4-1]	A B
.6	Drive air inlet pressure gauge [ch. 4, Table 4-1]	A B
.7	Oxygen charge valves [ch. 4, Table 4-1]	A B
.8	Oxygen bleed valve [ch. 4, Table 4-1]	A B
.9	Outlet pressure relief valves [ch. 4, Table 4-1]	A B F
.10	Manifold assembly [ch. 4, Table 4-1]	A B
.11	Interconnecting hoses [ch. 4, Table 4-1]	A B
.12	Charging whips [ch. 4, Table 4-1]	A B

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(Signature and Date)

206.2 PRINCIPLES OF OPERATION

206.2.1 How do the components work together to achieve the system's function? [ch. 3]

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(Signature and Date)

206 MK 23 MOD 0 OXYGEN TRANSFER PUMP ASSEMBLY (OTPA) SYSTEM (CONT'D)

.2 Using a diagram of this system, show the path of: [ch. 4, fig. 4-2]

a. Air from the air inlet to the air outlet
b. Oxygen from the oxygen inlet to the oxygen outlet
c. Diluent from the inlet to the diluent outlet

_____
(Signature and Date)

206.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ch. 4]

A. What is the normal operating value?
B. Where are the parameters sensed or monitored?
C. What is the physical location of the indicators?

Questions

206.3.1 Haskell Model AGT-15/30 booster A B C

_____
(Signature and Date)

.2 Discuss the proper charging rate for oxygen/mixed gas charging? [ref. a, ch. 3]

_____
(Signature and Date)

.3 Discuss the use of systems OP/EP. [ref. a, ch. 3]

_____
(Signature and Date)

206.4 SYSTEM INTERFACE – None to be discussed.

206.5 SAFETY PRECAUTIONS

206.5.1 What safety precautions must be observed when operating this system? [ch. 2]

_____
(Signature and Date)

207 MK 25 MOD 2 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA SS600-A3-MMA-010/53833, Marine Corps TM 09603B-14&P/1 MK 25 MOD 2, Underwater Breathing Apparatus (UBA) Rev 1

207.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What is the function of each position?
D. What are the safety/protective devices for this component/component part?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
207.1.1	MK 25 MOD 2 UBA system [ref. a, ch. 19; ref. b. ch. 3]	A
.2	Oxygen cylinder [ref. a, ch. 19; ref. b, ch. 3]	A B D
.3	CO_2 scrubber canister [ref. a, ch. 19; ref. b, ch. 3]	A
.4	Exhaust/supply hose/mouthpiece [ref. a, ch. 19; ref. b, chs. 3]	A B C D F
.5	Breathing bag [ref. b, ch. 3]	A B E F
.6	Automatic demand valve/bypass knob [ref. b, ch. 3]	A B D F
.7	Oxygen pressure reducer [ref. b, ch. 3]	A B D E F

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(Signature and Date)

207.2 PRINCIPLES OF OPERATION

207.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 3]

_____
(Signature and Date)

.2 Draw a diagram of this system. [ref. b, ch. 3]

_____
(Signature and Date)

207 MK 25 MOD 2 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM (CONT'D)

207.2.3 Using a diagram of this system, show the path of oxygen from the oxygen cylinder/breathing bag to the diver. [ref. b, ch. 3]

_____
(Signature and Date)

.4 What is the sequence of component involvement for purges for the MK 25 MOD 2 UBA? [ref. b, ch. 2]

_____
(Signature and Date)

207.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. b, ch. 1, Table 1-1]

A. What is the maximum depth/time limits?
B. What are the maximum operating pressures?
C. What are the canister duration limits?

		Questions
207.3.1	MK 25 MOD 2 UBA	A B C

_____
(Signature and Date)

207.3.2 Describe ISEA Notes and where to find them. [ref. b, ch. 1]

_____
(Signature and Date)

207.4 SYSTEM INTERFACE – None to be discussed.

207.5 SAFETY PRECAUTIONS

207.5.1 What safety precautions must be observed when operating this system? [ref. b, Safety Summary]

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(Signature and Date)

208 SHORE BASE HYPERBARIC CHAMBER SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA/Manufacturer's Technical Manual/System Drawings
[c] Local System Operating Procedures/Emergency Procedures (OP/EP)
[d] HPAC Technical Manual
[e] Compressor Purification Manual
[f] Analox Co2 User Manual
[g] Emergency Generator Manual
[h] Co Analyzer Operation Manual
[i] Pre-Survey Outline Booklet (PSOB)
[j} Analox 1000 USN User Manual
[k] Teledyne Oxygen Analyzer Manual

208.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
208.1.1.1	Hyperbaric chamber system [ref. a ch. 22]	A B
.2	Communication Primary/Secondary [ref. a, ch. 22]	A B F
.2	One-way supply and exhaust valves [ref. b]	A B
.3	Depth gauge [ref. a, ch. 22]	A B F
.4	Relief valve [ref. a, ch. 22]	A B E F
.5	Electrical Connections [ref. b, i]	A B C D F
.6	Oxygen supply [ref. b]	A B D F
.7	Treatment Gas [ref. b, l]	A B D F
.8	Fire Extinguishing System (FES) [ref. a, ch. 22]	A B E
.9	Lighting [ref. a, ch. 22]	A C F
.10	Environmental control system [ref. b]	A B C D E F
.11	Manual Bus Transfer (MBT) [ref. b, i]	A B C F
.12	440 Step Down Transformer [ref. b, i]	A B C F
.13	Power Distribution Panel [ref. b, i]	A B E F
.14	24 VDC Transformer [ref. b, i]	A B C F
.15	Chamber Control Console [ref. b, i]	A B D F
.16	HP Reducing Station [ref. b, i]	A B F

208 SHORE BASE HYPERBARIC CHAMBER SYSTEM (CONT'D)

		Questions
208.1.1.17	Oxygen Reducing Station [ref. b, i]	A B F
.18	External Gas Supply Connections [ref. b]	A B
.19	Gas Sampling Manifold [ref. b]	A B
.20	O2 Monitor [ref. i, j, k]	A B C D F
.21	CO2 Monitor [ref. e, f]	A B C D F
.22	CO Monitor [ref. h, i]	A B C D E F
.23	Cal Gas [ref. f, h, j]	A B
.24	Environment Control System Heat Exchanger [ref. a, b]	A B C F
.25	CO2 Scrubber [ref. a, b, i]	A B C E F
.26	BIBS Manifold [ref. b, i]	A B D E F
.27	BIBS Back Pressure Regulator [ref. a, b, i]	A B E F
.28	NATO Flange Male [ref. b]	A B D
.29	Medical Lock [ref. a, b, i]	A B C D F
.30	Emergency Generator [ref. b, g, i]	A B C D E F
.31	Compressor Room Ventilation [ref. b]	A B C D E F
.32	Flasks Volume and Bank Arrangement [ref. a, b, i]	A B C F
.33	Rupture Disks [ref. b, i]	A B F
.34	Thermal Safety Device [ref. b, i]	A B F
.35	Port Connections [ref. a, i]	A B D
.36	SCUBA Charging [Ref. a, b, i]	A B D

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(Signature and Date)

208.2 PRINCIPLES OF OPERATION

208.2.1 How do the components work together to achieve the system's function? [ref. b]

_____
(Signature and Date)

.2 Draw a diagram and label all system components and show the path of air/gas flow through each component to your command chamber. [ref. b]

_____
(Signature and Date)

208 SHORE BASE HYPERBARIC CHAMBER SYSTEM (CONT'D)

208.2.3 Using a diagram of this system, show the path of: [ref. b]

a. HP air from the compressor(s) to the chamber
b. LP air from the compressor(s) to the chamber
c. Oxygen from the bank(s) to the chamber
d. Treatment/Specialty gas from the bank(s) to the chamber

_____
(Signature and Date)

.4 What is the sequence of component involvement to accomplish the line-up of the system? [ref. c]

_____
(Signature and Date)

208.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. a, ch. 22, ref. i]

A. What is the normal operating pressure?
B. What are the allowable operating depths?
C. What is the maximum allowable oxygen/carbon dioxide percentages?
D. What are the ventilation rates?

		Questions
208.3.1	Recompression chamber	A B C D

_____
(Signature and Date)

208.4 SYSTEM INTERFACE

208.4.1 How do the following outside influences affect the operation of this system: [ref. c]

a. Loss of electrical power
b. Loss of primary air supply
c. Contaminated air
d. Loss of O2
e. Fire in the chamber
f. Fire in the building

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(Signature and Date)

208 SHORE BASE HYPERBARIC CHAMBER SYSTEM (CONT'D)

208.5 SAFETY PRECAUTIONS

208.5.1 What safety precautions must be observed when operating this system? [ref. a, ch. 22]

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(Signature and Date)

209 DIVER'S LIFE SUPPORT SYSTEM (DLSS)

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA/Manufacturer's Technical Manual/System Drawings

209.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. What are the sources of power?
C. What are the modes of operation or control?
D. What are the safety/protective devices for this component/component part?
E. What are the probable indications if this component fails?

		Questions
209.1.1	DLSS [ref. a, ch. 8]	A
.2	Air compressors HP/LP [ref. a, ch. 8; ref. b]	A B C D E
.3	Flasks [ref. a, ch. 8]	A D
.4	Receivers [ref. a, ch. 8]	A D
.5	Filters [ref. a, ch. 8]	A E
.6	Moisture separators [ref. b]	A
.7	Valves/reducers/piping/hoses [ref. a, ch. 8; ref. b]	A D E
.8	Control Console Assembly [ref. a, ch. 8; ref .b]	A D

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(Signature and Date)

209.2 PRINCIPLES OF OPERATION

209.2.1 How do the components work together to achieve the system's function? [ref. b]

.2 Draw a diagram and label all system components and show the path of air/gas flow through each system. [ref. b]

_____
(Signature and Date)

209 MIXED GAS/AIR DIVER'S LIFE SUPPORT SYSTEM (DLSS) (CONT'D)

209.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the normal operating value?
B. What are the allowable operating limits?
C. What is the physical location of the indicators?
D. What calculations are required?

		Questions
209.3.1	Working pressure [ref. b]	A B C D
.2	Temperature parameters [ref. b]	A B C D
.3	Relief valve set pressures [ref. b]	A B C
.4	System storage capacity [ref. b]	A B C D
.5	Usable gas capacity [ref. a, ch. 8; ref. b]	B D

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(Signature and Date)

209.4 SYSTEM INTERFACE

209.4.1 How do the following outside influences affect the operation of this system:

a. Loss of electrical power [ref. b]
b. System contaminants [ref. a, ch. 4]
c. Variations in temperature [ref. a, ch. 4; ref. b]
d. Variations in moisture [ref. a, ch. 4; ref. b]

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(Signature and Date)

209.5 SAFETY PRECAUTIONS

209.5.1 What special safety precautions apply to:

a. Charging gas/air flasks [ref. a, chs. 7, 8, 14, 15]
b. Operating compressor [ref. b]

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(Signature and Date)

210 FLY AWAY MIXED GAS SYSTEM (FMGS)

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA S9592-B2-OMI-010, Flyaway Dive System (FADS) III Mixed-Gas System
[c] Subject Matter Expert (SME)
[d] Manufacturer's Technical Manual
[e] MIL-STD-1330

210.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each: [ref. b]

A. What is its function?
B. What are the sources of power?
C. What are the modes of operation?
D. What are the safety/protective devices for this component/component part?
E. What are the probable indications if this component fails?

		Questions
210.1.1	FMGS [ch. 1]	A
.2	5000 psi air compressors HP/LP [chs. 2, 3]	A B D E
.3	ASRA [chs. 2, 3]	A C D E
.4	HOSRA [chs. 2, 3]	A C D E
.5	OSRA [chs. 2, 3]	A C D E
.6	Booster assembly [chs. 2, 3]	A B C D E
.7	MGCCA [chs. 2, 3]	A C D E

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(Signature and Date)

210.2 PRINCIPLES OF OPERATION

210.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 2]

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(Signature and Date)

.2 Using a diagram of this system, show the path of air/gas flow through the system. [ref. b, ch. 2]

_____
(Signature and Date)

210 FLY AWAY MIXED GAS SYSTEM (FMGS) (CONT'D)

210.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the maximum operating value?
B. What is the physical location of the indicators?
C. What calculations are required?

		Questions
210.3.1	Working pressure of the O_2/mixed gas/air systems [ref. b, ch. 2]	A B C
.2	Relief valve set pressures [ref. b, ch. 2]	A B
.3	System storage capacity O_2/mixed gas/air systems [ref. b, ch. 2]	C
.4	Charging of O_2/mixed gas/air systems [ref. a, chs. 8, 15; ref. b, ch. 2]	A B C

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(Signature and Date)

210.4 SYSTEM INTERFACE

210.4.1 How do the following outside influences affect the operation of this system:

a. Loss of electrical power [ref. b, ch. 2]
b. Variations in contaminants [ref. a, ch. 16; ref. e]
c. Variations in temperature [ref. b, ch. 2; refs. c, d]

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(Signature and Date)

210.5 SAFETY PRECAUTIONS

210.5.1 What special safety precautions apply to:

a. Charging O_2/mixed gas/air flasks [ref. a, ch. 6; ref. b, ch. 1]
b. Transferring O_2/mixed gas/air [ref. a, chs. 6, 15; ref. b, app. A]
c. Operating compressor [ref. d]

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(Signature and Date)

211 DIVING HOT WATER HEATER SYSTEM

References:

[a] MAR-VEL Model #PWH-100/3 Hot Water Heater

211.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What are the probable indications if this component fails?

		Questions
211.1.1	Positive Displacement Submersible Pump [ref. A]	A B C F
.2	Ground Fault Circuit Interrupter [ref. A]	A B C E F
.3	Temperature Sensor, Primary / Secondary [ref. A]	A B C D E F
.4	120 Volt Receptacle [ref. A]	A B C E F
.5	Bypass Switch [ref. A]	A B C F
.6	Main power switch [ref. A]	A B C E F
.7	Burner Motor [ref. A]	A B F
.9	Electrode [ref. A]	A B C F
.10	Squirrel Cage Fan [ref. A]	A B C F
.11	Fuel regulator Assembly [ref. A]	A B C D F
.12	Fuel Pump [ref. A]	A B C F
.13	Fuel Filter [ref. A]	A B E F
.14	Temperature Sensor Manifold [ref. A]	A B C D E F
.15	Cold Water Intake Manifold [ref. A]	A B F
.16	Hot Water Distribution Manifold [ref. A]	A B F

211.2 PRINCIPLES OF OPERATION

211.2.1 How do the components work together to achieve the system's function? [ref. a]

_____

(Signature and Date)

211 DIVING HOT WATER HEATER

211.2.2 What is the sequence of component involvement to accomplish operation of the system? [ref. a]

_____
(Signature and Date)

211.3 PARAMETERS / OPERATING LIMITS

For the items listed, answer the following questions: [ref. a]

A. What are the electrical power requirements?
B. What is the allowable operating depths?
C. What is the maximum operating temperature for salt water?
D. What type of fuel is used with the system?
E. What is the fuel regulator set point?
F. What is the High-Point Cut-Off temperature set point?

_____
(Signature and Date)

211.4 SYSTEM INTERFACE

211.4.1 How do the following outside influences affect the operation of this system: [ref. a]

a. Low inlet pressure
b. Low Fuel pressure
c. Hose length
d. Water temperature

_____
(Signature and Date)

211.5 SAFETY PRECAUTIONS

211.5.1 What safety precautions must be observed when operating this system? [ref. a]

_____
(Signature and Date)

212 DIVER UNDERWATER CAMERA SYSTEM

References:

[a] NAVSEA/Manufacturer's Technical Manual/System Drawings
[b] Subject Matter Expert (SME)

212.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each: [ref. a]

A. What is its function?
B. What are the sources of power?
C. What are the modes of operation or control?
D. What are the safety/protective devices for this component/component part?
E. What are the probable indications if this component fails?
F. What is the function of each position?

		Questions
212.1.1	Diver underwater camera system	A
.2	Diver camera and umbilical/light assembly/diver monitor	A C E
.3	Surface control unit	A B C D E F
.4	Video cassette/DVD recorder assembly	A C E
.5	Annotation keyboard	A C E
.6	Topside video camera	A C
.7	Operator headset	A C E

_____
(Signature and Date)

212.2 PRINCIPLES OF OPERATION

212.2.1 How do the components work together to achieve the system's function? [ref. a]

_____
(Signature and Date)

.2 Draw a diagram of this system. [ref. a]

_____
(Signature and Date)

212 DIVER UNDERWATER CAMERA SYSTEM (CONT'D)

212.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. a]

A. What are the depth limits?

		Questions
212.3.1	Diver camera	A
.2	Light assembly	A
.3	Diver monitor	A

_____
(Signature and Date)

212.4 SYSTEM INTERFACE

212.4.1 How do the following outside influences affect the operation of this system: [refs. a, b]

a. Turbidity
b. Water current

_____
(Signature and Date)

.2 How does this system interface with the diver's communication? [ref. a, ch. 4]

_____
(Signature and Date)

212.5 SAFETY PRECAUTIONS

212.5.1 What safety precautions must be observed when operating this system? [ref. a]

_____
(Signature and Date)

213 BEACH GEAR SYSTEM

References:

[a] NAVSEA S0300-A7-HBK-010, U.S. Navy Salvor's Handbook
[b] NAVSEA S9597-AB-MMO-010, Operation and Maintenance Instructions for Hydraulic Cable Puller System
[c] NAVSEA SS500-AM-MMO-010, ARS 50 Class Operations Handbook
[d] NAVSEA 0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1 (Strandings)

213.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?

		Questions
213.1.1	Beach gear system [ref. a, ch. 4; ref. b, ch. 2; ref. d, ch. 7]	A
.2	Anchor/tandem anchors [ref. c, ch. 5; ref. d, ch. 7]	A B
.3	Die lock chain [ref. c, ch. 5; ref. d, ch. 7]	A B
.4	Large-plate shackle [ref. c, ch. 5]	A B
.5	Small-plate shackle [ref. c, ch. 5]	A B
.6	Wire (1 5/8") [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.7	Safety shackles [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.8	Wire pendants [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.9	Recovery buoys [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.10	Retrieving wire [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.11	Crown buoy [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.12	Crown wire [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.13	Carpenter stoppers [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.14	Multiple sheeve blocks [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.15	5/8-inch wire purchase [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]	A B
.16	Tension-measuring device [ref. a, ch. 4; ref. d, ch. 7]	A B
.17	Pear-shape detachable links [ref. c, ch. 5; ref. d, ch. 7]	A B
.18	Wire rope clips [ref. c, ch. 5; ref. d, ch. 7]	A B
.19	Fair lead blocks [ref. c, ch. 5; ref. d, ch. 7]	A B
.20	Hydraulic cable puller [ref. c, ch. 5; ref. d, ch. 7]	A B
.21	Towing machine [ref. c, ch. 5]	A B

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(Signature and Date)

213 BEACH GEAR SYSTEM (CONT'D)

213.2 PRINCIPLES OF OPERATION

213.2.1 How do the components work together to achieve the system's function? [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]

_____
(Signature and Date)

.2 Draw a diagram of this system showing all components. [ref. a, ch. 4; ref. c, ch. 5; ref. d, ch. 7]

_____
(Signature and Date)

.3 What indications are received if the system is malfunctioning? [ref. c, ch. 5; ref. d, ch. 8]

_____
(Signature and Date)

213.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. c, ch. 5; ref. d, ch. 8]

A. What is the normal operating limits?
B. Where are the parameters sensed or monitored?
C. What is the physical location of the indicators?

		Questions
		A B C
213.3.1	Line tension	

_____
(Signature and Date)

213.4 SYSTEM INTERFACE

213.4.1 How do the following outside influences affect the operation of this system: [ref. a, ch. 4; ref. d, ch. 8]

a. Variations in currents
b. Variations in water depth

_____
(Signature and Date)

213 BEACH GEAR SYSTEM (CONT'D)

213.5 SAFETY PRECAUTIONS

213.5.1 What safety precautions must be observed when operating this system? [ref. b, ch. 2; ref. d, ch. 8]

_____

(Signature and Date)

214 HEAVY LIFT SYSTEM

References:

[a] NAVSEA 0990-LP-000-3010, U.S. Navy Ship Salvage Manual, Vol. 21
[b] NAVSEA SS500-AM-MMO-010, ARS 50 Class Operations Handbook

214.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?

		Questions
214.1.1	Heavy lift system [ref. a, ch. 7; ref. b, ch. 6]	A
.2	Wire rope [ref. a, ch. 6; ref. b, ch. 6]	A B
.3	Quad blocks [ref. a, ch. 7]	A B
.4	Detachable link [ref. a, ch. 7]	A B
.5	Belly strap [ref. a, ch. 7]	A B
.6	Lift pendants [ref. b, ch. 6]	A B
.7	Tension-measuring device [ref. a, ch. 7]	A B
.8	Hydraulic cable puller [ref. b, ch. 5]	A B
.9	Bullivant clamp [ref. a, ch. 6]	A B
.10	Towing machine [ref. b, ch. 3]	A B
.11	Traction winch [ref. b, ch. 3]	A B
.12	Chain stopper [ref. b, ch. 6]	A B
.13	Flat wire [ref. b, ch. 6]	A B

_____
(Signature and Date)

214.2 PRINCIPLES OF OPERATION

214.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 6]

_____
(Signature and Date)

214 HEAVY LIFT SYSTEM (CONT'D)

214.2.2 Draw a diagram of this system showing all components. [ref. b, ch. 6]

_____
(Signature and Date)

.3 What is the sequence of component involvement to accomplish heavy lift? [ref. b, ch. 6]

_____
(Signature and Date)

.4 What indications are received if the system is malfunctioning? [ref. b, ch. 6]

_____
(Signature and Date)

214.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. b, ch. 6]

A. What is the normal operating value and limits?
B. Where are the parameters sensed or monitored?

		Questions
		A B
214.3.1	Line tension	

_____
(Signature and Date)

214.4 SYSTEM INTERFACE – None to be discussed.

214.5 SAFETY PRECAUTIONS

214.5.1 What safety precautions must be observed when operating this system? [ref. b, ch. 6]

_____
(Signature and Date)

215 LIGHT WEIGHT DIVING SYSTEM (LWDS) MK 3 MOD 0/MOD 1

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA SS500-HK-MM0-010, LWDS
[c] NAVSEA S9592-B1-MMO-010, FADS III Air

215.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. What are the sources of power?
C. What are the modes of operation?
D. What are the safety/protective devices for this component/component part?
E. What are the probable indications if this component fails?

		Questions
215.1.1	LWDS [ref. b, ch. 3]	A D
.2	HP air compressors [ref. a]	A B C D E
.3	Filters [ref. a ch.8]	A E
.4	Moisture separators [ref. b]	A
.5	Valves/reducers/piping/hoses [ref. a ,ch. 8;ref. b]	A D E
.6	Air Supply Rack Assembly (ASRA) [ref. c]	A C D E
.7	CCA [ref. b]	A D E
.8	Volume Tank [ref. b]	A D E

_____
(Signature and Date)

215.2 PRINCIPLES OF OPERATION

215.2.1 How do the components work together to achieve the system's function? [ref. b]

_____
(Signature and Date)

.2 Draw a diagram of this system, labeling all components, show the path of air flow through the system. [ref. b]

_____
(Signature and Date)

215 LIGHT WEIGHT DIVING SYSTEM (LWDS) MK 3 MOD 0/MOD 1 (CONT'D)

215.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the maximum operating value?
B. What are the allowable operating limits?
C. What is the physical location of the indicators?
D. What calculations are required?

		Questions
215.3.1	Working pressure [ref. b]	A B C D
.2	Relief valve set pressures [ref. b]	A D
.3	System storage capacity [ref. b]	A B C D
.4	Charging of air systems [ref. b]	A B C
.5	Usable air capacity [ref. a, ref.b]	B D
.6	Temperature parameters	A B C D

_____
(Signature and Date)

215.4 SYSTEM INTERFACE

215.4.1 How do the following outside influences affect the operation of this system:

a. Contamination of air [ref. a]
b. Variations in moisture [ref. a]
c. Variations in temperature [ref. a]

_____
(Signature and Date)

215.5 SAFETY PRECAUTIONS

215.5.1 What special safety precautions apply to:

a. Charging air flasks [ref. a]
b. Operating compressor [ref. a]
c. Charging whips [ref.a]

_____
(Signature and Date)

216 STANDARD NAVY DOUBLE LOCK RECOMPRESSION CHAMBER

References:

[a] NAVSEA SS500-B1-MM0-010, Standard Navy Double-Lock Recompression Chamber
[b] NAVSEA 39592-B1-MMO-010, Fly Away Dive System (FADS) III
[c] Local System Operating Procedures/Emergency Procedures (OP/EP)
[d] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

216.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
216.1.1	Electrical Connections [Ref. A, Ch 3]	A B C F
.2	Manual Bus Transfer (MBT) [Ref. A, Ch 3]	A B F
.3	440 Step Down Transformer [Ref. A, Ch 3]	A B F
.4	Power Distribution Panel [Ref. A, Ch 3]	A B E F
.5	Uninterruptible Power Supply [Ref. A, Ch 3]	A B C D E F
.6	24 VDC Transformer [Ref. A, Ch 3]	A B C F
.7	Chamber Lighting [Ref. A, Ch 3]	A B C F
.8	Communications System Primary/Secondary [Ref. A, Ch 3]	A C F
.9	Chamber Control Console [Ref. A, Ch 3]	A B D F
.10	HP Reducing Station [Ref. A, Ch 3]	A B F
.11	Oxygen Reducing Station [Ref. A, Ch 3]	A B F
.12	External Gas Supply Connections [Ref. A, Ch 3]	A B
.13	Gas Sampling Manifold [Ref. A, Ch 3]	A B
.14	O2 Monitor [Ref. A, Ch 3]	A B C D F
.15	CO2 Monitor [Ref. A, Ch 3]	A B C D F
.16	Cal Gas [Ref. A, Ch 3]	A B
.17	Environment Control System Compressor [Ref. A, Ch 3]	A B C F
.18	Environment Control System Heat Exchanger [Ref. A, Ch 3]	A B C F
.19	CO2 Scrubber [Ref. A, Ch 3]	A B C E F
.20	BIBS Manifold [Ref. A, Ch 3]	A B D E F
.21	BIBS Back Pressure Regulator [Ref. A, Ch 3]	A B E F
.22	NATO Flange Male [Ref. A, Ch 3]	A B D
.23	Medical Lock [Ref. A, Ch 3]	A B C D F

216 Standard Navy Double Lock Recompression Chamber (Cont'd)

216.1.24	Patient Stretcher [Ref. A, Ch 3]	A B D
.25	Flasks Volume and Bank Arrangement [Ref. B, Ch 3]	A B C F
.26	Rupture Disks [Ref. B, Ch 3]	A B F
.27	Thermal Safety Device [Ref. B, Ch 3]	A B F
.28	Port Connections [Ref. B, Ch 3]	A B D
.29	SCUBA Charging [Ref. B, Ch 3]	A B D
.30	Relief Valves (Chamber,HP,LP) [Ref. A&B]	A B E F

_____
(Signature and Date)

216.2 PRINCIPLES OF OPERATION

216.2.1 How do the components work together to achieve the system's function? [Ref. A, Ch. 3]

_____
(Signature and Date)

.2 Using a diagram of this system, show the path of: [Ref. A & B]

a. HP air from the compressor to the chamber
b. LP air from the reducing stations to the chamber
c. Oxygen from the bank(s) to the chamber

_____
(Signature and Date)

.3 What is the sequence of component involvement to accomplish the line-up of the system? [ref. c]

_____
(Signature and Date)

216.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [Ref. D, Ch. 22]

A. What is the normal operating pressure?
B. What are the allowable operating depths?
C. What is the maximum allowable oxygen/carbon dioxide percentages?
D. What are the ventilation rates?

_____
(Signature and Date)

216 STANDARD NAVY DOUBLE LOCK RECOMPRESSION CHAMBER (CONT'D)

Questions

216.3.1 Recompression chamber A B C D

_____
(Signature and Date)

216.4 SYSTEM INTERFACE

216.4.1 How do the following outside influences affect the operation of this system: [ref. c]

a. Loss of electrical power
b. Loss of primary air supply
c. Loss of Oxygen supply

_____
(Signature and Date)

216.5 SAFETY PRECAUTIONS

216.5.1 What safety precautions must be observed when operating this system? [ref. a, ch. 22]

_____
(Signature and Date)

217 FLYAWAY RECOMPRESSION CHAMBER (FARCC) MK 5 MOD 0

References:

[a] NAVSEA S9592-AY-MM0-020, Flyaway Recompression Chamber
[b] Local System Operating Procedures/Emergency Procedures (OP/EP)
[c] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[d] FARCC PSOB

217.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
217.1.1	Electrical System [ref. a, ch 1]	C
.2	Primary Electrical Power [ref. a, ch 1]	A B C D E F
.3	Primary/ Emergency Diesel Generator [ref. a, ch 2]	A B C D E F
.4	Power Input Assemblies (Umbilical) [ref. a, ch 2]	A
.5	Power Entry Panel (C-101) [ref. a, ch 2]	A B C D E F
.6	Stepdown/Reconfiguration Transformers [ref. a, ch 2]	A B C F
.7	Power Distribution Panel (C-201) [ref. a, ch 2]	A B C D E F
.8	Primary/Emergency RCC Lighting System [ref. a, ch 2]	A B C F
.9	Chamber Electrical GFI [ref. a & c]	A B C E F
.10	GFI Terminal Box [ref. a, ch 2]	A B C D E F
.11	Power Converter [ref. a, ch 2]	A B C D E F
.12	Primary/Secondary Communications System [ref. a, ch 2]	A B C D F
.13	Grounding Rod [ref. a, ch 2]	A
.14	High Pressure (HP) Air Compressor [ref. a, ch 2]	A B D F
.15	HP Air Particulate Filters [ref. a, ch 2]	A B F
.16	HP Air Flasks [ref. a, ch 2]	A B
.17	HP Reducing Stations [ref. a, ch 2]	A B F
.18	LSS LP Air System [ref. a, ch 2]	A B F
.19	Air Exhaust System [ref. a, ch 2]	A B D F
.20	O2 Analyzing System [ref. a, ch 2]	A B C D F
.21	CO2 Monitor [ref. a, ch 2]	A B C D F
.22	LSS O2 System [ref. a, ch 2]	A B F
.23	LSS Primary/Secondary HP O2 Systems [ref. a, ch 2]	A B D F
.24	LSS LP O2 System [ref. a, ch 2]	A B E F
.25	RCC LP O2 System [ref. a, ch 2]	A B

217 FLYAWAY RECOMPRESSION CHAMBER (FARCC) MK 5 MOD 0 (CONT'D)

		Questions
217.26	RCC Carbon Dioxide Remover Control System [ref. a, ch 2]	A B C D E F
.27	LSS Chilled/Heated Fluid System [ref. a, ch 2]	A B C F
.28	RCC Chilled/Heated Fluid System [ref. a, ch 2]	A B C F
.29	A/M-32U-17 Mod Dolly Set [ref. a, ch 2]	A D
.30	M1022-A1 Dolly Set [ref. a, ch 2]	A D
.31	Lifting Sling [ref. a, ch 2]	A D

_____
(Signature and Date)

217.2 PRINCIPLES OF OPERATION

217.2.1 How do the components work together to achieve the system's function? [ref. a, ch 2]

_____
(Signature and Date)

.2 Draw a schematic of this system, show the path of: [ref. a]

a. HP air from the compressor to the chamber
b. LP air from the reducing stations to the chamber
d. Oxygen from the cylinders to the chamber
e. N2/O2 emergency air from the cylinders to the chamber

_____
(Signature and Date)

.3 What is the sequence of component involvement, using OP's to accomplish the line-up of the system? [ref. b]

_____
(Signature and Date)

217.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. c & d]

a. What is the normal operating pressure/depth?
b. What are the allowable operating capabilities? (PSOB)
c. What is the maximum allowable oxygen/carbon dioxide percentages?
d. What are the ventilation rates?

217 FLYAWAY RECOMPRESSION CHAMBER (FARCC) MK 5 MOD 0 (CONT'D)

Questions

217.3.1 Recompression chamber A B C D

_____
(Signature and Date)

217.4 SYSTEM INTERFACE

217.4.1 Explain the cause of the emergency and the operation of the following EP's [ref. b]

a. EP-1 Air System - Loss of HPAC
b. EP-2 Air System - Loss of Primary Air Reducing Station
c. EP-3 Air System - Contamination of Primary Air Supply
d. EP-4 Air System - Loss of Primary Air Supply Hose
e. EP-5 LSS LP Air System - Loss of Secondary Air Supply Hose
f. EP-6 Oxygen System - Loss of Primary Oxygen Reducing Station
g. EP-7 Oxygen System – Loss of Inner Lock Oxygen BIBS
h. EP-8 Oxygen System - Loss of Primary Oxygen Supply Hose
i. EP-9 RCC Inner Lock - Fire in the Inner Lock
j. EP-10 RCC Outer Lock - Fire in the Outer Lock
k. EP-11 RCC Conditioning System - Loss of External Conditioning System
l. EP-12 RCC Conditioning System - Loss of Internal Conditioning System
m. EP-13 RCC Conditioning System - Loss of Carbon Dioxide Scrubber
n. EP-14 Electrical - Loss of Primary Generator/Shipboard Power
o. EP-15 Electrical - Loss of Shore Power

_____
(Signature and Date)

217.5 SAFETY PRECAUTIONS

217.5.1 What safety precautions must be observed when operating this system? [ref. a, ch. 1]

_____
(Signature and Date)

218 TRANSPORTABLE RECOMPRESSION CHAMBER SYSTEM (TRCS)

References:

[a] NAVSEA SS500-AW-MMM-010, Transportable Recompression Chamber System (TRCS)
[b] Local System Operating Procedures/Emergency Procedures (OP/EP)
[c] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

218.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

	RECOMPRESSION CHAMBER	**Questions**
218.1.1	Built-In Breathing System [ref. a, ch 2]	A B C F
.2	Pressure Monitoring and Control [ref. a, ch 2]	A B D F
.3	CO2 Scrubber Assembly [ref. a, h 2]	A B C D E F
.4	Gas Analysis [ref. a, ch 2]	A B C D E F
.5	Chamber Communication System [ref. a, ch 2]	A B C D F
.6	View Ports [ref. a, ch 2]	A B E
.7	Medical Lock [ref. a, ch 2]	A B C D F
.8	Patient Stretcher and Attendant Seat [Ref. A, Ch 2]	A B
.9	Chamber Door [ref. a, ch 2]	A B F
.10	Skids and Wheels [ref. a, ch 2]	A B
.11	NATO Flange Male [ref. a, ch 2]	A B C D E F
.12	Interlock Assembly [ref. a, ch 2]	A B E F
	TRANSFER LOCK	
.13	Built-In Breathing System [ref. a, ch 2]	A B C F
.14	Pressure Monitoring and Control [ref. a, ch 2]	A B D F
.15	CO2 Scrubber Assembly [ref. a, ch 2]	A B C D E F
.16	Chamber Communication System [ref. a, ch 2]	A B C D F
.17	View Ports [ref. a, ch 2]	A B E
.18	Chamber Door [ref. a, ch 2]	A B F
.19	Skids and Wheels [ref. a, ch 2]	A B
.20	NATO Flange Male [ref. a, ch 2]	A B C D E F
.21	HP Oxygen Storage Rack [ref. a, ch 2]	A B D E F

218 TRANSPORTABLE RECOMPRESSION CHAMBER SYSTEM (CONT'D)

Questions

218.1.22 Air Supply Rack [ref. a, ch 2] A B D E F

_____
(Signature and Date)

218.2 PRINCIPLES OF OPERATION

218.2.1 How do the components work together to achieve the system's function? [ref. a, ch. 2]

_____
(Signature and Date)

.2 Draw a schematic of this system, show the path of: [ref. a, b]

a. HP air from the banks to the chamber
b. LP air from the reducing stations to the chamber
f. Oxygen from the bank(s) to the chamber

_____
(Signature and Date)

.3 What is the sequence of component involvement to accomplish the line-up of the system? [ref. b]

_____
(Signature and Date)

218.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. c, ch. 22]

A. What is the normal operating pressure?
B. What are the allowable operating depths?
C. What is the maximum allowable oxygen/carbon dioxide percentages?
D. What are the ventilation rates?

_____
(Signature and Date)

Questions

218.3.1 Recompression chamber A B C D

_____
(Signature and Date)

218 TRANSPORTABLE RECOMPRESSION CHAMBER SYSTEM (CONT'D)

218.4 SYSTEM INTERFACE

218.4.1 How do the following outside influences affect the operation of this system: [ref. c]

d. Loss of primary air supply
e. Loss of oxygen supply

_____
(Signature and Date)

218.5 SAFETY PRECAUTIONS

218.5.1 What safety precautions must be observed when operating this system? [ref. a, ch. 22]

_____
(Signature and Date)

219 FADS III; FLYAWAY AIR DIVE SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA S9592-B1-MMO-010, Fly Away Dive System (FADS) III Air
[c] Local System Operating Procedures/Emergency Procedures
[d] PSOB

219.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each: [ref. b]

A. What is its function?
B. What are the sources of power?
C. What are the modes of operation?
D. What are the safety/protective devices for this component/component part?
E. What are the probable indications if this component fails?

		Questions
219.1.1	Filters [ref. a, ch. 8]	A E
.2	5000 psi air compressors HP [ref. b, ch. 1, 2, 3]	A B D E
.3	Air Supply Rack Assembly (ASRA) [ref. b, ch. 1, 2, 3]	A C D E
.4	FADS III [ref. b, ch. 1]	A
.5	Moisture separators [ref. a, ch. 8]	A
.6	Valves/reducers/piping/hoses [ref. a,ch. 8;ref. b, ch. 1, 2, 3]	A D E
.7	Control Console Assembly [ref. a,ch. 8;ref. b, ch. 1, 2, 3]	A C D E

_____
(Signature and Date)

219.2 PRINCIPLES OF OPERATION

219.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 2]

_____
(Signature and Date)

.2 Draw a diagram of this system labeling each component and show the path of air flow through the system. [ref. b, ch. 2]

_____
(Signature and Date)

219 FADS III; FLYAWAY AIR DIVE SYSTEM (CONT'D)

219.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

A. What is the maximum operating value?
B. What are the allowable operating limits?
C. What is the physical location of the indicators?
D. What calculations are required?

		Questions
219.3.1	Working pressure of the air systems [ref. b, ch. 1]	A B C D
.2	Relief valve set pressures [ref. d, ch. 2]	A D
.3	System storage [ref. d]	A B C D
.4	Charging of air systems [ref. a, chs. 8, 15; ref. d]	A B C
.5	Usable air capacity [ref. a, ch. 8, ref. d]	B D
.6	Temperature parameters [ref. a ch 2]	A B C D

_____
(Signature and Date)

219.4 SYSTEM INTERFACE

219.4.1 How do the following outside influences affect the operation of this system:

a. Contamination of air [ref. a, ch. 16]
b. Variations in moisture [ref. a, ch. 8]
c. Variations in temperature [ref. a, ch. 2]

_____
(Signature and Date)

219.5 SAFETY PRECAUTIONS

219.5.1 What special safety precautions apply to:

a. Charging air flasks [ref. a, ch. 6]
b. Operating compressor [ref. a, ch. 8]
c. Charging whips [ref. b, ch. 3, 6]

_____
(Signature and Date)

220 MK 16 MOD 1 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM

References:

[a] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
[b] NAVSEA SS600-AQ-MMO-010 Operations and Organizational Level Maintenance Manual for MK 16 MOD 1
[c] MK 11 MOD 0 USN O&M Technical Manual

220.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?
G. What are the probable indications if this component fails?

		Questions
220.1.1	MK 16 MOD 1 UBA system [ref. a, ch. 18]	A C G
.2	Housing assembly [ref. b, ch. 2]	A B E F
.3	Harness assembly [ref. b, ch. 2]	A B E F G
.4	Mouthpiece/hose assembly [ref. b, chs. 1, 2]	A B D G
.5	Scrubber/moisture absorber [ref. a, ch. 17; ref. b, ch. 2]	A B G
.6	O_2 sensor and controls ref. b, chs. 2, 5]	A B C F G
.7	Primary electronics [ref. b, chs. 1 thru 3]	A B C D E F G
.8	Primary indicator [ref. b, chs. 2, 3]	A B C G
.9	Secondary indicator [ref. b, chs. 1, 2, 6]	A B C G
.10	O_2 cylinder [ref. b, ch. 1]	A B E
.11	Diluents cylinder [ref. b, ch. 1]	A B E
.12	M-48 Mask	A B F G
.13	MK 11 BCD	A E F G
.14	Harness Assembly	A B E F G
.15	Bladder Assembly	A B E F G
.16	Quick Release Assembly	A B E F G
.17	Air Inflation System	A B E F G

_____
(Signature and Date)

220 MK 16 MOD 1 UNDERWATER BREATHING APPARATUS (UBA) SYSTEM (CONT'D)

220.2 PRINCIPLES OF OPERATION

220.2.1 How do the components work together to achieve the system's function? [ref. b, ch. 2]

_____
(Signature and Date)

.2 Draw a diagram of this system. [ref. b, ch. 2]

_____
(Signature and Date)

220.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. b, chs. 1, 2]

A. Where are the parameters sensed or monitored?
B. What is the physical location of the indicators?
C. What is the alarm set point?
D. What is minimum drive pressure for O_2 reducer?
E. What is canister duration limits?
F. What is maximum depth limitations?

		Questions
220.3.1	MK 16 MOD 1 UBA	A B C D E F

_____
(Signature and Date)

220.4 SYSTEM INTERFACE

220.4.1 How does this system interface with the EBS? [ref. a, ch. 18]

_____
(Signature and Date)

220.5 SAFETY PRECAUTIONS

220.5.1 What safety precautions must be observed when operating MK 16 MOD 1 UBA? [ref. a. ch. 6, 18; ref. b, Safety Summary]

_____
(Signature and Date)

221 SUBMARINE RESCUE CHAMBER FLY-AWAY SYSTEM (SRCFS)

References:

[a] Technical Manual for Modernized 850 Foot Submarine Rescue Chamber Operation and Maintenance, SS750-AA-MMA-010/850FT
[b] Scope of Certification Notebook for the Submarine Rescue Chamber Fly-Away System (SRCFS), SS750-AB-SCB-010/SRC
[c] RCMS-Rescue Chamber Monitoring System Technical Manual
[d] AN/BQC-1D Sonar Communications Set Maintenance Manual, SE340-AD-MMM-010/BQC-1D
[e] HELLE Model 3220 Wire Diver Phone Operating Instructions/Instruction Manual
[f] NAVSEA Drawing 53711 639 4274 (sheet 2 of 5)

221.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
221.1.1	Submarine Rescue Chamber (SRC) [ref. a, ch. 1, ref. b, plate 2]	A B D
.2	Light Weight Mooring System (LWMS) [ref. f]	A B C D E F
.3	SRC Piping Systems [ref. a, ch. 2; ref. b, plate 3]	A B D
.4	SRC Support Air System [ref. a, ch. 4]	A B D F
.5	Electrical System [ref. b, plate 5]	A B D E F
.6	Rescue Chamber Monitoring System (RCMS) [ref. c, ch. 3]	A B C D E F
.7	Communications [ref. a, ch. 2; ref. c, ch. 2; ref. d, ch. 3; ref. e, ch. 3]	A B C D F
.8	SRC Cable Reel [ref. g, ch. 3; ref. b, plate 10]	A D
.9	Gauges [ref. b, plates 3 & 9]	B F
.10	Valves/reducers/piping/hoses [ref. a, ch. 4; ref. b, plates 3 & 9]	A B C E F
.11	Relief valves [ref. a, ch. 2; ref. b, plate 3]	A B E F

_____
(Signature and Date)

221.2 PRINCIPLES OF OPERATION

221 SUBMARINE RESCUE CHAMBER FLY-AWAY SYSTEM (SRCFS) (CONT'D)

221.2.1 Draw a diagram and label the 850fsw, 7:1 Scope, Light Weight Mooring System [ref. f, sheet 2]

_____
(Signature and Date)

.2 Draw a diagram and label the Submarine Rescue Chamber Support Air System [ref. b, plate 9]

_____
(Signature and Date)

.3 Draw a diagram and label the Submarine Rescue Chamber Piping System [ref. b, plate 3]

_____
(Signature and Date)

.4 How do the components work together to achieve the system's function? [ref. a, ch. 1]

_____
(Signature and Date)

.5 Using a diagram of this system, show the path of: [ref. b, plates 3 & 9]

a. HP air from the compressor(s) to the console
b. LP air from the console to the Air Motor
c. Seawater to the Ballast Tanks and/or Lower Compartment via Flood/Drain and Spill/Vent Systems

_____
(Signature and Date)

.6 What is the sequence of component involvement to accomplish the line-up of the system? [ref. a, ch. 1]

_____
(Signature and Date)

.7 What is the sequence of component involvement required to deploy/recover the system? [ref. a, ch. 4; ref. f, sheet1]

_____
(Signature and Date)

221 SUBMARINE RESCUE CHAMBER FLY-AWAY SYSTEM (SRCFS) (CONT'D)

221.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions:

a. What is the normal operating pressure/value?
b. What are the allowable operating depths/limits?
c. What are the maximum allowable oxygen/carbon dioxide percentages?
d. When is ventilation required?
e. What is the physical location of the indicators?
f. What calculations are required?

		Questions
221.3.1	Submarine Rescue Chamber (SRC) [ref. a, ch. 2]	A B C D E F

_____
(Signature and Date)

.2	Air Support System [ref. a, ch. 4]	A B C E F

_____
(Signature and Date)

.3	Light Weight Mooring System [ref. f, sheet 1]	B F

_____
(Signature and Date)

221.4 SYSTEM INTERFACE

221.4.1 How do the following outside influences affect the operation of this system: [ref. b, EPs]

a. Loss of electrical power
b. Loss of primary air supply
c. Shifting in Moor

_____
(Signature and Date)

221.5 SAFETY PRECAUTIONS

221.5.1 What safety precautions must be observed when operating this system? [ref. b, OP/EPs]

_____
(Signature and Date)

222 NAVY DIVE COMPUTER

References:

[a] NDC Generation III Operation and Maintenance Instructions, 14 July 2005
[b] Subject Matter Expert (SME)

222.1 SYSTEM COMPONENTS AND COMPONENT PARTS

For the items listed, identify the system components and component parts and answer the following questions: [ref. a]

A. What is its function?
B. What are the sources of power?
C. What are the modes of operation or control?
D. What are the safety/protective devices for this component/component part?
E. What are the probable indications if this component fails?

		Questions
222.1.1	Navy Dive Computer GEN III[ref. a]	ABCDE

_____
(Signature and Date)

222.2 SYSTEM OPERATION

Referring to reference [a] and/or the actual equipment, explain the following: [ref. a]

222.2.1 Use in a Dry Environment [ref. a]

_____
(Signature and Date)

.2 Side Contacts [ref. a]

_____
(Signature and Date)

.3 Turn on NDC [ref. a]

_____
(Signature and Date)

.4 TACLITE ™ [ref. a]

_____

(Signature and Date)

222 NAVY DIVE COMPUTER (CONT'D)

222.2.5 Low Battery Indications [ref. a]

_____
(Signature and Date)

.6 Turn off NDC [ref. a]

_____
(Signature and Date)

.7 Altitude Diving [ref. a]

_____
(Signature and Date)

.8 Flying After Diving [ref. a]

_____
(Signature and Date)

.9 Repetitive Diving [ref. a]

_____
(Signature and Date)

.10 NDC Failure [ref. a]

_____
(Signature and Date)

222.3 PARAMETERS/OPERATING MODES

For the items listed, answer the following questions: [ref. a]

A. When does the NDC enter into this operation mode?
B What parameters are displayed in this mode?
C. What parameters are displayed in the alternate display for this mode?
D. How do different depths change the displayed readings in this mode?
E. Does the Ascent Bar Graph display in this mode?

	Questions
222.3.1 Surface Mode	ABCDE

_____
(Signature and Date)

222 NAVY DIVE COMPUTER (CONT'D)

Questions

.2 Subsurface Mode ABCDE

_____
(Signature and Date)

.3 Decompression Mode ABCDE

_____
(Signature and Date)

.4 Post-Dive Interval Mode ABCDE

_____
(Signature and Date)

.5 Sleep Mode ABCDE

_____
(Signature and Date)

222.4 SYSTEM INTERFACE

222.4.1 How does the NDC interface with the Standard Air, MK-16 MOD O, and CSMD decompression tables? [ref. a, b]

_____
(Signature and Date)

222.5 SAFETY PRECAUTIONS

222.5.1 What safety precautions must be observed when operating this system? [ref. a]

_____
(Signature and Date)

.2 How and why are the following warning indications displayed on the NDC? [ref. a]

a. Ascent Bar Graph
b. Depth Alarm
c. Two-minute Warning
d. Ceiling Depth
e. Exceeding Depth Rating

_____

(Signature and Date)

222 NAVY DIVE COMPUTER (CONT'D)

222.5.3 What is the diver's course of action for the following warning indications? [ref. a]

a. Ascent Bar Graph
b. Depth Alarm
c. Two-minute Warning
d. Ceiling Depth
e. Exceeding Depth Rating

_____
(Signature and Date)

222.6 MAINTENANCE

222.6.1 Describe the following routine maintenance procedures: [ref. a]

a. Side Contacts
b. Cleaning the NDC
c. Battery Changes
d. Deployment Kit
e. Strap Replacement

_____
(Signature and Date)

.2 Explain NDC Pre and Post Dive Procedures. [ref. a]

_____
(Signature and Date)

.3 Explain NDC Data Upload Procedures. [ref. a]

_____
(Signature and Date)

223 NAVY DIVE PLANNER

References:

[a] U.S. Navy Thalmann Algorithm Dive Planner for Microsoft Windows® Users Manual

223.1 SYSTEM COMPONENTS AND COMPONENT PARTS

For the items listed, identify the system components and component parts and answer the following questions: [ref. a]

A. What is its function?
B. What are the program features?
C. What are the system requirements?
D How do you install it?

		Questions
223.1.1	Navy Dive Planner	ABCD

_____
(Signature and Date)

223.2 PRINCIPLES OF OPERATION

223.2.1 Describe the following elements of the Dive Planner Main Window: [ref. a]

a. Starting Dive Planner
b. Window Control Buttons
c. Menu Bar
d. File Menu
e. Profile Menu
f. Help Menu
g. Tool Bar
h. Using Run-Time Help
i. Exiting Dive Planner

_____
(Signature and Date)

.2 Explain how to creatie a New Dive Profile and execute the following functions of the Navy Dive Planner program: [ref. a]

a. Profile ID
b. Profile Diver List
c. Generating the Dive Profile
d. Dive Profile Examples
e. Changing the Diver Displayed

223 NAVY DIVE PLANNER (CONT'D)

223.2.2 f. Display Dive History

_____
(Signature and Date)

.3 Explain how to Save Dive Profiles and execute the following functions: [ref. a]

a. Save Dive Profile Data
b. Save the Dive Profile Summary

_____
(Signature and Date)

.4 Explain how to use a Saved Dive Profile [ref. a]

_____
(Signature and Date)

.5 Explain how to Manage Dive Planner Files [ref. a]

_____
(Signature and Date)

.6 Explain how to View/Edit Existing Dive Planner Files [ref. a]

_____
(Signature and Date)

.7 Explain how to use Default Gas Mixes. [ref. a]

_____
(Signature and Date)

.8 Explain how to add User-Defined Gas Mixes. [ref. a]

_____
(Signature and Date)

.9 Explain how to change the Last Allowed Decompression Stop Depth. [ref. a]

_____
(Signature and Date)

.10 Explain how to print the following Dive Profiles: [ref. a]

a. Dive Profile Data

223 NAVY DIVE PLANNER (CONT'D)

223.2.10 b. Summary Data

_____
(Signature and Date)

.11 Discuss the Navy Dive Planner Advanced Features. [ref. a]

_____
(Signature and Date)

223.3 PARAMETERS/OPERATING LIMITS – None to be discussed

223.4 SYSTEM INTERFACE – None to be discussed.

223.5 SAFETY PRECAUTIONS

223.5.1 What safety precautions must be observed when operating this system? [ref. a]

_____
(Signature and Date)

224 READY OPERATIONAL PIERSIDE EMERGENCY REPAIR CART (ROPER)

References:

[a] NAVSEA SS500-SA-MMA-010, Ready Operational Pierside Emergency Repair Cart
[b] Local System Operating Procedures/Emergency Procedures (OP/EP)
[c] NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual

224.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
224.1.1	Electrical System [ref. a, ch. 3]	A B C E F
.2	Charging Station [ref. a, ch. 2]	A B F
.3	SCUBA Charging Panel [ref. a, ch. 2]	A B F
.4	Storage Moduel / Lifting Eyes [ref. a, ch. 2]	A B
.5	Divers Air Storage Flasks [ref. a, ch. 2]	A B E F
.6	Hand and Dome Regulators [ref. a, ch. 6]	A B E F
.7	Control Panel [ref. a, ch. 2]	A B E F
.8	Volume Tank [ref. a, ch. 2]	A B E F

_____
(Signature and Date)

224.2 PRINCIPLES OF OPERATION

224.2.1 How do the components work together to achieve the system's function? [ref. a, ch. 3]

_____
(Signature and Date)

224 READY OPERATIONAL PIERSIDE EMERGENCY REPAIR CART (ROPER) (CONT'D)

224.2.2 Using a diagram of this system, show the path of: [ref. a & b]

a. HP air from the primary bank to reducing station
b. HP air from the secondary bank to reducing station
c. LP air from the reducing stations to the chamber

_____
(Signature and Date)

.3 What is the sequence of component involvement to accomplish the line-up of the system? [ref. b]

_____
(Signature and Date)

224.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ref. d, ch. 22]

a. What is the normal operating pressures?
b. What are the allowable operating depths?

_____
(Signature and Date)

224.4 SYSTEM INTERFACE

224.4.1 How do the following outside influences affect the operation of this system: [ref. c]

a. Loss of electrical power
b. Loss of primary air supply

_____
(Signature and Date)

224.5 SAFETY PRECAUTIONS

224.5.1 What safety precautions must be observed when operating this system? [ref. c, ch. 8]

_____
(Signature and Date)

225 RAPID DEPLOYMENT OXYGEN TRANSFER PUMP SYSTEM (RDOTPS)

References:

[a] USMC Tech Manual, Operation and Maintenance Manual for Rapid Deployment Oxygen Transfer Pump System (RDOTPS), TM 10759A-14&P

225.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each:

A. What is its function?
B. Where is it located?
C. What are the sources of power?
D. What are the modes of operation or control?
E. What are the safety/protective devices for this component/component part?
F. What protection is provided by this component/component part?

		Questions
225.1.1	RDOTPS System Equipment [ch. 1 and 4]	A
.2	Pump Assembly [ch. 4]	A B C D E
.3	Drive Air Connector [ch. 4]	A B C D E
.4	Oxygen supply valve [ch. 4]	A B
.5	Oxygen outlet pressure gauge [ch. 4]	A B
.6	LP air inlet pressure gauge [ch. 4]	A B
.7	Selector Valve [ch. 4]	A B
.8	Oxygen bleed valve [ch. 4]	A B
.9	LAR V Charging Manifold [ch. 4]	A B
.10	HALO Relief Valve [ch. 4]	A B F
.11	LAR V Relief Valve [ch. 4]	A B F
.12	Drive Air Relief Valve [ch. 4]	A B F
.13	HALO Whip and Charging Manifold [ch. 4]	A B
.14	SCUBA Block Assembly [ch. 4]	A B
.15	Drive Air Regulator [ch. 4]	A B

_____
(Signature and Date)

225 RAPID DEPLOYMENT OXYGEN TRANSFER PUMP SYSTEM (RDOTPS) (CONT'D)

225.2 PRINCIPLES OF OPERATION

225.2.1 How do the components work together to achieve the system's function? [ch. 3]

.2 Using a diagram of this system, show the path of: [ch. 4, fig. 4-1]

a. Air from the air inlet to the air outlet
b. Oxygen from the oxygen inlet to the oxygen outlet

_____
(Signature and Date)

225.3 PARAMETERS/OPERATING LIMITS

For the items listed, answer the following questions: [ch. 4]

A. What is the normal operating value?
B. Where are the parameters sensed or monitored?
C. What is the physical location of the indicators?

		Questions
225.3.1	Haskell Model AGT-15/30 booster	A B C

_____
(Signature and Date)

225.4 SYSTEM INTERFACE

225.4.1 How do the following outside influences affect the operation of this system and how is this operation completed: [ch. 2]

a. Using the portable HPAC for drive air?
b. Using SCUBA bottles for drive air?
d. Utilizing the RDOTPS for charging HALO bottles?

_____
(Signature and Date)

225.5 SAFETY PRECAUTIONS

225.5.1 What safety precautions must be observed when operating this system? [ch. 2]

_____
(Signature and Date)

225 RAPID DEPLOYMENT OXYGEN TRANSFER PUMP SYSTEM (RDOTPS) (CONT'D)

225.5.2 What are the safety requirements when handling Oxygen clean components/High Pressure Oxygen? [ch. 1, 2]

_____

(Signature and Date)

226 SURVIVAL EGRESS APPARATUS (SEA), USMC

References:

[a] Aqua Lung S.E.A. (Survival Egress Air) Users Manual, P/N 108349-Rev. 12/2000
[b] Aqua Lung Technical Maintenance Manual S.E.A. MK2 (Survival Egress Air) Rev 2/2004

226.1 SYSTEM COMPONENTS AND COMPONENT PARTS

Referring to a standard print of this system or the actual equipment, identify the following system components and component parts and discuss the designated items for each: [ref. a and b]

A. What is its function?
B. Where is it located?
C. What are the modes of operation or control?
D. What are the safety/protective devices for this component/component part?
E. What protection is provided by this component/component part?
F. What are the probable indications if this component fails?

		Questions
226.1.1	First stage w/ Integrated Valve	A B C D
.2	Second Stage	A B C
.3	Cylinder	A B D
.4	Scuba bottle Fill Adapter	A B C
.5	Fill Port	A B
.6	Pressure Gage	A B C E F

_____
(Signature and Date)

226.2 PRINCIPLES OF OPERATION

226.2.1 How do the components work together to achieve the system's function? [ref. b]

_____
(Signature and Date)

226.3 PARAMETERS/OPERATING LIMITS

226.3.1 What are the air supply parameters? (ref. a)

_____
(Signature and Date)

226 SURVIVAL EGRESS APPARATUS (SEA), USMC (CONT'D)

226.3.2 What is the maximum bottle pressure? (ref. a)

_____
(Signature and Date)

.3 What is the intermediate or 2nd stage pressure? (ref. b)

_____
(Signature and Date)

.4 What is the maximum charging rate of the cylinder? (ref. a)

_____
(Signature and Date)

.5 What is the recommended lubricant? (ref. b)

_____
(Signature and Date)

.6 What are bottle test requirements? (ref. b)

_____
(Signature and Date)

226.4 SYSTEM INTERFACE

226.4.1 How does this system interface with the Mobile Recharging Station (MRS-3)? (ref. a)

_____
(Signature and Date)

.2 How does this system interface with SCUBA bottles for charging? (ref. a)

_____
(Signature and Date)

226.5 SAFETY PRECAUTIONS

226.5.1 What safety precautions must be observed when operating this system? [ref. a]

_____
(Signature and Date)

300 INTRODUCTION TO WATCHSTATIONS

300.1 INTRODUCTION

The Watchstation section of your PQS is where you get a chance to demonstrate to your Qualifier that you can put the knowledge you have gained in the previous sections to use. It allows you to practice the tasks required for your watchstation and to handle abnormal conditions and emergencies. Before starting your assigned tasks, you must complete the prerequisites that pertain to the performance of that particular task. Satisfactory completion of all prerequisites is required prior to achievement of final watchstation qualification.

300.2 FORMAT

Each watchstation in this section contains:

- A FINAL QUALIFICATION PAGE, which is used to obtain the required signatures for approval and recording of Final Qualification.

- PREREQUISITES, which are items that must be certified completed before you can begin qualification for a particular watchstation. Prerequisites may include schools, watchstation qualifications from other PQS books, and fundamentals, systems/mission areas, or watchstation qualifications from this book. Prior to signing off each prerequisite line item, the Qualifier must verify completion from existing records. Record the date of actual completion, not the sign-off date.

- WATCHSTATION Performance, which is the practical factors portion of your qualification. The performance is broken down as follows:

    Tasks (routine operating tasks that are performed frequently)
    Infrequent Tasks
    Abnormal Conditions
    Emergencies
    Training Watches

If there are multiple watchstations, a QUALIFICATION PROGRESS SUMMARY will appear at the end of the Standard.

300 INTRODUCTION TO WATCHSTATIONS (CONT'D)

300.3 OPERATING PROCEDURES

The PQS deliberately makes no attempt to specify the procedures to be used to complete a task or control or correct a casualty. The only proper sources of this information are the technical manuals, Engineering Operational Sequencing System (EOSS), Naval Air Training and Operating Procedures Standardization (NATOPS) or other policy-making documents prepared for a specific installation or a piece of equipment. Additionally, the level of accuracy required of a trainee may vary from school to school, ship to ship, and squadron to squadron based upon such factors as mission requirements. Thus, proficiency may be confirmed only through demonstrated performance at a level of competency sufficient to satisfy the Commanding Officer.

300.4 DISCUSSION ITEMS

Though actual performance of evolutions is always preferable to observation or discussion, some items listed in each watchstation may be too hazardous or time consuming to perform or simulate. Therefore, you may be required to discuss such items with your Qualifier.

300.5 NUMBERING

Each Final Qualification is assigned both a watchstation number and a NAVEDTRA Final Qualification number. The NAVEDTRA number is to be used for recording qualifications in service and training records.

300.6 HOW TO COMPLETE

After completing the required prerequisites applicable to a particular task, you may perform the task under the supervision of a qualified watchstander. If you satisfactorily perform the task and can explain each step, your Qualifier will sign you off for that task. After all line items have been completed, your Qualifier will verify Final Qualification by signing and dating the Final Qualification pages.

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS)

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

This qualification section is to be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DIVING SALVAGE WARFARE SPECIALIST (DSWS) (NAVEDTRA 43910-A).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS)

Estimated completion time: 24 Months, requalification 18 months

NEC 5343 Core DSWS PQS: (Minimum Fundamentals and Watchstations to be completed by all Navy divers regardless of Specific Mission Area Assigned)

101 - Professional library
102 - Naval Heritage and Doctrine
103 - U. S. Navy Organization
104 - Shipboard Organization and Administration
105 - Supply Organization
106 - Divers Life Support System Quality Assurance
107 - Basic Seamanship
116 - Diving Safety/ORM
117 - Underwater Hull and Appendages
120 - Underwater Physiology And First Aid
121 - Diving Organization
122 - Dive Planning Procedures
123 - Diving Symbols and Formulas
124 - Diving Records and Reports
125 - Air Diving Decompression Tables
127 - Recompression Treatment
128 - Recompression Chamber
129 - Open Circuit Scuba
130 - Surface Supplied Diving
131 - Explosive Ordnance Disposal
133 - Hazardous Material/Hazardous Waste
136 - DLSS Compressors
138 - Ordnance/Security Searching
141 - Nuclear Biological and Chemical (NBC) Defense Fundamentals
142 - Expeditionary Operations Fundamentals
143 - Expeditionary Salvage Fundamentals
144 - Naval Special Warfare Mission Fundamentals
145 - United States Marine Corps Diving Operations Fundamentals
301 - Diving Salvage Warfare Specialist (DSWS)
302 - DLSS Operator
303 - Chamber Operator
308 - DLSS Maintenance Technician

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT)

146 - Saturation Diving Fundamentals
147 - Submarine Rescue Fundamentals

NEC 5342 Core DSWS PQS: (Minimum Fundamentals and Watchstations to be completed by all Navy divers regardless of Specific Mission Area Assigned)

304 - Inside Tender
305 - Chamber Supervisor
306 - Scuba Diving Supervisor
314 - Reentry Control Supervisor

Note: IN ADDITION TO THE DSWS CORE PQS, THE CANDIDATE WILL COMPLETE DSWS FUNDAMENTALS AND WATCHSTATION PQS LISTED FOR THE SPECIFIC MISSION AREA CURRENTLY ASSIGNED TO IN ORDER TO COMPLETE FINAL QUALIFICATION AS A DIVING SALVAGE WARFARE SPECIALIST. SUPERVISORY LEVEL PERSONNEL, NEC 5342 WILL HAVE ADDITIONAL WATCHSTATION QUALIFICATIONS MARKED *SLP ONLY*

Salvage:	108 - Underwater Salvage 109 - Salvage Patching 110 - Underwater Cutting and Welding 111 - Heavy Lifting Equipment 112 - Beach Gear 113 - Open Water Mooring 114 - Salvage Machinery 115 - Towing 126 - Surface Supplied Mixed Gas Diving	*SLP ONLY* 307 - Air Diving Supervisor
UWSH:	110 - Underwater cutting and Welding	321 - UWSH Specialist 323 - Onboard Diver Safety Check Off Technician *SLP ONLY* 307 - Air Diving Supervisor
Training:	126 - Surface Supplied Mixed Gas Diving	*SLP ONLY* 307 - Air Diving Supervisor

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT)

RDT&E:	126 - Surface Supplied Mixed Gas Diving	*SLP ONLY*
SPECWAR	132 - Closed Circuit Oxygen Underwater Breathing Apparatus 137 - Diver Propulsion Devices	312 - MK-25 Closed Circuit Technician *SLP ONLY* 313 - MK25 Diving Supervisor
USMC:	137 - Diver Propulsion Devices 139 - Survival Egress Air (SEA)	312 - MK-25 Closed Circuit Technician *SLP ONLY* 313 - MK25 Diving Supervisor 328 - Diver Propulsion Device Pilot 329 - Combat Diving Instructor
EOD:	134 - Closed Circuit HEO2 UBA MK16 135 - Semi-closed Mixed UBA Viper (VSW)	310 - MK-16 Technician 323 - Onboard Diver Safety Check Off Technician *SLP ONLY* 311 - MK 16 Diving Supervisor

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

301.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

301.1.1 NECS: MUST HAVE AT LEAST ONE OF THE FOLLOWING:

5341, 5342, 5343

Completed _____
(Qualifier and Date)

301.1.2 PQS QUALIFICATIONS:

Maintenance and Material Management (3-M) (NAVEDTRA 43241-H), 301 Maintenance Person

E-1 thru E-4 must complete 301 and 302
E-5 must complete 301 thru 303
E-6 must complete 301 thru 304

Completed _____
(Qualifier and Date)

Maintenance and Material Management (3-M) (NAVEDTRA 43241-H), 302 Repair Parts/Supply Petty Officer

Completed _____
(Qualifier and Date)

Maintenance and Material Management (3-M) (NAVEDTRA 43241-H), 303 Work Center Supervisor

Completed _____
(Qualifier and Date)

Maintenance and Material Management (3-M) (NAVEDTRA 43241-H), 304 Division Officer

Completed _____
(Qualifier and Date)

Quality Maintenance Program (NAVEDTRA 43523-B), 301 Craftsman

Completed _____
(Qualifier and Date)

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

301.1.2 Applicable only for Salvage, EOD, SPECWAR, and USMC Commands

Small Arms (NAVEDTRA 43466-B), 301 9mm Pistol Operator

Completed _____
(Qualifier and Date)

Small Arms (NAVEDTRA 43466-B), 312 12 Gauge Shotgun Operator

Completed _____
(Qualifier and Date)

Small Arms (NAVEDTRA 43466-B), 314 5.56mm M16 Rifle Operator

Completed _____
(Qualifier and Date)

301.1.3 FUNDAMENTALS FROM THIS PQS:

101 Professional Library (Informative Only)

Completed _____ 3% of Watchstation
(Qualifier and Date)

102 Naval Heritage and Doctrine

Completed _____ 3% of Watchstation
(Qualifier and Date)

103 U.S. Navy Organization

Completed _____ 3% of Watchstation
(Qualifier and Date)

104 Shipboard Organization and Administration

Completed _____ 3% of Watchstation
(Qualifier and Date)

105 Supply Organization

Completed _____ 3% of Watchstation
(Qualifier and Date)

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

301.1.3 106 Diver's Life Support System (DLSS) Quality Assurance (QA)

Completed _____ 3% of Watchstation
(Qualifier and Date)

107 Basic Seamanship

Completed _____ 2% of Watchstation
(Qualifier and Date)

108 Underwater Salvage

Completed _____ 2% of Watchstation
(Qualifier and Date)

109 Salvage Patching

Completed _____ 2% of Watchstation
(Qualifier and Date)

110 Underwater Cutting and Welding

Completed _____ 2% of Watchstation
(Qualifier and Date)

111 Heavy Lifting Equipment

Completed _____ 2% of Watchstation
(Qualifier and Date)

112 Beach Gear

Completed _____ 2% of Watchstation
(Qualifier and Date)

113 Open Water Mooring

Completed _____ 2% of Watchstation
(Qualifier and Date)

114 Salvage Machinery

Completed _____ 2% of Watchstation
(Qualifier and Date)

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

301.1.3 115 Towing

Completed _____ 2% of Watchstation
(Qualifier and Date)

116 Diving Safety

Completed _____ 2% of Watchstation
(Qualifier and Date)

117 Underwater Hull and Appendages

Completed _____ 2% of Watchstation
(Qualifier and Date)

118 Underwater Hull Inspections

Completed _____ 2% of Watchstation
(Qualifier and Date)

119 Underwater Ship's Husbandry Equipment

Completed _____ 2% of Watchstation
(Qualifier and Date)

120 Underwater Physiology and First Aid

Completed _____ 2% of Watchstation
(Qualifier and Date)

121 Diving Organization

Completed _____ 2% of Watchstation
(Qualifier and Date)

122 Dive Planning Procedures

Completed _____ 2% of Watchstation
(Qualifier and Date)

123 Diving Symbols and Formulas

Completed _____ 2% of Watchstation
(Qualifier and Date)

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

301.1.3 124 Diving Records and Reports

Completed _____ 2% of Watchstation
(Qualifier and Date)

125 Air Diving Decompression Tables

Completed _____ 2% of Watchstation
(Qualifier and Date)

126 Surface Supplied Mixed Gas Diving

Completed _____ 2% of Watchstation
(Qualifier and Date)

127 Recompression Treatment

Completed _____ 2% of Watchstation
(Qualifier and Date)

128 Recompression Chamber

Completed _____ 2% of Watchstation
(Qualifier and Date)

129 Open Circuit Scuba

Completed _____ 2% of Watchstation
(Qualifier and Date)

130 Surface Supplied Diving

Completed _____ 2% of Watchstation
(Qualifier and Date)

131 Explosive Ordnance Disposal (EOD)

Completed _____ 2% of Watchstation
(Qualifier and Date)

132 Closed Circuit Oxygen UBA

Completed _____ 2% of Watchstation
(Qualifier and Date)

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

301.1.3 133 Hazardous Material/Hazardous Waste (HM/HW)

Completed _____ 2% of Watchstation
(Qualifier and Date)

134 MK 16 Underwater Breathing Apparatus (UBA)

Completed _____ 2% of Watchstation
(Qualifier and Date)

135 Semi-Closed Mixed Gas UBA Viper VSW

Completed _____ 2% of Watchstation
(Qualifier and Date)

136 DLSS Compressor Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

137 Diver Propulsion Device (DPD) Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

138 Ordnance / Security Searching

Completed _____ 2% of Watchstation
(Qualifier and Date)

139 Survival Egress Air (SEA), USMC Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

140 Tactical Communications Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

141 Nuclear Biological Chemical (NBC) Defense Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

301.1.3 142 Expeditionary Operations Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

143 Expeditionary Salvage Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

144 Naval Special Warfare Mission Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

145 United States Marine Corps Diving Operations Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

146 Saturation Diving Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

147 Submarine Rescue Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

301.2 TASKS – None to be discussed.

301.3 INFREQUENT TASKS – None to be discussed.

301.4 ABNORMAL CONDITIONS – None to be discussed.

301.5 EMERGENCIES – None to be discussed.

301.6 WATCHES – None.

301.7 EXAMINATIONS

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

301.7.1	EXAMINATIONS	Pass a written examination
		_____ (Signature and Date)
.2	EXAMINATIONS	Pass an oral examination board
		_____ (Signature and Date)

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR (NAVEDTRA 43910-A).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR

Estimated completion time: 2 weeks

302.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

302.1.1 PQS Qualifications:

Maintenance and Material Management (3-M) (NAVEDTRA 43241-H), 301 Maintenance Person

Completed _____
(Qualifier and Date)

Quality Maintenance Program (NAVEDTRA 43523-B), 301 Craftsman

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

308 Diver's Life Support System (DLSS) Maintenance Technician

Completed _____
(Qualifier and Date)

.3 FUNDAMENTALS FROM THIS PQS:

106 Diver's Life Support Systems (DLSS) Quality Assurance (QA)

Completed _____ 2% of Watchstation
(Qualifier and Date)

116 Diving Safety

Completed _____ 2% of Watchstation
(Qualifier and Date)

121 Diving Organization

Completed _____ 2% of Watchstation
(Qualifier and Date)

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR (CONT'D)

302.1.3 123 Diving Symbols and Formulas

Completed _____ 2% of Watchstation
(Qualifier and Date)

125 Air Diving Decompression tables

Completed _____ 2% of Watchstation
(Qualifier and Date)

126 Surface Supplied Mixed Gas Diving

Completed _____ 2% of Watchstation
(Qualifier and Date)

130 Surface Supplied Diving

Completed _____ 2% of Watchstation
(Qualifier and Date)

133 Hazardous Material/Hazardous Waste (HM/HW)

Completed _____ 2% of Watchstation
(Qualifier and Date)

.4 SYSTEMS FROM THIS PQS:

201 Open Circuit Scuba

Completed _____ 2% of Watchstation
(Qualifier and Date)

202 MK 20 MOD 0 Underwater Breathing Apparatus (UBA)

Completed _____ 2% of Watchstation
(Qualifier and Date)

203 MK 21 MOD 1 Underwater Breathing Apparatus (UBA)

Completed _____ 2% of Watchstation
(Qualifier and Date)

204 EXO BR MS Full Face Mask (FFM)

Completed _____ 2% of Watchstation
(Qualifier and Date)

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR (CONT'D)

302.1.4 209 Air Diver's Life Support System (DLSS)

Completed _____ 2% of Watchstation
(Qualifier and Date)

210 Fly Away Mixed Gas System (FMGS)

Completed _____ 2% of Watchstation
(Qualifier and Date)

211 Diving Water Heater

Completed _____ 2% of Watchstation
(Qualifier and Date)

212 Diver Underwater Camera

Completed _____ 2% of Watchstation
(Qualifier and Date)

302.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

Questions

302.2.1 Draw and label all DLSS applicable to your command — A B G

_____
(Signature and Date)

.2 Compare systems capacities, limitations to current PSOB — A B G

_____
(Signature and Date)

.3 Line-up, and secure each DLSS — A B C D E F G

_____
(Signature and Date)

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR (CONT'D)

302.2.4 Start, operate, and secure air compressor(s) A B C E F G

_____
(Signature and Date)

.5 Compute all compressor efficiencies (LP and HP) A B C E F G

_____
(Signature and Date)

.6 Analyze mixed gas sample (if applicable) B C E F G

_____
(Signature and Date)Questions

.7 Start, operate, and secure gas transfer equipment A B C D E F G

_____
(Signature and Date)

.8 Perform system emergency procedures A B C D E F G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 15% OF WATCHSTATION.

302.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform or simulate this infrequent task.

Questions

302.3.1 Obtain air sample A B C D E F G

_____
(Signature and Date)

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR (CONT'D)

302.3.2 Write a REC package A B G

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 8% OF WATCHSTATION.

302.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

302.4.1 Malfunction of valves and controls A B C D E F G H

_____
(Signature and Date)

.2 Loss of electrical power A B C D E F G H

_____
(Signature and Date)

.3 Low lube oil A B C D E F G H

_____
(Signature and Date)

.4 High temperature readings A B C D E F G H

_____
(Signature and Date)

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR (CONT'D)

302.4.5 Excessive engine speed A B C D E F G H

_____
(Signature and Date)

.6 Low output pressure A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 5% OF WATCHSTATION.

302.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

302.5.1 Loss of primary breathing media A B C D E F G

_____
(Signature and Date)

.2 Contaminated breathing media A B C D E F G

_____
(Signature and Date)

.3 Ruptured hoses A B C D E F G

_____
(Signature and Date)

.4 Malfunction of reducers, valves, and reliefs A B C D E F G

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 10% OF WATCHSTATION.

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR (CONT'D)

302.6 WATCHES

302.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Diver's Life Support System (DLSS) Operator (5 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 30% OF WATCHSTATION.

302.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

302.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

303 CHAMBER OPERATOR

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified CHAMBER OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

303 CHAMBER OPERATOR

Estimated completion time: 2 weeks

303.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

303.1.1 WATCHSTATIONS FROM THIS PQS:

308 Diver's Life Support System (DLSS) Maintenance Technician

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

128 Recompression Chamber

Completed _____ 2% of Watchstation
(Signature and Date)

.3 Systems From This PQS:

208 Hyperbaric Chamber

Completed _____ 2% of Watchstation
(Qualifier and Date)

216 Standard Navy Double Lock (SNDL)

Completed _____ 2% of Watchstation
(Qualifier and Date)

217 Fly Away Recompression Chamber (FARCC)

Completed _____ 2% of Watchstation
(Qualifier and Date)

218 Transportable Recompression Chamber (TRCS)

Completed _____ 2% of Watchstation
(Qualifier and Date)

303 CHAMBER OPERATOR (CONT'D)

303.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
303.2.1	Compute system capabilities and limitations and compare with the current PSOB	A B G
	_____ (Signature and Date)	
.2	Line-up chamber/oxygen system	A B C D E F G
	_____ (Signature and Date)	
.3	Operate chamber/oxygen system	A B C D E F G
	_____ (Signature and Date)	
.4	Operate outer/medical lock	A B C D E F G
	_____ (Signature and Date)	
.5	Perform system emergency procedures	A B C D E F G
	_____ (Signature and Date)	
.6	Secure chamber system	A B C D E F G
	_____ (Signature and Date)	

Completed .2 area comprises 20% of watchstation.

303 CHAMBER OPERATOR (CONT'D)

303.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What safety precautions must be observed?
E. What parameters must be monitored?
F. What conditions require this infrequent task?
G. Satisfactorily perform or simulate this infrequent task.

		Questions
303.3.1	Perform air pressure and leak test on chamber	A B C D E F G

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 10% OF WATCHSTATION.

303.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

		Questions
303.4.1	Increase of depth	A B C D E F G H

_____
(Signature and Date)

.2	Decrease of depth	A B C D E F G H

_____
(Signature and Date)

303 CHAMBER OPERATOR (CONT'D)

303.4.3 Increase of temperature A B C D E F G H

_____
(Signature and Date)

.4 High CO_2 A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 10% OF WATCHSTATION.

303.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/ watch stations?
G. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

303.5.1 Loss of primary air supplies A B C D E F G

_____
(Signature and Date)

.2 Fire in the chamber A B C D E F G

_____
(Signature and Date)

.3 Loss of electrical power A B C D E F G

_____
(Signature and Date)

.4 Rapid increase/decrease of chamber pressure A B C D E F G

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

303 CHAMBER OPERATOR (CONT'D)

303.6 WATCHES

303.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Chamber Operator (5 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 30% OF WATCHSTATION.

303.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

303.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

304 INSIDE TENDER

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified INSIDE TENDER (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

304 INSIDE TENDER

Estimated completion time: 2 weeks

304.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

304.1.1 WATCHSTATIONS FROM THIS PQS:

303 Chamber Operator

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

120 Underwater Physiology and First Aid

Completed _____ 5% of Watchstation
(Qualifier and Date)

304.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What means of communications are used?
D. What safety precautions must be observed?
E. What parameters/operating limits must be monitored?
F. Satisfactorily perform this task.

		Questions
304.2.1	Perform neurological examination	A B E F

_____
(Signature and Date)

.2	Recognize and diagnose CNS O_2 toxicity	A B C E F

_____
(Signature and Date)

304 INSIDE TENDER (CONT'D)

Questions

304.2.3 Recognize and diagnose pulmonary O_2 toxicity A B C E F

_____
(Signature and Date)

.4 Introduce intravenous catheter A B C D E F

_____
(Signature and Date)

.5 Check vital signs at TX depth (pulse, breath, and temperature) A B C E F

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 25% OF WATCHSTATION.

304.3 INFREQUENT TASKS – None to be discussed.

304.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

304.4.1 Barotrauma A B D F G H

_____
(Signature and Date)

.2 Tension pneumothorax A B D F G H

_____
(Signature and Date)

304 INSIDE TENDER (CONT'D)

Questions

304.4.3 Recognizing of worsening of symptoms — A B D F G H

_____
(Signature and Date)

.4 Recompression chamber ambient high/low temperatures — A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 25% OF WATCHSTATION.

304.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What other emergencies or malfunctions may occur if immediate action is not taken?
E. How does this emergency affect other operations/equipment/watchstations?
F. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

304.5.1 Cardiac arrest — A B C D E F

_____
(Signature and Date)

.2 Convulsions/seizures — A B C D E F

_____
(Signature and Date)

.3 Loss of electrical power — A B C D E F

_____
(Signature and Date)

304.5.4 Urinary retention — A B C E F

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 25% OF WATCHSTATION.

304 INSIDE TENDER (CONT'D)

304.6 WATCHES

304.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Inside Tender (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

304.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

304.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

305 CHAMBER SUPERVISOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified CHAMBER SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

305 CHAMBER SUPERVISOR

Estimated completion time: 2 weeks

305.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

305.1.1 WATCHSTATIONS FROM THIS PQS:

304 Inside Tender

Completed _____
(Qualifier and Date)

314 Reentry Control Supervisor

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

122 Dive Planning Procedures

Completed _____ 3% of Watchstation
(Qualifier and Date)

124 Diving Records and Reports

Completed _____ 3% of Watchstation
(Qualifier and Date)

125 Air Diving Decompression Tables

Completed _____ 3% of Watchstation
(Qualifier and Date)

305 CHAMBER SUPERVISOR (CONT'D)

305.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
305.2.1	Recognize and diagnose casualties requiring chamber TX	A B C D E F G
	_____ (Signature and Date)	
.2	Select appropriate TX table	B C D E G
	_____ (Signature and Date)	
.3	Coordinate and supervise operation of hyperbaric chamber	A B C D E F G
	_____ (Signature and Date)	
.4	Perform lockin/lockout procedures	A B C D E F G
	_____ (Signature and Date)	
.5	State inside tender O_2 breathing requirements and procedures	A B C D E F G
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 20% OF WATCHSTATION.

305 CHAMBER SUPERVISOR (CONT'D)

305.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

		Questions
305.3.1	Perform HBO therapy	A B C D E F G H I

_____
(Signature and Date)

.2	Perform ACLS	A B C D E F G H I

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 15% OF WATCHSTATION.

305.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

		Questions
305.4.1	CNS oxygen toxicity	A B C D E F G H

_____
(Signature and Date)

305 CHAMBER SUPERVISOR (CONT'D)

Questions

305.4.2 Pulmonary oxygen toxicity — A B C D E F G H

_____
(Signature and Date)

.3 Loss of TX gas — A B C E F G H

_____
(Signature and Date)

.4 Recurrence of symptoms — A B C E F G H

_____
(Signature and Date)

.5 Abort procedures — A B C D E G H

_____
(Signature and Date)

.6 Tension pneumothorax — A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 15% OF WATCHSTATION.

305.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

305.5.1 Fire — A B C D E F G

_____
(Signature and Date)

305 CHAMBER SUPERVISOR (CONT'D)

Questions

305.5.2 Failure of system A B C D E F G

_____
(Signature and Date)

.3 Patient's condition deteriorating A B C D E F G

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

305.6 WATCHES

305.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Chamber Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 21% OF WATCHSTATION.

305.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

305.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

306 SCUBA DIVING SUPERVISOR

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SCUBA DIVING SUPERVISOR (NAVEDTRA 43910-A).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

306 SCUBA DIVING SUPERVISOR

Estimated completion time: 2 weeks

306.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

306.1.1 WATCHSTATIONS FROM THIS PQS:

303 Chamber Operator

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

120 Underwater Physiology and First Aid

Completed _____ 3% of Watchstation
(Qualifier and Date)

122 Dive Planning Procedures

Completed _____ 3% of Watchstation
(Qualifier and Date)

124 Diving Records and Reports

Completed _____ 3% of Watchstation
(Qualifier and Date)

127 Recompression Treatment

Completed _____ 3% of Watchstation
(Qualifier and Date)

129 Open Circuit Scuba

Completed _____ 3% of Watchstation
(Qualifier and Date)

306 SCUBA DIVING SUPERVISOR (CONT'D)

306.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
306.2.1	Plan diving operations	A B C D E F G
	_____ (Signature and Date)	
.2	Supervise predive and postdive evolution for scuba	A B C E F G
	_____ (Signature and Date)	
.3	Brief divers and topside personnel	A B C D E F G
	_____ (Signature and Date)	
.4	Supervise scuba dive	A B C D E F G
	_____ (Signature and Date)	
.5	Debrief divers and topside personnel	A B C D E F G
	_____ (Signature and Date)	
.6	Recognize and diagnose diving related illnesses	A B C E F G
	_____ (Signature and Date)	
.7	Perform neurological examination	A B C E F G
	_____ (Signature and Date)	

306 SCUBA DIVING SUPERVISOR (CONT'D)

		Questions
306.2.8	Recordkeeping	A B F G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 15% OF WATCHSTATION.

306.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

		Questions
306.3.1	Discuss ice dive	A B C D E F G H I

_____
(Signature and Date)

.2	Discuss warm water dive	A B C D E F G H I

_____
(Signature and Date)

.3	Discuss a contaminated water dive	A B C D E F G H I

_____
(Signature and Date)

.4	Discuss and chart and chart a NITROX dive	A B C D E F G H I

_____
(Signature and Date)

.5	Discuss and chart altitude dive	A B C D E F G H I

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 20% OF WATCHSTATION.

306 SCUBA DIVING SUPERVISOR (CONT'D)

306.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

		Questions
306.4.1	Variations in rate of descent/ascent	A B C E F H

_____
(Signature and Date)

.2	Barotrauma during ascent and descent	A B C D E F G H

_____
(Signature and Date)

.3	Omitted decompression procedures	A B C D E F G H

_____
(Signature and Date)

.4	Changes in the surrounding environment (i.e., sea state, wind, current, temperature, waterborne traffic)	A B C D E F G H

_____
(Signature and Date)

.5	Unanticipated changes in ship's status	A B C D E F G H

_____
(Signature and Date)

.6	Unanticipated change in diving plan	A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 15% OF WATCHSTATION.

306 SCUBA DIVING SUPERVISOR (CONT'D)

306.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
306.5.1	Blowup	A B C E F G H
	_____ (Signature and Date)	
.2	Contaminated air	A B C D E F G H
	_____ (Signature and Date)	
.3	Near drowning	A B C E F G H
	_____ (Signature and Date)	
.4	Trapped diver	A B C D E F G H
	_____ (Signature and Date)	
.5	Lost diver	A B C D E F G H
	_____ (Signature and Date)	
.6	Unconscious diver on bottom	A B C D E F G H
	_____ (Signature and Date)	

306 SCUBA DIVING SUPERVISOR (CONT'D)

Questions

306.5.7 Traumatic illness A B C D E F G H

_____
(Signature and Date)

.8 List the actions to be performed in the following emergency situations:

a. Mask flooding A B C D E F G H
b. Excessive breathing resistance A B C D E F G H
c. Demand regulator free flow A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 15% OF WATCHSTATION.

306.6 WATCHES

306.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

Scuba Diving Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

306.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

306.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

307 AIR DIVING SUPERVISOR

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified AIR DIVING SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

307 AIR DIVING SUPERVISOR

Estimated completion time: 2 weeks

307.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

307.1.1 WATCHSTATIONS FROM THIS PQS:

305 Chamber Supervisor

Completed _____
(Qualifier and Date)

306 Scuba Diving Supervisor

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

107 Basic Seamanship Fundamentals

Completed _____ 3% of Watchstation
(Qualifier and Date)

.4 108 Underwater Salvage

Completed _____ 3% of Watchstation
(Qualifier and Date)

117 Underwater Hull and Appendages

Completed _____ 3% of Watchstation
(Qualifier and Date)

307 AIR DIVING SUPERVISOR (CONT'D)

307.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
307.2.1	Plan diving operations	A B C D E F G
	_____ (Signature and Date)	
.2	Monitor predive and postdive evolution for commands diving equipment and systems	A B C E F G
	_____ (Signature and Date)	
.3	Brief divers and topside personnel	A B C D E F G
	_____ (Signature and Date)	
.4	Supervise surface supplied air dive	A B C D E F G
	_____ (Signature and Date)	
.5	Supervise SUR-D dive	A B C D E F G
	_____ (Signature and Date)	
.6	Debrief divers topside personnel	A B C G
	_____ (Signature and Date)	

307 AIR DIVING SUPERVISOR (CONT'D)

		Questions
307.2.7	Recognize and diagnose diving related illness	A B C E F G

_____
(Signature and Date)

.8	Perform neurological examination	A B C E F G

_____
(Signature and Date)

.9	Recordkeeping	A B G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 15% OF WATCHSTATION.

307.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

		Questions
307.3.1	Discuss a warm water dive	A B C D E F G H I

_____
(Signature and Date)

.2	Discuss contaminated water dive	A B C D E F G H I

_____
(Signature and Date)

307 AIR DIVING SUPERVISOR (CONT'D)

Questions

307.3.3 Discuss and chart a NITROX dive — A B C D E F G H I

_____
(Signature and Date)

.4 Discuss and chart a combined NITROX and altitude dive — A B C D E F G H I

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 20% OF WATCHSTATION.

307.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

307.4.1 Variations in rates of descent/ascent — A B C D E F G H

_____
(Signature and Date)

.2 Barotrauma during ascent and descent — A B C D E F G H

_____
(Signature and Date)

.3 Omitted decompression procedures — A B C D E F G H

_____
(Signature and Date)

.4 Loss of primary air/gas — A B C D E F G H

_____
(Signature and Date)

307 AIR DIVING SUPERVISOR (CONT'D)

Questions

307.4.5 Loss of communications A B C D E F G H

_____
(Signature and Date)

.6 Changes in the surrounding environment
(i.e., sea state, wind, current, temperature, waterborne traffic) A B C D E F G H

_____
(Signature and Date)

.7 Unanticipated changes in ship's status A B C D E F G H

_____
(Signature and Date)

.8 Unanticipated changes in dive plan A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 15% OF WATCHSTATION.

307.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

307.5.1 Uncontrolled ascent A B C E F G H

_____
(Signature and Date)

307 AIR DIVING SUPERVISOR (CONT'D)

Questions

307.5.2 Loss of all communications — A B C D E F G H

_____
(Signature and Date)

.3 Contaminated air — A B C D E F G H

_____
(Signature and Date)

.4 Near drowning — A B C E F G H

_____
(Signature and Date)

.5 Trapped diver — A B C E F G H

_____
(Signature and Date)

.6 Lost diver — A B C D E F G H

_____
(Signature and Date)

.7 Unconscious diver on bottom — A B C E F G H

_____
(Signature and Date)

.8 Traumatic injuries — A B C E F G H

_____
(Signature and Date)

.9 Disorder due to breathing gases — A B C D E F G H

_____
(Signature and Date)

.10 Helmet flooding — A B C D E F G H

_____
(Signature and Date)

307 AIR DIVING SUPERVISOR (CONT'D)

Questions

307.5.11 Excessive breathing resistance A B C D E F G H

_____
(Signature and Date)

.12 Umbilical gas supply failure A B C D E F G H

_____
(Signature and Date)

.13 Demand regulator free flow A B C D E F G H

_____
(Signature and Date)

.14 Fouled or pinned umbilical A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

307.6 WATCHES

307.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

Air Diving Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 21% OF WATCHSTATION.

307 AIR DIVING SUPERVISOR (CONT'D)

307.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

307.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

308 DIVER'S LIFE SUPPORT SYSTEM (DLSS) MAINTENANCE TECHNICIAN

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DIVER'S LIFE SUPPORT SYSTEM (DLSS) MAINTENANCE TECHNICIAN (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

308 DIVER'S LIFE SUPPORT SYSTEM (DLSS) MAINTENANCE TECHNICIAN

Estimated completion time: 3 months

308.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

308.1.1 FUNDAMENTALS FROM THIS PQS:

120 Underwater Physiology and First Aid

Completed _____ 5% of Watchstation
(Qualifier and Date)

125 Air Diving Decompression Tables

Completed _____ 5% of Watchstation
(Qualifier and Date)

308.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What safety precautions must be observed?
D. What parameters/operating limits must be monitored?
E. Satisfactorily perform this task.

		Questions
308.2.1	Perform DLSS tag-out utilizing departmental tag-out log	A B C D E

_____
(Signature and Date)

.2	Demonstrate the use of system drawings to identify SOC and system components	A B E

_____
(Signature and Date)

308 DIVER'S LIFE SUPPORT SYSTEM (DLSS) MAINTENANCE TECHNICIAN (CONT'D)

		Questions
308.2.3	Verify replacement component/parts utilizing system drawings	A B E
	_____ (Signature and Date)	
.4	Identify work boundaries for a specific work procedure	A B C D E
	_____ (Signature and Date)	
.5	Conduct a corrective maintenance action utilizing a REC work procedure	A B C D E
	_____ (Signature and Date)	
.6	Perform a controlled assembly of a DLSS component and complete a controlled assembly report	A B C D E
	_____ (Signature and Date)	
.7	Explain and demonstrate cleanliness procedures during the accomplishment of a REC work procedure	A B C D E
	_____ (Signature and Date)	
.8	Conduct a joint tightness test and complete all applicable documentation	A B C D E
	_____ (Signature and Date)	
.9	Conduct hydrostatic test and complete all applicable documentation	A B C D E
	_____ (Signature and Date)	
.10	Conduct valve seat tightness test and complete all applicable documentation	A B C D E
	_____ (Signature and Date)	

308 DIVER'S LIFE SUPPORT SYSTEM (DLSS) MAINTENANCE TECHNICIAN (CONT'D)

Questions

308.2.11 Conduct system drop test and complete all applicable documentation A B C D E

_____

(Signature and Date)

COMPLETED .2 AREA COMPRISES 90% OF WATCHSTATION.

308.3 INFREQUENT TASKS – None to be discussed.

308.4 ABNORMAL CONDITIONS – None to be discussed.

308.5 EMERGENCIES – None to be discussed.

308.6 WATCHES – None.

308.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

308.7.1 EXAMINATIONS Pass a written examination

_____

(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____

(Signature and Date)

309 MIXED GAS DIVING SUPERVISOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified MIXED GAS DIVING SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

309 MIXED GAS DIVING SUPERVISOR

Estimated completion time: 2 weeks

309.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

309.1.1 SCHOOLS:

Diver, First Class A-433-0023 (Recommended)

Completed _____
(Qualifier and Date)

U.S. Navy Mixed Gas Diver A-431-0079

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

307 Air Diving Supervisor

Completed _____
(Qualifier and Date)

309.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

309 MIXED GAS DIVING SUPERVISOR (CONT'D)

		Questions
309.2.1	Plan a diving operation, with < > 16% oxygen.	A B C D E F G
	_____ (Signature and Date)	
.2	Monitor pre-dive and post-dive evolution for commands diving equipment and systems	A B C D E F G
	_____ (Signature and Date)	
.3	Brief divers and topside personnel	A B C D E F G
	_____ (Signature and Date)	
.4	Discuss supervising a mixed gas dive	A B C D E F
	_____ (Signature and Date)	
.5	Debrief divers and topside personnel	A B C G
	_____ (Signature and Date)	
.6	Recognize, diagnose & treat diving related illness	A B C E F G
	_____ (Signature and Date)	
.7	Mix gas / sour or sweeten an existing HEO2 mix.	A B C F G
	_____ (Signature and Date)	
.8	Recordkeeping	A B G
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 20% OF WATCHSTATION.

309 MIXED GAS DIVING SUPERVISOR (CONT'D)

309.3 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What immediate action is required?
B. What emergencies or malfunctions may occur if immediate action is not taken
C. What follow-up action is required?
D. Explain or simulate the corrective/immediate action for this abnormal condition.

Questions

309.3.1 Abort dive during descent A B C D

_____
(Signature and Date)

.2 Variations in rates of descent/ascent A B C D

_____
(Signature and Date)

.3 Delays in arriving at the first stop A B C D

_____
(Signature and Date)

.4 Delays in leaving a stop or arrival at the next stop. A B C D

_____
(Signature and Date)

Completed .4 area comprises 20% of watchstation.

309.5 EMERGENCIES

For the emergencies listed below:

A. What immediate action is required?
B. What other emergencies or malfunctions may occur if immediate action is not taken?
C How does this emergency affect other operations/equipment/watchstations?
D What follow-up action is required?
E. Explain the immediate action for this emergency.

309 MIXED GAS DIVING SUPERVISOR (CONT'D)

		Questions
309.5.1	Uncontrolled ascent	A B CD E
	_____ (Signature and Date)	
.2	Loss of communications	A B C D E
	_____ (Signature and Date)	
.3	Contaminated air	A B C D E
	_____ (Signature and Date)	
.4	Contaminated gas supply	A B C D E
	_____ (Signature and Date)	
.5	Loss of 50/50	A B C D
	_____ (Signature and Date)	
.6	Loss of oxygen in water and chamber	A B C D
	_____ (Signature and Date)	
.7	CNS Oxygen toxicity symptoms in the water column.	A B C D
	_____ (Signature and Date)	
.8	CNS Oxygen toxicity symptoms in the chamber.	A B C D
	_____ (Signature and Date)	
.9	Management of vertigo / light headed or dizzy diver	A B C D
	_____ (Signature and Date)	

309 MIXED GAS DIVING SUPERVISOR (CONT'D)

309.5.10 Near drowning A B C D E

_____
(Signature and Date)

.11 Trapped diver A B C D E

_____
(Signature and Date)

.12 Omitted decompression procedures A B C D

_____
(Signature and Date)

.13 Unconscious diver on the bottom with pulse. A B C D E

_____
(Signature and Date)

.14 Unconscious diver on the bottom without pulse. A B C D E

_____
(Signature and Date)

.15 Traumatic injuries A B C D E

_____
(Signature and Date)

.16 DCS in the water column and chamber. A B C D E

_____
(Signature and Date)

309 MIXED GAS DIVING SUPERVISOR (CONT'D)

Questions

309.5.17 List the actions to be performed in the following emergency situations:

a.	Helmet flooding	A B C D E
b.	Excessive breathing resistance	A B C D E
c.	Umbilical gas supply failure	A B C D E
d.	Demand regulator free flow	A B C D E
e.	Fouled or pinned umbilical	A B C D E
f.	Bottom time in excess of the table and schedule	A B C D E

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

309.6 WATCHES

309.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

Mixed Gas Diving Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date) **With MDV Supervised Drill**

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

309.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

309.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

310 MK 16 MAINTENANCE TECHNICIAN

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified MK 16 MAINTENANCE TECHNICIAN (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

310 MK 16 MAINTENANCE TECHNICIAN

Estimated completion time: 3 months

Note: Successful Completion Of This Watchstation Will Qualify Mk 16 (UBA) Underwater Breathing Apparatus Technician To The Minimum Standards Required To Successfully Inspect, Troubleshoot, And Perform Preventative And Corrective Maintenance On The Mk 16 (UBA), Gas Transfer System (GTS), Oxygen Transfer Pump Assembly (OTPA).

NOTE: QUALIFIED NAVY DIVERS (ND) THAT HAVE COMPLETED THE NAVAL SPECIAL WARFARE EQUIPMENT MK-16 MAINTENANCE AND REPAIR COURSE (K-431-0093), OR EQUIVALENT HAVE MET AND COMPLETED THE PREREQUISITES (FUNDAMENTALS AND SYSTEMS) FOR THIS WATCHSTATION.

310.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

310.1.1 SCHOOLS:

MK-16 Operator/Diver Qualification course (A-431-0075)

Completed _____
(Qualifier and Date)

310.1.2 WATCHSTATIONS FROM THIS PQS:

308 Diver's Life Support System (DLSS) Maintenance Technician

Completed _____
(Qualifier and Date)

.3 FUNDAMENTALS FROM THIS PQS:

129 Open Circuit Scuba

Completed _____ 5% of Watchstation
(Qualifier and Date)

310 MK 16 MAINTENANCE TECHNICIAN (CONT'D)

310.1.3 131 Explosive Ordnance Disposal (EOD)

Completed _____ 5% of Watchstation
(Qualifier and Date)

134 MK 16 Underwater Breathing Apparatus (UBA)

Completed _____ 5% of Watchstation
(Qualifier and Date)

.4 SYSTEMS FROM THIS PQS:

205 MK 16 MOD 0 Underwater Breathing Apparatus (UBA)

Completed _____ 5% of Watchstation
(Qualifier and Date)

206 MK 23 MOD 0 Oxygen Transfer Pump Assembly (OTPA)

Completed _____ 5% of Watchstation
(Qualifier and Date)

220 MK 16 MOD 1 Underwater Breathing Apparatus (UBA)

Completed _____ 5% of Watchstation
(Qualifier and Date)

310.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What safety precautions must be observed?
D. What parameters/operating limits must be monitored?
E. Satisfactorily perform this task.

Questions

310.2.1 Visually inspect the MK 16 UBA (2 times) A B E

_____
(Signature and Date)

_____
(Signature and Date)

310 MK 16 MAINTENANCE TECHNICIAN (CONT'D)

		Questions
310.2.2	Check oxygen regulator over bottom pressure (2 times)	A B C D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.3	Check diluent regulator over bottom pressure (2 times)	A B C D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.4	Remove and replace electronics assembly (2 times)	A B E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.5	Calibrate secondary display (2 times)	A B D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.6	Calibrate primary electronics assembly (2 times)	A B D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	

310 MK 16 MAINTENANCE TECHNICIAN (CONT'D)

Questions

310.2.7 Disassemble and inspect mouthpiece assembly for leaks, corrosion or damage (2 times) A B E

_____
(Signature and Date)

_____
(Signature and Date)

.8 Repair and overhaul M 48 FFM A B C D E

_____
(Signature and Date)

.9 Check flow of oxygen addition valve (2 times) A B C D E

_____
(Signature and Date)

_____
(Signature and Date)

.10 Check flow of oxygen bypass valve (2 times) A B C D E

_____
(Signature and Date)

_____
(Signature and Date)

.11 Remove and replace oxygen bypass valve core assembly (2 times) A B C D E

_____
(Signature and Date)

_____
(Signature and Date)

.12 Check flow of diluent bypass valve (2 times) A B C D E

_____
(Signature and Date)

_____
(Signature and Date)

310 MK 16 MAINTENANCE TECHNICIAN (CONT'D)

		Questions
310.2.13	Remove and replace diluent bypass valve core assembly (2 times)	A B C D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.14	Remove and replace diaphragm (2 times)	A B E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.15	Remove and replace diaphragm dump valve (2 times)	A B E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.16	Remove and replace diluent addition valve (2 times)	A B C D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.17	Complete/log REC form (2 times)	A B E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.18	Complete/log FAR (2 times)	A B E
	_____ (Signature and Date)	
	_____ (Signature and Date)	

310 MK 16 MAINTENANCE TECHNICIAN (CONT'D)

		Questions
310.2.19	Inspect/clean equipment and tools (2 times)	A B C D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.20	Setup, operate, and secure the OTPA using O2	A B C D E
	_____ (Signature and Date)	
.21	Setup, operate, and secure the OTPA using HEO2	A B C D E
	_____ (Signature and Date)	
.22	Analyze HEO2 diluent mixed gas	A B C D E
	_____ (Signature and Date)	
.23	Remove and replace OTPA inlet and outlet filter elements filter, air drive and seal	A B C E
	_____ (Signature and Date)	
.24	Replace pump assembly air cycling valve o-rings and bumper	A B C E
	_____ (Signature and Date)	
.25	Test OTPA system relief valves	A B C D E
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 30% OF WATCHSTATION.

310.3 INFREQUENT TASKS – None to be discussed.

310 MK 16 MAINTENANCE TECHNICIAN (CONT'D)

310.4 ABNORMAL CONDITIONS –

For the abnormal conditions listed below:

A. What indications or alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What emergencies or malfunctions may occur if immediate action is not taken?
E. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

310.4.1 Unable to calibrate primary electronics assembly or secondary display A B C D E

_____
(Signature and Date)

.2 High exhalation or inhalation resistance A B C D E

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 20% OF WATCHSTATION.

310.5 EMERGENCIES – None to be discussed.

310.6 WATCHES – STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Perform MK 16 Maintenance Technician/Initial Checklist (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

310 MK 16 MAINTENANCE TECHNICIAN (CONT'D)

310.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

310.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

311 MK 16 DIVING SUPERVISOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified MK 16 DIVING SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

311 MK 16 DIVING SUPERVISOR

Estimated completion time: 2 weeks

311.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

311.1.1 SCHOOLS:

MK-16 Operator/Diver Qualification course (A-431-0075)

Completed _____
(Qualifier and Date)

Formal Navy Diver Supervisor Course (A-433-0025), (K-431-0084), (G-431-0013)

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

306 Scuba Diving Supervisor

Completed _____
(Qualifier and Date)

310 MK 16 Maintenance Technician

Completed _____
(Qualifier and Date)

.3 FUNDAMENTALS FROM THIS PQS:

125 Air Diving Decompression Tables

Completed _____ 5% of Watchstation
(Qualifier and Date)

128 Recompression Chamber

Completed _____ 5% of Watchstation
(Qualifier and Date)

311 MK 16 DIVING SUPERVISOR (CONT'D)

311.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
311.2.1	Plan diving operations	A B C D E F G
	_____ (Signature and Date)	
.2	Monitor predive and postdive evolution for commands diving equipment and systems	A B C E F G
	_____ (Signature and Date)	
.3	Brief divers and topside personnel	A B C D E F G
	_____ (Signature and Date)	
.4	Supervise MK 16 dive (normal)	A B C D E F G
	_____ (Signature and Date)	
.5	Supervise MK 16 decompression dive	A B C D E F G
	_____ (Signature and Date)	
.6	Debrief divers and topside personnel	A B C G
	_____ (Signature and Date)	

311 MK 16 DIVING SUPERVISOR (CONT'D)

311.2.7 Recordkeeping A B G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 15% OF WATCHSTATION.

311.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions a must be observed?
F. What parameters must be monitored?
G. What conditions require this infrequent task?
H. Satisfactorily perform or simulate this infrequent task.

Questions

.2 Supervise a warm water dive A B C D E F G H

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 20% OF WATCHSTATION.

311.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

311.4.1 Variations in rate of descent/ascent A B C D E F G H

_____
(Signature and Date)

311 MK 16 DIVING SUPERVISOR (CONT'D)

311.4.2 Barotrauma during ascent and descent A B C D E F G H

_____
(Signature and Date)

.3 Omitted decompression procedures A B C D E F G H

_____
(Signature and Date)

.4 Loss of primary air/gas A B C D E F G H

_____
(Signature and Date)

.5 Loss of primary air/gas during SDV/OPS A B C D E F G H

_____
(Signature and Date)

.6 Loss of communications (FFM) A B C D E F G H

_____
(Signature and Date)

.7 Changes in the surrounding environment
(i.e., sea state, wind, current, temperature, waterborne traffic) A B C D E F G H

_____
(Signature and Date)

.8 Unanticipated changes in ship's status A B C D E F G H

_____
(Signature and Date)

.9 Unanticipated changes in diving plan A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 15% OF WATCHSTATION.

311 MK 16 DIVING SUPERVISOR (CONT'D)

311.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
311.5.1	Uncontrolled ascent	A B C E F G H
	_____ (Signature and Date)	
.2	Loss of all communications	A B C D E F G H
	_____ (Signature and Date)	
.3	Contaminated gas supply	A B C D E F G H
	_____ (Signature and Date)	
.4	Near drowning	A B C E F G H
	_____ (Signature and Date)	
.5	Trapped diver	A B C E F G H
	_____ (Signature and Date)	
.6	Lost diver	A B C E F G H
	_____ (Signature and Date)	

311 MK 16 DIVING SUPERVISOR (CONT'D)

Questions

311.5.7 Unconscious diver on bottom A B C E F G H

_____
(Signature and Date)

.8 Traumatic injuries A B C E F G H

_____
(Signature and Date)

.9 Disorder due to breathing gases A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

311.6 WATCHES

311.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

MK 16 Diving Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

311.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

311.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

312 MK 25 CLOSED CIRCUIT TECHNICIAN

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified MK 25 CLOSED CIRCUIT TECHNICIAN (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

312 MK 25 CLOSED CIRCUIT TECHNICIAN

Estimated completion time: 3 months

NOTE: QUALIFIED NAVY DIVERS THAT HAVE COMPLETED THE NAVAL SPECIAL WARFARE EQUIPMENT MAINTENANCE AND REPAIR COURSE (K-431-0050), USMC COMBATANT DIVER COURSE (A-433-0052) OR EQUIVALENT HAVE MET AND COMPLETED THE PREREQUISITES (FUNDAMENTALS AND SYSTEMS) FOR THIS WATCHSTATION.

312.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

312.1.1 SCHOOLS:

MK-25 Operator/Diver Qualification course (A-431-0106)

Completed _____
(Qualifier and Date)

312.1.2 WATCHSTATIONS FROM THIS PQS:

308 Diver's Life Support System (DLSS) Maintenance Technician

Completed _____
(Qualifier and Date)

.3 FUNDAMENTALS FROM THIS PQS:

129 Open Circuit Scuba

Completed _____ 5% of Watchstation
(Qualifier and Date)

132 Closed Circuit Oxygen Underwater Breathing Apparatus (UBA)

Completed _____ 5% of Watchstation
(Qualifier and Date)

.4 SYSTEMS FROM THIS PQS:

206 MK 23 MOD 0 Oxygen Transfer Pump Assembly (OTPA)

Completed _____ 5% of Watchstation
(Qualifier and Date)

312 MK 25 CLOSED CIRCUIT TECHNICIAN (CONT'D)

207 MK 25 MOD 2 Underwater Breathing Apparatus (UBA)

Completed _____ 5% of Watchstation
(Qualifier and Date)

312.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What safety precautions must be observed?
D. What parameters/operating limits must be monitored?
F. Satisfactorily perform this task.

		Questions
312.2.1	Perform Ready for Issue (RFI) Premission Procedure (2 times)	A B C D E

_____
(Signature and Date)

_____
(Signature and Date)

.2	Perform Pre Dive Procedures (2 times)	A B C E

_____
(Signature and Date)

_____
(Signature and Date)

.3	Perform Post Dive Procedures (2 times)	A B C E

_____
(Signature and Date)

_____
(Signature and Date)

.4	Replace connecting line assembly (2 times)	A B C E

_____
(Signature and Date)

_____
(Signature and Date)

312 MK 25 CLOSED CIRCUIT TECHNICIAN (CONT'D)

		Questions
312.2.5	Repair breathing hose assembly (2 times)	A B C E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.6	Replace one-way valve disc (2 times)	A B C E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.7	Repair mouthpiece valve (2 times)	A B C E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.8	Replace breathing bag connecting pieces (2 times)	A B C E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.9	Overhaul cylinder valve (2 times)	A B C E
	_____ (Signature and Date)	
	_____ (Signature and Date)	

312 MK 25 CLOSED CIRCUIT TECHNICIAN (CONT'D)

		Questions
312.2.10	Visually inspect oxygen cylinder (2 times)	A B C D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.11	Overhaul and test Lung Demand Valve (2 times)	A B C D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.12	Overhaul and test Pressure Reducer (2 times)	A B C E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.13	Complete/log REC form (2 times)	A B E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.14	Complete/log FAR (2 times)	A B E
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.15	Inspect/clean equipment and tools (2 times)	A B C D E
	_____ (Signature and Date)	
	_____ (Signature and Date)	

312 MK 25 CLOSED CIRCUIT TECHNICIAN (CONT'D)

		Questions
312.2.16	Setup, operate, and secure the Portable Haskell Pump/OTPA (2 times)	A B C D E

_____
(Signature and Date)

_____
(Signature and Date)

.17	Remove and replace filter elements	A B C E

_____
(Signature and Date)

.18	Inspect, lubricate, and clean air cycling valve	A B C E

_____
(Signature and Date)

.19	Examine OTPA relief valves periodicity IAW PMS	A B C D E

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 40% OF WATCHSTATION.

312.3 INFREQUENT TASKS – None to be discussed.

312.4 ABNORMAL CONDITIONS –

For the abnormal conditions listed below:

A. What indications or alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What follow-up action is required?
E. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

		Questions
312.4.1	Demand valve not delivering gas to breathing bag	A B C D E

_____
(Signature and Date)

312 MK 25 CLOSED CIRCUIT TECHNICIAN (CONT'D)

		Questions
312.4.2	High exhalation or inhalation resistance	A B C D E

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 10% OF WATCHSTATION.

312.5 EMERGENCIES -

For the emergencies listed below:

A. What indications or alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What other emergencies or malfunctions may occur if immediate action is not taken?
E. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
312.5.1	Gas leak or system flooding	A B C D E

_____
(Signature and Date)

.2	High CO_2	A B C D E

_____
(Signature and Date)

.3	Low O_2	A B C D E

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 10% OF WATCHSTATION.

312 MK 25 CLOSED CIRCUIT TECHNICIAN (CONT'D)

312.6 WATCHES – STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

MK 25 Closed Circuit Technician (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

312.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

312.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

313 MK 25 DIVING SUPERVISOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified MK 25 DIVING SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

313 MK 25 DIVING SUPERVISOR

Estimated completion time: 2 weeks

313.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

313.1.1 SCHOOLS:

MK-25 Operator/Diver Qualification course (A-431-0106)

Completed _____
(Qualifier and Date)

Formal Navy Diver or USMC MK-25 Supervisor Course (A-433-0025), (K-431-0048), (MXXYH6C)

Completed _____
(Qualifier and Date)

313.1.1 WATCHSTATIONS FROM THIS PQS:

306 Scuba Diving Supervisor

Completed _____
(Qualifier and Date)

312 MK 25 Closed Circuit Technician

Completed _____
(Qualifier and Date)

313.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

313 MK 25 DIVING SUPERVISOR (CONT'D)

		Questions
313.2.1	Plan diving operation	A B C D E F G
	_____ (Signature and Date)	
.2	Monitor predive and postdive evolution for commands diving equipment and systems	A B C E F G
	_____ (Signature and Date)	
.3	Brief divers and topside personnel	A B C D E F G
	_____ (Signature and Date)	
.4	Supervise MK 25 dive (day)	A B C D E F G
	_____ (Signature and Date)	
.5	Supervise MK 25 dive (night)	A B C D E F G
	_____ (Signature and Date)	
.6	Supervise a paceline/compass course dive	A B C D E F G
	_____ (Signature and Date)	
.7	Debrief divers and topside personnel	A B C G
	_____ (Signature and Date)	
.8	Recognize and diagnose diving related illnesses	A B E F G
	_____ (Signature and Date)	
.9	Recordkeeping	A B G
	_____ (Signature and Date)	

313 MK 25 DIVING SUPERVISOR (CONT'D)

Questions

313.2.10 Describe use and limits of Single Depth Dive Table A B C D E F G

_____
(Signature and Date)

.11 Describe use and limits of Transit with Excursion Dive Table A B C D E F G

_____
(Signature and Date)

.12 State the following limits as applied to MK-25 Diving:

a. Canister
b. Temperature
c. Oxygen Exposure
d. Oxygen Cylinder Duration
e. Difference and duration of 4-8 vice 4-12 Sodasorb

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 20% OF WATCHSTATION.

313.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions a must be observed?
F. What parameters must be monitored?
G. What conditions require this infrequent task?
H. Satisfactorily perform or simulate this infrequent task.

Questions

313.3.1 Supervise SDV/DDS operational dives A B C D E F G H

_____
(Signature and Date)

.2 Conduct dive using CSMD dive planner A B C D E F G H

_____
(Signature and Date)

313 MK 25 DIVING SUPERVISOR (CONT'D)

Questions

313.3.3 Supervise warm water dive — A B C D E F G H

_____
(Signature and Date)

.4 Rigging/derigging procedure — A B C D E F G H

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 20% OF WATCHSTATION.

313.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

313.4.1 Variations in rates of descent/ascent — A B C E F G H

_____
(Signature and Date)

.2 Barotrauma during ascent and descent — A B C E G H

_____
(Signature and Date)

.3 Changes in the surrounding environment
(i.e., sea state, wind, current, temperature, waterborne traffic) — A B C D E F G H

_____
(Signature and Date)

313 MK 25 DIVING SUPERVISOR (CONT'D)

Questions

313.4.4 Identify middle ear O_2 absorption syndrome A B C G H

_____
(Signature and Date)

.5 Unanticipated changes in diving plan A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 20% OF WATCHSTATION.

313.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

313.5.1 Caustic cocktail A B C E F G H

_____
(Signature and Date)

.2 Contaminated O_2 supply A B C D E F G H

_____
(Signature and Date)

.3 Near drowning A B C E F G H

_____
(Signature and Date)

.4 Trapped diver A B C E F G H

_____
(Signature and Date)

313 MK 25 DIVING SUPERVISOR (CONT'D)

Questions

313.5.5 Lost diver — A B C E F G H

_____
(Signature and Date)

.6 Unconscious diver on bottom — A B C E F G H

_____
(Signature and Date)

.7 Traumatic injuries — A B C E F G H

_____
(Signature and Date)

.8 Disorders due to breathing gases — A B C E F G H

_____
(Signature and Date)

.9 Omitted decompression stop — A B C E F G H

_____
(Signature and Date)

.10 Loss of gas supply — A B C E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

313 MK 25 DIVING SUPERVISOR (CONT'D)

313.6 WATCHES

313.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

MK 25 Diving Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

313.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

313.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

314 REENTRY CONTROL SUPERVISOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified REENTRY CONTROL SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

314 REENTRY CONTROL SUPERVISOR

Estimated completion time: 3 months

314.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

314.1.1 PQS QUALIFICATIONS:

Maintenance and Material Management (3-M) (NAVEDTRA 43241-H), 303 Work Center Supervisor (WCS)

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

308 Diver's Life Support System (DLSS) Maintenance Technician

Completed _____
(Qualifier and Date)

314.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What safety precautions must be observed?
D. What parameters/operating limits must be monitored?
E. Satisfactorily perform this task.

Questions

314.2.1 Maintain and assign a REC number from the REC log A B E

_____
(Signature and Date)

.2 Complete a REC package including all work actions and material control/inspection requirements utilizing system technical documentation A B C D E

_____
(Signature and Date)

314 REENTRY CONTROL SUPERVISOR (CONT'D)

Questions

314.2.3 Open and close a REC — A B C E

_____
(Signature and Date)

.4 Assign and monitor REC work procedure — A B C D E

_____
(Signature and Date)

.5 Maintain OQE in REC package — A B E

_____
(Signature and Date)

.6 Complete a rework procedure — A B C D E

_____
(Signature and Date)

.7 Maintain and document cleanliness in a REC package for removing or replacing a component — A B C D E

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 100% OF WATCHSTATION.

314.3 INFREQUENT TASKS – None to be discussed.

314.4 ABNORMAL CONDITIONS – None to be discussed.

314.5 EMERGENCIES – None to be discussed.

314.6 WATCHES – None.

314.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

314.7.1 EXAMINATIONS — Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS — Pass an oral examination board

_____
(Signature and Date)

315 RIGGER

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified RIGGER (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

315 RIGGER

Estimated completion time: 5 weeks

315.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

315.1.1 SCHOOLS:

Diver, Second Class A-433-0022

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

Maintenance and Material Management (3-M) (NAVEDTRA 43241-H),
301 Maintenance Person

Completed _____
(Qualifier and Date)

.3 FUNDAMENTALS FROM THIS PQS:

107 Basic Seamanship

Completed _____ 3% of Watchstation
(Qualifier and Date)

111 Heavy Lifting Equipment

Completed _____ 3% of Watchstation
(Qualifier and Date)

112 Beach Gear

Completed _____ 3% of Watchstation
(Qualifier and Date)

113 Open Water Mooring

Completed _____ 3% of Watchstation
(Qualifier and Date)

315 RIGGER (CONT'D)

315.1.3 116 Diving Safety/ORM

Completed _____ 3% of Watchstation
(Qualifier and Date)

120 Underwater Physiology and First Aid

Completed _____ 3% of Watchstation
(Qualifier and Date)

121 Diving Organization

Completed _____ 3% of Watchstation
(Qualifier and Date)

133 Hazardous Material/Hazardous Waste (HM/HW)

Completed _____ 3% of Watchstation
(Qualifier and Date)

.4 SYSTEMS FROM THIS PQS:

213 Beach Gear

Completed _____ 3% of Watchstation
(Qualifier and Date)

214 Heavy Lift

Completed _____ 3% of Watchstation
(Qualifier and Date)

315.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. Satisfactorily perform this task.

	Questions
315.2.1 Rig beach gear	A B C E F

_____
(Signature and Date)

315 RIGGER (CONT'D)

		Questions
315.2.2	Rig liverpool bridle	A B C E F
	_____ (Signature and Date)	
.3	Rig 4 point moor	A B C D E F
	_____ (Signature and Date)	
.4	Rig 3 point moor	A B C D E F
	_____ (Signature and Date)	
.5	Rig 2 point moor	A B C D E F
	_____ (Signature and Date)	
.6	Rig hawking anchor	A B C D E F
	_____ (Signature and Date)	
.7	Recover applicable rig	A B C D E F
	_____ (Signature and Date)	
.8	Inspect, preserve, and stow equipment	A B C D E F
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 15% OF WATCHSTATION.

315 RIGGER (CONT'D)

315.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What conditions require this infrequent task?
F. Satisfactorily perform or simulate this infrequent task.

		Questions
315.3.1	Rig for heavy main bow lift	A B C D E F
	_____ (Signature and Date)	
.2	Rig for heavy auxiliary bow lift	A B C D E F
	_____ (Signature and Date)	
.3	Rig for heavy dynamic lift	A B C D E F
	_____ (Signature and Date)	
.4	Rig for heavy tidal lift	A B C D E F
	_____ (Signature and Date)	
.5	Rig for heavy belly lift	A B C D E F
	_____ (Signature and Date)	
.6	Rig for heavy bolster lift	A B C D E F
	_____ (Signature and Date)	

COMPLETED .3 AREA COMPRISES 15% OF WATCHSTATION.

315.4 ABNORMAL CONDITIONS – None to be discussed.

315 RIGGER (CONT'D)

315.5 EMERGENCIES

For the emergencies listed below:

A. What immediate action is required?
B. What are the probable causes?
C. What operating limitations are imposed?
D. What other emergencies or malfunctions may occur if immediate action is not taken?
E. How does this emergency affect other operations/equipment/watchstations?
F. What follow-up action is required?
G. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
315.5.1	Capstan surge	A B C D E F G

_____
(Signature and Date)

.2	Personnel injury	A B C D E F G

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 10% OF WATCHSTATION.

315.6 WATCHES

315.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Rigger (5 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 30% OF WATCHSTATION.

315 RIGGER (CONT'D)

315.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

315.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

316 SALVAGE MACHINERY OPERATOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SALVAGE MACHINERY OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

316 SALVAGE MACHINERY OPERATOR

Estimated completion time: 6 weeks

316.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

316.1.1 WATCHSTATIONS FROM THIS PQS:

315 Rigger

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

108 Underwater Salvage

Completed _____ 5% of Watchstation
(Qualifier and Date)

114 Salvage Machinery

Completed _____ 5% of Watchstation
(Qualifier and Date)

316.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

	Questions
316.2.1 Inventory and check equipment	A B E G

_____
(Signature and Date)

316 SALVAGE MACHINERY OPERATOR (CONT'D)

		Questions
.2	Setup salvage pumps	A B E G
	_____ (Signature and Date)	
.3	Start, operate, and secure salvage pumps	A B C D E F G
	_____ (Signature and Date)	
.4	Stow salvage pumps	A B E G
	_____ (Signature and Date)	
.5	Setup diesel generator	A B E G
	_____ (Signature and Date)	
.6	Start, operate, and secure diesel generator	A B C D E F G
	_____ (Signature and Date)	
.7	Stow diesel generator	A B E G
	_____ (Signature and Date)	
.8	Setup welding machine	A B E G
	_____ (Signature and Date)	
.9	Start, operate, and secure welding machine	A B C D E F G
	_____ (Signature and Date)	
.10	Stow welding machine	A B E G
	_____ (Signature and Date)	

316 SALVAGE MACHINERY OPERATOR (CONT'D)

		Questions
316.2.11	Setup Clyde winch	A B E G
	_____ (Signature and Date)	
.12	Start, operate, and secure Clyde winch	A B C D E F G
	_____ (Signature and Date)	
.13	Stow Clyde winch	A B E G
	_____ (Signature and Date)	
.14	Setup hydraulic cable puller system	A B C D E G
	_____ (Signature and Date)	
.15	Start, operate, and secure hydraulic cable puller system	A B C D E F G
	_____ (Signature and Date)	
.16	Stow hydraulic cable puller system	A B E G
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 30% OF WATCHSTATION.

316.3 INFREQUENT TASKS – None to be discussed.

316 SALVAGE MACHINERY OPERATOR (CONT'D)

316.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

		Questions
316.4.1	Low engine lube oil pressure	A B C D E F G H
	_____ (Signature and Date)	
.2	Blocked pump strainer	A B C D E F G H
	_____ (Signature and Date)	
.3	Improper polarity on welder	A B C D H
	_____ (Signature and Date)	

COMPLETED .4 AREA COMPRISES 20% OF WATCHSTATION.

316.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

316 SALVAGE MACHINERY OPERATOR (CONT'D)

Questions

316.5.1 Runaway diesel engine A B C D E F G H

_____
(Signature and Date)

.2 Ruptured fuel/hydraulic line A B C D E F G H

_____
(Signature and Date)

.3 Brake failure A B C D E F G H

_____
(Signature and Date)

.4 Fire A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

316.6 WATCHES

316.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Salvage Machinery Operator (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

316 SALVAGE MACHINERY OPERATOR (CONT'D)

316.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

316.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

317 UNDERWATER CUTTER AND WELDER

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified UNDERWATER CUTTER AND WELDER (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

317 UNDERWATER CUTTER AND WELDER

Estimated completion time: 3 weeks

317.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

317.1.1 Fundamentals From This PQS:

107 Basic Seamanship

Completed _____ 5% of Watchstation
(Qualifier and Date)

108 Underwater Salvage

Completed _____ 5% of Watchstation
(Qualifier and Date)

109 Patching

Completed _____ 5% of Watchstation
(Qualifier and Date)

110 Underwater Cutting and Welding

Completed _____ 5% of Watchstation
(Qualifier and Date)

117 Underwater Hull and Appendages

Completed _____ 5% of Watchstation
(Qualifier and Date)

119 Underwater Ship's Husbandry Equipment

Completed _____ 5% of Watchstation
(Qualifier and Date)

317 UNDERWATER CUTTER AND WELDER (CONT'D)

317.1.1 120 Underwater Physiology and First Aid

Completed _____ 5% of Watchstation
(Qualifier and Date)

317.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
317.2.1	Setup, operate, and secure cutting and welding system	A B C D E F G
	_____ (Signature and Date)	
.2	Setup, operate, and secure nonelectric cutting system	A B C D E F G
	_____ (Signature and Date)	
.3	Setup, operate, and secure kerie cable system	A B C D E F G
	_____ (Signature and Date)	
.4	Set up cutting/welding space and surrounding spaces for proper ventilation of trapped explosive gasses	A B C D E F G
	_____ (Signature and Date)	
.5	Determine correct size drill bit for arresting crack and drill stop	A B C D E F G
	_____ (Signature and Date)	

317 UNDERWATER CUTTER AND WELDER (CONT'D)

317.2.6 Weld doubler plate over arrested crack. A B C D E F G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 30% OF WATCHSTATION.

317.3 INFREQUENT TASKS – None to be discussed.

317.4 ABNORMAL CONDITIONS – None to be discussed.

317.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What other emergencies or malfunctions may occur if immediate action is not taken?
E. How does this emergency affect other operations/equipment/watchstations?
F. What follow-up action is required?
G. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

317.5.1 Electrical shock A B C D E F G

_____
(Signature and Date)

.2 Blow back A B C D E F G

_____
(Signature and Date)

.3 Flashback A B C D E F G

_____
(Signature and Date)

.4 Explosion A B C D E F G

_____
(Signature and Date)

317 UNDERWATER CUTTER AND WELDER (CONT'D)

317.5.5 Fouling hazards A B C D E F G

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 35% OF WATCHSTATION.

317.6 WATCHES – None.

317.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

317.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

318 UNDERWATER SALVOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified UNDERWATER SALVOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

318 UNDERWATER SALVOR

Estimated completion time: 7 weeks

318.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

318.1.1 WATCHSTATIONS FROM THIS PQS:

317 Underwater Cutter and Welder

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

111 Heavy Lifting Equipment

Completed _____ 5% of Watchstation
(Qualifier and Date)

112 Beach Gear

Completed _____ 5% of Watchstation
(Qualifier and Date)

113 Open Water Mooring

Completed _____ 5% of Watchstation
(Qualifier and Date)

114 Salvage Machinery

Completed _____ 5% of Watchstation
(Qualifier and Date)

.3 SYSTEMS FROM THIS PQS:

213 Beach Gear

Completed _____ 5% of Watchstation
(Qualifier and Date)

318 UNDERWATER SALVOR (CONT'D)

318.1.3 214 Heavy Lift

Completed _____ 5% of Watchstation
(Qualifier and Date)

318.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
318.2.1	Conduct survey	A B C D E F G
	_____ (Signature and Date)	
.2	Design, construct, and install cofferdam, patch, and plug	A B C D E F G
	_____ (Signature and Date)	
.3	Design and construct an install shoring	A B C D E F G
	_____ (Signature and Date)	
.4	Apply concrete patch	A B C D E F G
	_____ (Signature and Date)	
.5	Dewater flooded space	A B C D E F G
	_____ (Signature and Date)	
.6	Apply underwater rigging	A B C D E F G
	_____ (Signature and Date)	

318 UNDERWATER SALVOR (CONT'D)

Questions

318.2.7 Excavate A B C D E F G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 40% OF WATCHSTATION.

318.3 INFREQUENT TASKS – None to be discussed.

318.4 ABNORMAL CONDITIONS – None to be discussed.

318.5 EMERGENCIES – None to be discussed.

318.6 WATCHES

318.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Underwater Salvor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 30% OF WATCHSTATION.

318.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

318.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

319 SALVAGE SUPERVISOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SALVAGE SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

319 SALVAGE SUPERVISOR

Estimated completion time: 9 weeks

319.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

319.1.1 WATCHSTATIONS FROM THIS PQS:

316 Salvage Machinery Operator

Completed _____
(Qualifier and Date)

318 Underwater Salvor

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

115 Towing

Completed _____ 5% of Watchstation
(Qualifier and Date)

319.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. Satisfactorily perform this task.

		Questions
319.2.1	Muster and assign personnel	A B C D E F

_____
(Signature and Date)

319 SALVAGE SUPERVISOR (CONT'D)

		Questions
319.2.2	Inspect rigging/personnel	A B C D E F
	_____ (Signature and Date)	
.3	Brief personnel on duties and safety	A B F
	_____ (Signature and Date)	
.4	Inventory required equipment and tools	F
	_____ (Signature and Date)	
.5	Review operational and EP	F
	_____ (Signature and Date)	
.6	Check communications	F
	_____ (Signature and Date)	
.7	Check night lighting	F
	_____ (Signature and Date)	
.8	Supervise station rigging	A B C D E F
	_____ (Signature and Date)	
.9	Supervise beach gear operation	A B C D E F
	_____ (Signature and Date)	
.10	Supervise mooring operation	A B C D E F
	_____ (Signature and Date)	

319 SALVAGE SUPERVISOR (CONT'D)

		Questions
319.2.11	Supervise pontoon lift operation	A B C D E F
	_____ (Signature and Date)	
.12	Supervise heavy lift operation	A B C D E F
	_____ (Signature and Date)	
.13	Supervise hawking operation	A B C D E F
	_____ (Signature and Date)	
.14	Supervise recovery of applicable rig	A B C D E F
	_____ (Signature and Date)	
.15	Supervise inspection, preservation, and stowage of equipment	A B C D E F
	_____ (Signature and Date)	
.16	Supervise salvage survey	A B C D E F
	_____ (Signature and Date)	
.17	Supervise patching and plugging operation	A B C D E F
	_____ (Signature and Date)	
.18	Supervise shoring operation	A B C D E F
	_____ (Signature and Date)	
.19	Supervise concrete operation	A B C D E F
	_____ (Signature and Date)	

319 SALVAGE SUPERVISOR (CONT'D)

Questions

319.2.20 Supervise dewatering operation A B C D E F

_____
(Signature and Date)

.21 Supervise underwater rigging operation A B C D E F

_____
(Signature and Date)

.22 Supervise excavating operation A B C D E F

_____
(Signature and Date)

.23 Supervise cutting and welding operation A B C D E F

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 45% OF WATCHSTATION.

319.3 INFREQUENT TASKS – None to be discussed.

319.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

319.4.1 Rig malfunction A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 10% OF WATCHSTATION.

319 SALVAGE SUPERVISOR (CONT'D)

319.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
319.5.1	Severe weather changes	A B D E F H

_____
(Signature and Date)

.2	Catastrophic equipment failure	A B C D E F G H

_____
(Signature and Date)

319.5.3	Personnel casualty	A B C E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

319 SALVAGE SUPERVISOR (CONT'D)

319.6 WATCHES

319.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Salvage Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

319.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

319.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

320 SALVAGE SAFETY OBSERVER

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SALVAGE SAFETY OBSERVER (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

320 SALVAGE SAFETY OBSERVER

Estimated completion time: 3 weeks

320.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

320.1.1 WATCHSTATIONS FROM THIS PQS:

319 Salvage Supervisor

Completed _____
(Qualifier and Date)

320.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. Satisfactorily perform this task.

		Questions
320.2.1	Brief station personnel	A B C D F
	_____ (Signature and Date)	
.2	Monitor rigging	A B D E F
	_____ (Signature and Date)	
.3	Report safety readiness	F
	_____ (Signature and Date)	

320 SALVAGE SAFETY OBSERVER (CONT'D)

Questions

320.2.4 Observe evolution/unrigging A B D E F

_____
(Signature and Date)

.5 Observe demolition evolution A B D E F

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 25% OF WATCHSTATION.

320.3 INFREQUENT TASKS – None to be discussed.

320.4 ABNORMAL CONDITIONS – None to be discussed.

320.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What follow-up action is required?
E. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

320.5.1 Emergency breakaway A B C D E

_____
(Signature and Date)

.2 Personnel injury A B C D E

_____
(Signature and Date)

.3 Diving accident A B C D E

_____
(Signature and Date)

.4 Fire on stranded vessel A B C D E

_____
(Signature and Date)

320 SALVAGE SAFETY OBSERVER (CONT'D)

Questions
A B C D E

320.5.5 Progressive flooding on stranded vessel

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 25% OF WATCHSTATION.

320.6 WATCHES

320.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Salvage Safety Observer

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 50% OF WATCHSTATION.

320.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

320.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified UNDERWATER SHIP'S HUSBANDRY SPECIALIST (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST

Estimated completion time: 52 weeks

321.1 PREREQUISITES

For optimum training effectiveness, the following items should be completed prior to starting your assigned tasks but shall be completed prior to final watchstation qualification.

321.1.1 WATCHSTATIONS FROM THIS PQS:

302 Divers Life Support System (DLSS) Operator

Completed _____
(Qualifier and Date)

323 Check off Technician/ On Board Diver

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

117 Underwater Hull and Appendages

Completed _____ 3% of Watchstation
(Qualifier and Date)

118 Underwater Hull Inspections

Completed _____ 3% of Watchstation
(Qualifier and Date)

119 Underwater Ship's Husbandry Equipment

Completed _____ 3% of Watchstation
(Qualifier and Date)

133 HAZARDOUS MATERIAL/HAZARDOUS WASTE (HM/HW)

Completed _____ 3% of Watchstation
(Qualifier and Date)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

321.1.3 SYSTEMS FROM THIS PQS:

211 Diving Hot Water Heater System

Completed _____ 5% of Watchstation
(Qualifier and Date)

212 Under Water Camera

Completed _____ 5% of Watchstation
(Qualifier and Date)

321.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
321.2.1	Conduct Level 1 hull inspection (2 times)	A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

.2	Conduct Level 2 hull inspection (2 times)	A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

Questions

321.2.3 Install bow thruster cofferdam (2 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

.4 Conduct post hull cleaning QA inspections (2 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

.5 Conduct appendage cleaning A B C D E G

_____
(Signature and Date)

.6 Conduct propeller removal and installation A B C D E F G

_____
(Signature and Date)

.7 Conduct CPP blade removal/installation A B C D E F G

_____
(Signature and Date)

.8 Conduct sonar dome inspection A B C D E F G

_____
(Signature and Date)

.9 Conduct APU/SPM/SPU removal and installation A B C D E F G

_____
(Signature and Date)

.10 Conduct ICCP System Repair / Inspection A B C D E F G

_____
(Signature and Date)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

		Questions
321.2.11	Conduct Surface Ship Stave Bearing Measurements	A B C D E F G
	_____ (Signature and Date)	
.12	Conduct Submarine Stave Bearing Measurements	A B C D E F G
	_____ (Signature and Date)	
.13	Make Summer/ Winter Bintsuke	A B C G
	_____ (Signature and Date)	
.14	Install rudder post, stern tube wrap or fin stabilizer wrap (2 times)	A B C D E G
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.15	Install surface ship stern tube cofferdam (2 times)	A B C D E G
	_____ (Signature and Date)	
	_____ (Signature and Date)	

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

Questions

321.2.16 Install underwater patches, plugs, and cofferdams (6 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

.17 Remove/install surface ship/submarine rodmeter (2 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

.18 Install/remove flanges (2 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

.19 Install submarine shaft tube cofferdam A B C D E G

_____
(Signature and Date)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

Questions

312.2.20 Remove/install submarine transducer (2 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

.21 Replace submarine transducer cables (2 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

.22 Remove/Replace/Test submarine water tight tank fittings (Hockey-puck) (2 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

.23 Gain access and Inspect ballast/mud tanks (3 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

.24 Inspect SMBT grates (3 times) A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

		Questions
321.2.25	Inspect SPM/APU/SPU (2 times)	A B C D E G
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.26	Install bow plane cofferdams	A B C D E G
	_____ (Signature and Date)	
.27	Install Submarine Main Ballast Tank (SMBT) Patches and associated equipment	A B C D E G
	_____ (Signature and Date)	
.28	Conduct dry docking operations for divers	A B C D E G
	_____ (Signature and Date)	
.29	Install Towed array & OA-9070 handling equipment	A B C D E G
	_____ (Signature and Date)	
.30	Install cofferdams for shaft & rudder ram seals. (2 times)	A B C D E G
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.31	Remove and install rope guards	A B C D E G
	_____ (Signature and Date)	

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

Questions

321.2.32 Install/remove MSW/ASW Hydro blast acid flanges — A B C D E G

_____
(Signature and Date)

.33 Conduct repair to torpedo tubes — A B C D E G

_____
(Signature and Date)

.34 Install countermeasure set acoustic pods (CSA/ECL) — A B C D E G

_____
(Signature and Date)

.35 Install range pinger (2 times) — A B C D E G

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 43% OF WATCHSTATION.

321.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters must be monitored?
G. Satisfactorily perform or simulate this infrequent task.

Questions

321.3.1 Dive during jacking over the shafts/cycling of Controllable Pitch Propellers (CPP) — A B C D E F G

_____
(Signature and Date)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

Questions

321.3.2 Install/remove effluent tank hook up (gooseneck) A B C D E F G

_____
(Signature and Date)

.3 Diving on or near ICCP A B C D E G

_____
(Signature and Date)

.4 Conduct sonar dome repair A B C D E F G

_____
(Signature and Date)

.5 Conduct Fin Stabilizer removal and installation A B C D E F G

_____
(Signature and Date)

.6 Conduct Shaft Coating Repair A B C D E F G

_____
(Signature and Date)

Completed .3 area comprises 10% of Watchstation 321

321.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

Questions

321.4.1 Ship and small craft movement A B C D E F G H

_____
(Signature and Date)

.2 Active sonar A B D E F G H

_____
(Signature and Date)

.3 Change in surrounding environment
(i.e., sea state, wind, current temperature) A B D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 10% OF WATCHSTATION.

321.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

321.5.1 Unauthorized machinery operations A B C D E F G H

_____
(Signature and Date)

.3 Trapped diver A B C D E F GH

_____
(Signature and Date)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST (CONT'D)

Questions

321.5.4 Unconscious diver in void or SMBT A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 15% OF WATCHSTATION.

321.6 WATCHES – None.

321.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

321.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

322 DIVE STATION DIVING OFFICER

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified WATCHSTATION DIVING OFFICER (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

322 DIVE STATION DIVING OFFICER

Estimated completion time: 2 weeks

322.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

NOTE: QUALIFIED NAVY MASTER DIVERS THAT HAVE COMPLETED THE NAVY MASTER DIVER COURSE (A-433-0019), HAVE MET AND COMPLETED THE PREREQUISITES (FUNDAMENTALS, SYSTEMS, AND WATCHSTATION) FOR THIS WATCHSTATION.

322.1.1 SCHOOLS:

Diver, First Class A-433-0025, CPO (E-7 and above) or
Basic Diving Officer A-4N-0024 (0-1 and above)

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

NOTE: MUST COMPLETE PRE-REQUISITES CORRESPONDING TO DIVE STATIONS FOR WHICH MEMBER WILL BE STANDING THE DUTY AS WATCHSTATION DIVE OFFICER.

306 SCUBA Diving Supervisor

Completed _____
(Qualifier and Date)

307 Air Diving Supervisor

Completed _____
(Qualifier and Date)

309 Mixed Gas Diving Supervisor

Completed _____
(Qualifier and Date)

322 DIVE STATION DIVING OFFICER (CONT'D)

322.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

Questions

322.2.1 Brief Commanding Officer on planned dive operations (2 times) A B C D G

_____
(Signature and Date)

_____
(Signature and Date)

.2 Interface with Dive Supervisor during dive operations (2 times) A B C E F G

_____
(Signature and Date)

_____
(Signature and Date)

.3 Interface with off-station personnel in support of dive operation as needed by the diving supervisor. (3 times)

A B C D E F G

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

.4 Debrief Commanding Officer of dive mission completion (2 times) A B D G

_____
(Signature and Date)

_____
(Signature and Date)

322 DIVE STATION DIVING OFFICER (CONT'D)

Questions

322.2.5 Complete an incident/accident report. (2 times) A B C D G

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 41% OF WATCHSTATION.

322.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What is the alarm set point?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

Questions

322.3.1 Receive turnover brief, assume the side and recover divers when the Dive Supervisor turns over the side. (2 times) A B C D E F G H I

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 9% OF WATCHSTATION.

322 DIVE STATION DIVING OFFICER (CONT'D)

322.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

322.4.1 Brief C.O. of unanticipated changes in diving plan (2 times) A B C D E F G H

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 9% OF WATCHSTATION.

322.5 EMERGENCIES – None to be discussed.

322.6 WATCHES

322.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Perform duties as Dive Station Diving Officer during a scuba dive. (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

322.6.2 Perform duties as Dive Station Diving Officer during a surface supplied dive (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

322 DIVE STATION DIVING OFFICER (CONT'D)

COMPLETED .6 AREA COMPRISES 41% OF WATCHSTATION.

322.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

322.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified CHECK OFF TECHNICIAN (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____DATE_____

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN

Estimated completion time: 2 Weeks

323.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

Complete local RADCON QK Qualification (if applicable)

Completed _____ 3% of Watchstation
(Qualifier and Date)

Maintenance and Material Management (3-M) (NAVEDTRA 43241-H), 301 Maintenance Person

Completed _____
(Qualifier and Date)

323.1.1 Fundamentals from this PQS:

104 Shipboard Organization and administrative Fundamentals

Completed _____ 3% of Watchstation
(Qualifier and Date)

116 Diving Safety/ORM Fundamentals

Completed _____ 3% of Watchstation
(Qualifier and Date)

117 Underwater Hull and Appendages Fundamentals

Completed _____ 3% of Watchstation
(Qualifier and Date)

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN (CONT)

323.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What means of communications are used?
D. What safety precautions must be observed?
E. What parameters/operating limits must be monitored?
F. Satisfactorily perform this task.

		Questions
.1	Demonstrate ability to read and understand docking plans (2 Times)	A B C E F
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.2	Discuss the fifty foot rule as it applies to diver's safety	A B C E F
	_____ (Signature and Date)	
.3	Identify common suctions (2 times)	A B D E F
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.4	Complete repair safety check list (4 times)	A B C D E G
	_____ (Signature and Date)	
	_____ (Signature and Date)	
	_____ (Signature and Date)	
	_____ (Signature and Date)	

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN (CONT)

		Questions
323.2.5	Discuss tag-out discrepancies	A B C E F
	_____ (Signature and Date)	
.6	Conduct ship checks with a qualified planner (3 Times)	A B E F
	_____ (Signature and Date)	
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.7	Discuss procedures when diving on a ship, or ships in a nest	A B C E F
	_____ (Signature and Date)	
.8	Conduct leak check of cofferdams, DC plugs and Flanges (3 Times)	B C D E F
	_____ (Signature and Date)	
	_____ (Signature and Date)	
	_____ (Signature and Date)	
.9	Discuss the requirements for diving after dark	A B C D E G
	_____ (Signature and Date)	
.10	Explain the purpose of a WAF a. Who originates it b. Who opens it c. Who closes it	
	_____ (Signature and Date)	

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN (CONT)

323.2.11 Discuss Tag out requirements for the following systems / appendages on surface ships.

a. Pumps
b. Bow thrusters
c. APU
d. Fin Stabilizers
e. ICCP
f. Sonar domes (bow / keel mounted)
g. CPP systems
h. Running gear
i. Reactor compartment (CVN)
j. Masker belts
k. Prairie Air Systems
l. Pitswords
m. Anchors

_____
(Signature and Date)

.12 Discuss the Tag out requirements for the following systems / appendages on submarines.

a. MSW , ASW and DSW suctions and discharges
b. TDU
c. Fathometer
d. Sonar
e. MBTs
f. Pitswords (Rodmeters)
g. WLR 9 hydrophones
h. Noise augmenter (HLF 1E)
i. Countermeasure Pods (CSA)
j. Running gear
k. Anchor
l. Tow Array
m. Torpedo & Muzzle Door
n. SPM
o. Stern/Bow Plains
p. Rudder

_____
(Signature and Date)

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN (CONT)

323.2.13 Describe the Location of the following submarines and surface ships:
a. FWD tag out binder (submarines)
b. AFT tag out binder (submarines)
c. Sonar Tag out binder (surface ships)
d. CCS Tag out binder (surface ships)

_____
(Signature and Date)

.14 Verify ship / submarine tag-out (6 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .2 area comprises 25% of watchstation

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN (CONT)

323.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

Questions

323.3.1 Discuss Single Valve protection requirements (2 times) A B C D E F G H I

_____
(Signature and Date)

_____
(Signature and Date)

.2 Discuss requirements for diving within the fifty foot safety boundary (2 times) A B C D E F G H I

_____
(Signature and Date)

.3 Shift Diver Danger tags (suctions) during a dive (2 times) A B C D E F G H I

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 25% OF WATCHSTATION.

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN (CONT)

323.4 ABNORMAL CONDITIONS – None to be discussed.

323.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What other emergencies or malfunctions may occur if immediate action is not taken?
E. How does this emergency affect other operations/equipment/watchstations?
F. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
323.5.1	Discuss trapped diver procedures	A B C D E F

_____
(Signature and Date)

.2	Flooding	A B C D E F

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 18% OF WATCHSTATION.

323 Onboard Diver Safety Check Off Technician (Cont)

323.6 WATCHES

323.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Onboard Diver Safety Check Off Technician (6 Times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

323.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

323.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN

NAME_____ RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN

Estimated completion time: 4 weeks

324.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

324.1.1 PQS QUALIFICATIONS:

Maintenance and Material Management (3-M) (NAVEDTRA 43241 Series), 301 Maintenance Person

Completed _____
(Qualifier and Date)

Deck Seamanship (NAVEDTRA 43127 Series), 304 Capstan/Brake Operator

Completed _____
(Qualifier and Date)

Booms and Cranes (NAVEDTRA 43310 Series), 301Tag/Vang Linehandler

Completed _____
(Qualifier and Date)

315 Rigger

Completed _____
(Qualifier and Date)

.2 Fundamentals from this PQS:

147 Submarine Rescue Fundamentals

Completed _____ 5% of Watchstation
(Qualifier and Date)

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN (CONT'D)

324.1.3 SYSTEMS FROM THIS PQS:

221 Submarine Rescue Chamber Fly-Away System (SRCFS)

Completed _____ 5% of Watchstation
(Qualifier and Date)

324.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
324.2.1	OP-1: High Pressure Air Bank to Control Console (Pre-Mission)	A B C D E F G
	_____ (Signature and Date)	
.2	OP-2: MAKO 5409 BA-D High Pressure Air Compressor (Pre-Mission)	A B C D E F G
	_____ (Signature and Date)	
.3	OP-3: SRC to Control Console Umbilical (Pre-Mission)	A B C D E F G
	_____ (Signature and Date)	
.4	OP-4: Air Bank to Control Console and SCUBA Charging (Pre-Dive)	A B C D E F G
	_____ (Signature and Date)	
.5	OP-5: Electrical Power and Communications (Pre-Dive)	A B C D E F G
	_____ (Signature and Date)	

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN (CONT'D)

		Questions
.6	OP-6: Air Supply Console (Pre-Dive)	A B C D E F G
	_____ (Signature and Date)	
.7	OP-7: High Pressure Air Bank Charging (Pre-Dive)	A B C D E F G
	_____ (Signature and Date)	
.8	OP-8: SRC (Post-Dive)	A B C D E F G
	_____ (Signature and Date)	
.9	OP-9: Electrical Power and Communication (Post-Dive)	A B C D E F G
	_____ (Signature and Date)	
.10	OP-10: Air Supply Console and Air Banks (Post-Dive)	A B C D E F G
	_____ (Signature and Date)	
.11	OP-11: SRC to Control Console Umbilical (Post-Mission)	A B C D E F G
	_____ (Signature and Date)	
.12	OP-12: High Pressure Air Bank to Control Console (Post-Mission)	A B C D E F G
	_____ (Signature and Date)	
.13	OP-13: High Pressure Air Compressor to Air Banks(Post-Mission)	A B C D E F G
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 20% OF WATCHSTATION.

324.3 INFREQUENT TASKS – None to be discussed.

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN (CONT'D)

324.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

		Questions
324.4.1	Lifting of relief valve	A B C D E F G H
	_____ (Signature and Date)	
.2	Suspected contamination/contamination of air banks	A B C D E F G H
	_____ (Signature and Date)	
.3	Loss of secondary air supply	A B C D E F G H
	_____ (Signature and Date)	
.4	Inability to maintain minimum manifold pressure	A B C D E F G H
	_____ (Signature and Date)	
.5	Ruptured HP Air Hose	A B C D E F G H
	_____ (Signature and Date)	

COMPLETED .4 AREA COMPRISES 20% OF WATCHSTATION.

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN (CONT'D)

324.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
324.5.1	EP-102A: SRC Umbilical Hose Obstructed or Broken on the Surface	A B C D E F G H
	_____ (Signature and Date)	
.2	EP-102B: SRC Supply Hose Obstructed or Broken in the Water Column	A B C D E F G H
	_____ (Signature and Date)	
.3	EP-102C: SRC Collapsed Exhaust Hose (Signature and Date)	A B C D E F G H
	_____ (Signature and Date)	
.4	EP-102D: SRC Broken Exhaust Hose with a Seal	A B C D E F G H
	_____ (Signature and Date)	
.5	EP-102E: SRC Broken Supply Hose with a Seal	A B C D E F G H
	_____ (Signature and Date)	
.6	EP-103A: Supply and Exhaust Hoses Both Broken in the Water Column, SRC Traveling	A B C D E F G
	_____ (Signature and Date)	

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN (CONT'D)

		Questions
324.5.7	EP-103B: Supply and Exhaust Hoses Both Broken, SRC on Seat with Access to DISSUB	A B C D E F G
	_____ (Signature and Date)	
.8	EP-104: SRC Loss of Communications	A B C D E F G
	_____ (Signature and Date)	
.9	EP-106: SRC Loss of Power	A B C D E F G
	_____ (Signature and Date)	
10	EP-107: SRC Upper Compartment Fire	A B C D E F G
	_____ (Signature and Date)	
.11	EP-108: SRC Upper Compartment Flooding	A B C D E F G
	_____ (Signature and Date)	

COMPLETED .5 AREA COMPRISES 30% OF WATCHSTATION.

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN (CONT'D)

324.6 WATCHES

324.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Submarine Rescue Air Systems Technician (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

324.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

324.7.1	EXAMINATIONS	Pass a written examination
		_____ (Signature and Date)
.2	EXAMINATIONS	Pass an oral examination board
		_____ (Signature and Date)

325 SUBMARINE RESCUE CHAMBER OPERATOR

NAME_____ RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SUBMARINE RESCUE CHAMBER OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

325 SUBMARINE RESCUE CHAMBER OPERATOR

Estimated completion time: 2 weeks

325.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

325.1. SCHOOLS:

Qualified Navy Diver (5341, 5342, 5343, 5345) (or complete medical requirements of NAVMED P117, Article 15-66)

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

302 Diver's Life Support System (DLSS) Operator

Completed _____
(Qualifier and Date)

324 Submarine Rescue Air Systems Technician

Completed _____
(Qualifier and Date)

.3 FUNDAMENTALS FROM THIS PQS:

120 Underwater Physiology and First Aid

Completed _____ 3% of Watchstation
(Qualifier and Date)

325 SUBMARINE RESCUE CHAMBER OPERATOR (CONT'D)

325.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
325.2.1	OP-100: Surface Checks	A B C D E F G
	_____ (Signature and Date)	
.2	OP-101: SRC Launch	A B C D E F G
	_____ (Signature and Date)	
.3	OP-102: SRC Descent and Seal	A B C D E F G
	_____ (Signature and Date)	
.4	OP-104: SRC Ascent	A B C D E F G
	_____ (Signature and Date)	
.5	OP-105: SRC Recovery	A B C D E F G
	_____ (Signature and Date)	
.6	Compute system capabilities and limitations and compare with the SRC SOC Notebook	A B G
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 15% OF WATCHSTATION.

325 SUBMARINE RESCUE CHAMBER OPERATOR (CONT'D)

325.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What safety precautions must be observed?
E. What parameters must be monitored?
F. What conditions require this infrequent task?
G. Satisfactorily perform or simulate this infrequent task.

		Questions
325.3.1	OP-102A: Alternate Method (Negative Buoyancy)	A B C D E F G
	_____ (Signature and Date)	
.2	OP-102B: Angled Seat Method	A B C D E F G
	_____ (Signature and Date)	
.3	OP-103-1: Rescue Personnel (other than SSN-21, -688, SSBN-726 Classes)	A B C D E F G
	_____ (Signature and Date)	
.4	OP-103-2: Rescue Personnel (SSN-688 Class Submarine)	A B C D E F G
	_____ (Signature and Date)	
.5	OP-103-3: Rescue Personnel (SSBN-726 Class Submarine)	A B C D E F G
	_____ (Signature and Date)	
.6	OP-103-4: Rescue Personnel (SSN-21 Class Submarine)	A B C D E F G
	_____ (Signature and Date)	
.7	OP-103-5: Rescue Personnel (False Seat)	A B C D E F G
	_____ (Signature and Date)	

COMPLETED .3 AREA COMPRISES 17% OF WATCHSTATION.

325.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

		Questions
325.4.1	Fouled False Seat	A B C D E F G H
	_____ (Signature and Date)	
.2	Slow Descent Rate	A B C D E F G H
	_____ (Signature and Date)	
.3	SRC stuck on Sea	A B C D E F G H
	_____ (Signature and Date)	

COMPLETED .4 AREA COMPRISES 15% OF WATCHSTATION.

325.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. Satisfactorily perform or simulate the immediate action for this emergency.

325 SUBMARINE RESCUE CHAMBER OPERATOR (CONT'D)

		Questions
325.5.1	EP-101: SRC Air Motor Failure	A B C D E F G
	_____ (Signature and Date)	
.2	EP-102A: SRC Umbilical Hose Obstructed or Broken on the Surface	A B C D E F G
	_____ (Signature and Date)	
.3	EP-102B: SRC Supply Hose Obstructed or Broken in the Water Column	A B C D E F G
	_____ (Signature and Date)	
.4	EP-102C: SRC Collapsed Exhaust Hose	A B C D E F G
	_____ (Signature and Date)	
.5	EP-102D: SRC Broken Exhaust Hose with a Seal	A B C D E F G
	_____ (Signature and Date)	
.6	EP-102E: SRC Broken Supply Hose with a Seal	A B C D E F G
	_____ (Signature and Date)	
.7	EP-103A: Supply and Exhaust Hoses Both Broken in the Water Column, SRC Traveling	A B C D E F G
	_____ (Signature and Date)	
.8	EP-103B: Supply and Exhaust Hoses Both Broken, SRC on Seat with Access to DISSUB	A B C D E F G
	_____ (Signature and Date)	
.9	EP-104: SRC Loss of Communications	A B C D E F G
	_____ (Signature and Date)	

Questions

325.5.10 EP-105: SRC Fouled Downhaul Cable A B C D E F G

_____
(Signature and Date)

.11 EP-106: SRC Loss of Power A B C D E F G

_____
(Signature and Date)

.12 EP-107: SRC Upper Compartment Fire A B C D E F G

_____
(Signature and Date)

.13 EP-108: SRC Upper Compartment Flooding A B C D E F G

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 25% OF WATCHSTATION.

325.6 WATCHES

325.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Submarine Rescue Chamber Operator, making a seal (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 25% OF WATCHSTATION.

325 SUBMARINE RESCUE CHAMBER OPERATOR (CONT'D)

325.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

325.7.1 EXAMINATIONS

Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS

Pass an oral examination board

_____
(Signature and Date)

326 SUBMARINE RESCUE CHAMBER SUPERVISOR

NAME_____ RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified SUBMARINE RESCUE CHAMBER SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

326 SUBMARINE RESCUE CHAMBER SUPERVISOR

Estimated completion time: 4 weeks

326.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

326.1.1 SCHOOLS:

Qualified Navy Diver (5341, 5342)

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS: Booms and Cranes (NAVEDTRA 43310 Series)

304 Signalman

Completed _____
(Qualifier and Date)

.3 WATCHSTATIONS FROM THIS PQS:

325 Submarine Rescue Chamber Operator

Completed _____
(Qualifier and Date)

326.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily supervise this task.

		Questions
326.2.1	OP-100A: Downhaul Cable to False Seat Attachment	A B C D E F G

_____
(Signature and Date)

		Questions
.2	OP-101: SRC Launch	A B C D E F G

_____
(Signature and Date)

.3	OP-105: SRC Recovery	A B C D E F G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 30% OF WATCHSTATION.

326.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What safety precautions must be observed?
E. What parameters must be monitored?
F. What conditions require this infrequent task?
G. Satisfactorily supervise or discuss this infrequent task.

		Questions
326.3.1	4-point moor using Light Weight Mooring System (LWMS)	A B C D E F G

_____
(Signature and Date)

.2	Rescue Operations	A B C D E F G

_____
(Signature and Date)

.3	SRCFS Loadout for Flyaway	A B C D E F G

_____
(Signature and Date)

.4	SRCFS Load out on board Vessel of Opportunity	A B C D E F G

_____
(Signature and Date)

326 SUBMARINE RESCUE CHAMBER SUPERVISOR (CONT'D)

COMPLETED .3 AREA COMPRISES 30% OF WATCHSTATION.

326.4 ABNORMAL CONDITIONS – None to be discussed.

326.5 EMERGENCIES – None to be discussed.

326.6 WATCHES

326.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Submarine Rescue Chamber Supervisor (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 40% OF WATCHSTATION.

326.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

326.7.1 EXAMINATIONS

Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS

Pass an oral examination board

_____
(Signature and Date)

327 EXPEDITIONARY OPERATOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified EXPEDITIONARY OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
Supervisor

RECOMMENDED_____ DATE_____
Division Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

327 EXPEDITIONARY OPERATOR

Estimated completion time: 2 weeks

327.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

327.1.1 SCHOOLS:

Diver, Second Class A-433-0022 (Recommended)

Completed _____
(Qualifier and Date)

EOD TEU Team training

Completed _____
(Qualifier and Date)

SCUDD A-433-0048 (Recommended)

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

301 Small Arms (NAVEDTRA 43466-B), 9mm Pistol Operator

Completed _____
Qualifier and Date)

304 Small Arms (NAVEDTRA 43466-B), 7.62MM M-60 Machine Gun Operator

Completed _____
(Qualifier and Date)

312 Small Arms (NAVEDTRA 43466-B), 12 Gauge Shotgun Operator

Completed _____
(Qualifier and Date)

327 EXPEDITIONARY OPERATOR (CONT)

327.1.2 314 Small Arms (NAVEDTRA 43466-B), 5.56mm M16 Rifle Operator

Completed _____
(Qualifier and Date)

.3 Fundamentals From This PQS:

140 Tactical Communications Fundamentals

Completed _____ 3% of Watchstation
(Qualifier and Date)

141 Nuclear, Biological, and Chemical (NBC) Defense Fundamentals

Completed _____ 3% of Watchstation
(Qualifier and Date)

142 Expeditionary Operations Fundamentals

Completed _____ 3% of Watchstation
(Qualifier and Date)

143 Expeditionary Salvage Fundamentals

Completed _____ 3% of Watchstation
(Qualifier and Date)

327.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

Questions

327.2.1 SMUT

.1 Identify and explain the nine common elements found in a combat environment. A B C

_____
(Signature and Date)

327 EXPEDITIONARY OPERATOR (CONT)

.2 Explain the general rules of camouflage and how they apply to: A B E

a. Fighting position
b. Personal equipment
c. ndividual
d. Vehicles
e. Buildings
f. Supply points
g. Water points

_____
(Signature and Date)

.3 Describe the following individual movements: A E

a. High crawl
b. Low crawl
c. Back crawl
d. Rush
e. Night walk
f. Creeping
g. Crossing a wall
h. Observing around a corner
i. Crossing a danger area

_____
(Signature and Date)

.4 State the twelve patrol planning and preparation steps. A B C D E

_____
(Signature and Date)

.5 Describe the three classes of wire entanglement. E F

_____
(Signature and Date)

.6 Discuss Land NAV procedures utilizing equipment applicable to your command. A B C E F

_____
(Signature and Date)

327 EXPEDITIONARY OPERATOR (CONT)

.7 Discuss Day and Night observation technique — A B C D E F

_____
(Signature and Date)

327.2.2 Convoy

.1 Describe what is on the Convoy Commander's checklist — C E F

_____
(Signature and Date)

.2 Explain how convoy road routes are classified — F

_____
(Signature and Date)

.3 List and describe the key personnel of a vehicle convoy — C D F

_____
(Signature and Date)

.4 Describe vehicle convoy logistics and security requirements — A B C E F

_____
(Signature and Date)

.5 Conduct vehicle inspection — A B E F G

_____
(Signature and Date)

327.2.3 Communications

.1 Discuss all radios applicable to your command — D E F

_____
(Signature and Date)

.2 Set up all radios applicable to your command — A B D E F G

_____
(Signature and Date)

327 EXPEDITIONARY OPERATOR (CONT)

.3 Load crypto in all radios applicable to your command — A B E F G

_____
(Signature and Date)

.4 Discuss proper radio transmission procedures — A B G

_____
(Signature and Date)

.5 Discuss radio operations in secure/unsecure modes — A B D F

_____
(Signature and Date)

327.2.4 NBC

.1 Discuss the proper way to don and clear a gas mask — A B E G

_____
(Signature and Date)

.2 Identify the equipment available, carried, and worn for the following MOPP levels — E F

a. Zero
b. One
c. Two
d. Three
e. Four

_____
(Signature and Date)

.3 Discuss detection of chemical and biological agents utilizing the following — A E F

a. M-8 paper
b. M-9 paper
c. M256 test kit

_____
(Signature and Date)

.4 Don ACPG/JSLIST — A B E G

_____
(Signature and Date)

327 EXPEDITIONARY OPERATOR (CONT)

COMPLETED .2 AREA COMPRISES 30% OF WATCHSTATION.

327.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

Questions

327.3.1 SMUT

.1 Develop a 5 paragraph OPORDER (SMEAC) for duties assigned to you related with your position within your command. A B C G

_____
(Signature and Date)

327.3.2 Convoy

.1 Develop and conduct convoy brief. A B C E F G

_____
(Signature and Date)

3273.3 Communications

.1 Develop and conduct communications brief. A B F G

_____
(Signature and Date)

.2 Set up radios using all applicable antennas. A B F G

_____
(Signature and Date)

327 EXPEDITIONARY OPERATOR (CONT)

.3 Discuss the follow 9-line reports: A B D G

a. Incident response
b. Emergency evacuation

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 20% OF WATCHSTATION.

327.4 ABNORMAL CONDITIONS– None to be discussed.

327.5 EMERGENCIES

For the emergencies listed below:

A. What immediate action is required?
B. What other emergencies or malfunctions may occur if immediate action is not taken?
C How does this emergency affect other operations/equipment/watchstations?
D What follow-up action is required?
E. Explain the immediate action for this emergency.

Questions

327.5.1 SMUT

.1 Discuss escape and evasion procedures applicable to your command. A B C D E

_____
(Signature and Date)

327.5.2 Convoy

.1 Discuss and explain the tactics used to react to enemy. A B C D E
contact in a convoy

_____
(Signature and Date)

.2 Discuss procedures for a disabled vehicle. A B C D E

_____
(Signature and Date)

327 EXPEDITIONARY OPERATOR (CONT)

.3 Discuss actions for evacuation of wounded personnel. A B C D E

_____
(Signature and Date)

.4 Discuss De MIL procedures for convoy vehicles. A B C D E

_____
(Signature and Date)

327.5.3 Communications

.1 Discuss emergency destruct procedures of COMSEC material. A B C D E

_____
(Signature and Date)

327.5.4 NBC

.1 Discuss the initial actions required for a nuclear attack without warning. A B C D E

_____
(Signature and Date)

.2 Discuss the initial actions required for a chemical or biological attack without warning. A B C D E

_____
(Signature and Date)

.3 Discuss procedures of chemical and biological antidotes. A B C D E

_____
(Signature and Date)

.4 Discuss the procedure for setting up a personnel Decontamination station. A B C D E

_____
(Signature and Date)

327 EXPEDITIONARY OPERATOR (CONT)

.5 Discuss Decontamination procedures of the following: A B C D E

a. Personnel
b. Equipment

_____
(Signature and Date)

.6 Discuss cut-out procedures with ACPG/JSLIST. A B

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 30% OF WATCHSTATION.

327.6 WATCHES - NONE

327.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

327.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

328 DIVER PROPULSION DEVICE (DPD) PILOT

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DIVER PROPULSION DEVICE PILOT (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DPD Instructor

RECOMMENDED_____ DATE_____
Master Diver

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

328 DIVER PROPULSION DEVICE (DPD) PILOT

Estimated completion time: 2 weeks

328.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS MUST BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS.

328.1.1 SCHOOLS (ANY ONE OF THE FOLLOWING):

Diver, Second Class A-433-0022

Completed _____
(Qualifier and Date)

RECON Corpsman, NEC 8427, 8423

Completed _____
(Qualifier and Date)

Diving Medical Technician, NEC 8494, 8494

Completed _____
(Qualifier and Date)

USN Basic Underwater Demolition Diver.

Completed _____
(Qualifier and Date)

USMC Marine Combat Diver, MOS 0321

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

137 Diver Propulsion Device (DPD) Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

328 DIVER PROPULSION DEVICE (DPD) PILOT (CONT'D)

328.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
328.2.1	Prepare DPD for operation using Pre-Dive check list	A B C E F G
	_____ (Signature and Date)	
.2	Rig DPD for Dual Battery Configuration	A B C E G
	_____ (Signature and Date)	
.3	Proper mounting procedures	A C D E G
	_____ (Signature and Date)	
.4	Proper Dismounting procedures	A C D E G
	_____ (Signature and Date)Questions	
.5	Proper charging procedures	A C D E G
	_____ (Signature and Date)	
.6	Tactical Peeks	A C D E G
	_____ (Signature and Date)	
.7	Cache and Bottoming procedures	A C D E F G
	_____ (Signature and Date)	

328 DIVER PROPULSION DEVICE (DPD) PILOT (CONT'D)

COMPLETED .2 AREA COMPRISES 15% OF WATCHSTATION.

328.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform or simulate this infrequent task.

		Questions
328.3.1	Helo Casting the DPD	A B C D E F

_____
(Signature and Date)

.2	DPD repairs	A B C D E F

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 8% OF WATCHSTATION.

328.4 ABNORMAL CONDITIONS– None to be discussed.

328.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
.1	Emergency Procedures, Lost DPD	A C D E F

_____
(Signature and Date)

328 DIVER PROPULSION DEVICE (DPD) PILOT (CONT'D)

Questions

328.5.2 Emergency Procedures, Lost Diver — A C D E F

_____
(Signature and Date)

.3 Emergency Procedures, Loss of Bouyancy — A C D E F

_____
(Signature and Date)

.4 Emergency Procedures, Dive Equipment problems — A C D E F

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 10% OF WATCHSTATION.

328.6 WATCHES

328.6.1 STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Operate DPD in surface swim for 500 mtrs

_____
(Signature and Date)

.2 Operate DPD sub-surface 1000 mtrs, day dive.

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

.3 Operate DPD sub-surface 1000 mtrs, night dive.

_____
(Signature and Date)

328 DIVER PROPULSION DEVICE (DPD) PILOT (CONT'D)

328.6.4 Operate DPD sub-surface 1000 mtrs, day, w/full combat gear.

_____
(Signature and Date)

.5 Operate DPD sub-surface 1000 mtrs, day, w/45 degree heading change.

_____
(Signature and Date)

.6 Operate DPD sub-surface 2000 mtrs, night, w/full combat gear.

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 30% OF WATCHSTATION.

328.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

328.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

329 USMC Combat Dive Supervisor Course Instructor

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified COMBAT DIVE SUPERVISOR INSTRUCTOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
LCPO

RECOMMENDED_____ DATE_____
Master Diver

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

329 USMC COMBAT DIVE SUPERVISOR COURSE INSTRUCTOR

Estimated completion time: 2 weeks

329.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

329.1.1 WATCHSTATIONS FROM THIS PQS:

305 CHAMBER SUPERVISOR

Completed _____
(Qualifier and Date)

313 MK-25 Diving Supervisor

Completed _____
(Qualifier and Date)

328 DIVER PROPULSION DEVICE (DPD) PILOT

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

137 Diver Propulsion Device (DPD) USMC

Completed _____ 3% of Watchstation
(Qualifier and Date)

139 Survival Egress Air (SEA)

Completed _____ 3% of Watchstation
(Qualifier and Date)

145 USMC Diving Operations

Completed _____ 3% of Watchstation
(Qualifier and Date)

329 USMC COMBAT DIVE SUPERVISOR COURSE INSTRUCTOR (CONT'D)

329.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
329.2.1	Establish Timeline, POA&M, etc., for training	A B C D E F G
	_____ (Signature and Date)	
.2	Prepare appropriate documents for training (LOI)	B G
	_____ (Signature and Date)	
.3	Conduct Confirmation Brief for all course participants/support.	A B C D G
	_____ (Signature and Date)	
.4	Coordinate required logistical and operational groups supporting training.	A B C D G
	_____ (Signature and Date)	
.5	Draft instructor training bill.	C D G
	_____ (Signature and Date)	
.6	Draft student training watch bill.	C D G
	_____ (Signature and Date)	
.7	Instruct all classroom portions of course.	A C D G
	_____ (Signature and Date)	

329 USMC COMBAT DIVE SUPERVISOR COURSE INSTRUCTOR (CONT'D)

		Questions
329.2.8	Brief command dive policies.	A C D G
	_____ (Signature and Date)	
.9	Supervise pre/post dive evolution for DPD's.	A B C D E F G
	_____ (Signature and Date)	
.10	Supervise predive and postdive evolution for scuba	A B C D E F G
	_____ (Signature and Date)	
.11	Supervise predive and postdive evolution for MK-25	A B C D E F G
	_____ (Signature and Date)	
.12	Complete and submit all required reports after Dive Sup course.	C D G
	_____ (Signature and Date)	
.13	Council failing student.	A B C D E F G
	_____ (Signature and Date)	
.14	Correct student to instructor ratios.	A B C D E F G
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 15% OF WATCHSTATION.

329 USMC COMBAT DIVE SUPERVISOR COURSE INSTRUCTOR (CONT'D)

329.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

Questions

329.3.1 Training in cold weather. A B C D E F G H

_____
(Signature and Date)

.2 Combine training area with other groups, diving or non-diving. A B C D E F G H

_____
(Signature and Date)

COMPLETED .3 AREA COMPRISES 20% OF WATCHSTATION.

329.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

329 USMC COMBAT DIVE SUPERVISOR COURSE INSTRUCTOR (CONT'D)

		Questions
329.4.1	Student displays unsafe dive practices	A B C D E F G
	_____ (Signature and Date)	
.2	Instructor personnel display unsafe practices.	A B C D E F G
	_____ (Signature and Date)	
.3	Support personnel display unsafe practices.	A B C D E F G
	_____ (Signature and Date)	
.4	Loss of DPD during training.	A B C D E F G
	_____ (Signature and Date)	
.5	Changes in the surrounding environment (i.e., sea state, wind, current, temperature, waterborne traffic)	A B C D E F G H
	_____ (Signature and Date)	
.6	Instructor is required to go "Cold" on training area.	A B C D E F G
	_____ (Signature and Date)	
.7	Unanticipated change in diving plan	A B C D E F G
	_____ (Signature and Date)	
.8	Drill scenario becomes different between students/candidates	A B C D E F G
	_____ (Signature and Date)	
.9	Night training requirements.	A B C D E F G H
	_____ (Signature and Date)	

COMPLETED .4 AREA COMPRISES 15% OF WATCHSTATION.

329.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
329.5.1	Lost diver during training.	A B C D E F G H

_____
(Signature and Date)

.2	Diver/DPD marker buoy becomes detached during training.	A B C D E F G

_____
(Signature and Date)

.3	Chamber TX required during training.	A B C D E F G

_____
(Signature and Date)

Completed .5 area comprises 15% of watchstation.

329 USMC COMBAT DIVE SUPERVISOR COURSE INSTRUCTOR (CONT'D)

329.6 WATCHES

329.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

Training Site OIC/Senior Instructor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

.2 Training Site Dive Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 23% OF WATCHSTATION.

329.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

329.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

330 BASIC LOCK OUT TRUNK (LOT) OPERATOR

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified BASIC LOT OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

330 BASIC LOCK OUT TRUNK (LOT) OPERATOR

Estimated completion time: 2 weeks

330.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

330.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

144 Naval Special Warfare Fundamentals

Completed _____ 4% of Watchstation
(Qualifier and Date)

330.2 TASKS

For the tasks listed below:

A. Attend classroom instruction covering LOT Configuration.
B. Attend Classroom instruction covering LOT Operations.
C. Attend Classroom instruction on host ship familiarization.
D. What are the steps of this procedure?
E. What control/coordination is required?
F. What means of communications are used?
G. What safety precautions must be observed?
H. What parameters/operating limits must be monitored?
I. Satisfactorily perform this task.

Questions

330.2.1 General Configuration. A B C D E F G H I

_____
(Signature and Date)

330 BASIC LOCK OUT TRUNK OPERATOR (LOT) (CONT'D)

		Questions
330.2.2	Air System	A B C D E F G H I
	_____ (Signature and Date)	
.3	Flood and Drain System	A B C D E F G H I
	_____ (Signature and Date)	
.4	Vent System	A B C D E F G H I
	_____ (Signature and Date)	
.5	Oxygen System	A B C D E F G H I
	_____ (Signature and Date)	
.6	Electrical System	A B C D E F G H I
	_____ (Signature and Date)	
.7	Host ship System	A B C D E F G H I
	_____ (Signature and Date)	
.8	Operating Instruction (OIs)	A B C D E F G H I
	_____ (Signature and Date)	
.9	Lockout Operations)	A B C D E F G H I
	_____ (Signature and Date)	
.10	Discuss noise silencing techniques and there importance	A B C D E F G H I
	_____ (Signature and Date)	

Completed .2 area comprises 32% of watchstation.

330 BASIC LOCK OUT TRUNK OPERATOR (LOT) (CONT'D)

330.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters must be monitored?
G. How are the monitored parameters changed by this infrequent task?
H. What conditions require this infrequent task?
I. Satisfactorily perform or simulate this infrequent task.

		Questions
330.3.1	Effect of LOT operations on Host Ship Capabilities.	A B C D E F G HI

_____
(Signature and Date)

Completed .3 area comprises 32% of watchstation.

330.4 ABNORMAL CONDITIONS - None to be discussed

330.5 EMERGENCIES

For the emergencies listed below:

A. Attend Classroom instruction on Casualty Management
B. What indications and alarms are received?
C. What immediate action is required?
D. What are the probable causes?
E. What operating limitations are imposed?
F. What other emergencies or malfunctions may occur if immediate action is not taken?
G. How does this emergency affect other operations/equipment/watchstations?
H. What follow-up action is required?
I. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
330.5.1	Casualty Procedures (CPs)	A B C D E F G HI

_____
(Signature and Date)

330 BASIC LOCK OUT TRUNK OPERATOR (LOT) (CONT'D)

330.5.2 LOT Casualty Management

_____
(Signature and Date)

.3 Medical Assists and Capabilities

_____
(Signature and Date)

Completed .5 area comprises 32% of watchstation

330.6 WATCHES – Under development.

330.6 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

330.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

331 LOT TENDER

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOT TENDER (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

331 LOT TENDER

Estimated completion time: 2 weeks

331.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

331.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

330 Basic LOT Operator

Completed _____
(Qualifier and Date)

331.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated LOT Tender.

		Questions
331.2.1	Standard Air Decompression Tables	A B C D E F G

_____
(Signature and Date)

331 LOT TENDER (CONT)

Questions

331.2.2 Residual Nitrogen Table A B C D E F G

_____
(Signature and Date)

.3 Chart LOC personnel diving profiles and ventilation schedules during LOT Diving operations A B C D E F G

_____
(Signature and Date)

.4 Communication console A B C D E F G

_____
(Signature and Date)

.5 Video Cameras A B C D E F G

_____
(Signature and Date)

.8 CO2 monitor A B C D E F G

_____
(Signature and Date)

Completed .2 area comprises 33% of watchstation

331.3 INFREQUENT TASKS – none to be discussed

331.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

331 LOT TENDER (CONT)

Questions

331.4.1 Loss of Communications A B C D E F G H

_____
(Signature and Date)

.2 Loss of Power/ Ground Fault A B C D E F G H

_____
(Signature and Date)

Completed .4 area comprises 33% of watchstation

331.5 EMERGENCIES – None to be discussed.

331.6 WATCHES

331.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOT Tender (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 34% of watchstation

331.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

331.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

FINAL QUALIFICATION NAVEDTRA 43910-B

332 LOT DIVER

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOT DIVER (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____DATE_____

332 LOT DIVER

Estimated completion time: 2 weeks

332.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

332.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

330 Basic LOT Operator

Completed _____
(Qualifier and Date)

.3 FUNDAMENTALS FROM THIS PQS:

144 Naval Special Warfare Fundamentals

Completed _____ 5% of Watchstation
(Qualifier and Date)

.4 SYSTEMS FROM THIS PQS:

222 Navy Dive Computer

Completed _____ 5% of Watchstation
(Qualifier and Date)

332 LOT DIVER (CONT'D)

332.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated LOT Diving Supervisor.

		Questions
332.2.1	Rigging Equipment Hardware	A B C D E F G
	_____ (Signature and Date)	
.2	CRRC rigging	A B C D E F G
	_____ (Signature and Date)	
.3	SSN Deck Storage Configuration	A B C D E F G
	_____ (Signature and Date)	
.4	Interior systems of the LOC	A B C D E F G
	_____ (Signature and Date)	
.5	All interior equipment	A B C D E F G
	_____ (Signature and Date)	
.6	Hand Signals and Light Signals	A B C D E F G
	_____ (Signature and Date)	

332 LOT DIVER (CONT'D)

332.2.7 Rig the Deck A B C D E F G

_____
(Signature and Date)

.8 Rigging lockout/lock in A B C D E F G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 30% OF WATCHSTATION

332.3 INFREQUENT TASKS – None to be discussed.

332.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition

Questions

332.4.1 Air Casualty A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization A B C D E F G H

_____
(Signature and Date)

.3 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

332 LOT DIVER (CONT'D)

332.4.4 Electrical short Circuit/Loss of Electrical Power A B C D E F G H

_____
(Signature and Date)

.5 Fire Casualty A B C D E F G H

_____
(Signature and Date)

.6 Emergency Bail Out A B C D E F G H

_____
(Signature and Date)

.7 Emergency Surfacing A B C

_____
(Signature and Date)

.8 Diver Casualty A B C

_____
(Signature and Date)

.9 SSN Broach A B C

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 30% OF WATCHSTATION

332.5 EMERGENCIES – None to be discussed.

332.6 WATCHES – STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Lock Out Trunk Diver (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 30% OF WATCHSTATION.

332 LOT DIVER (CONT'D)

332.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

332.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

333 LOT DRY-SIDE OPERATOR

NAME_____ RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOT DRY-SIDE OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

333 LOT DRY SIDE OPERATOR

Estimated completion time: 2 weeks

333.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

333.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

330 Basic LOT Operator

Completed _____
(Qualifier and Date)

.3 Fundamentals From This PQS:

144 Naval Special Warfare Overview

Completed _____ 2% of Watchstation
(Qualifier and Date)

333.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated LOT Dry Side Operator.

333 LOT DRY-SIDE OPERATOR (CONT)

		Questions
333.2.1	Demonstrate a thorough knowledge of all LOT system and subsystems.	A B C D E F G

_____
(Signature and Date)

.2	Demonstrate proper operation of all subsystems related to LOT operations.	A B C D E F G

_____
(Signature and Date)

.3	Demonstrate proper communication procedures.	A B C D E F G

_____
(Signature and Date)

Completed .2 area comprises 20% of watchstation

333.3 INFREQUENT TASKS – none to be discussed

333.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

		Questions
333.4.1	Air Casualty	A B C D E F G H

_____
(Signature and Date)

.2	Over Pressurization	A B C D E F G H

_____
(Signature and Date)

333 LOT DRY-SIDE OPERATOR (CONT)

333.4.3 Loss of Communication A B C D E F G H

_____
(Signature and Date)

.4 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

.5 Electrical short Circuit/Loss of Electrical Power A B C D E F G H

_____
(Signature and Date)

.6 Oxygen Leak A B C D E F G H

_____
(Signature and Date)

.7 Fire Casualty A B C D E F G H

_____
(Signature and Date)

Completed .4 area comprises 20% of watchstation

333.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

333.5.1 Emergency Procedures, Emergency Bail Out A B C D E F G H

_____
(Signature and Date)

333 LOT DRY-SIDE OPERATOR (CONT)

Completed .5 area comprises 28% of watchstation

333.6 WATCHES

333.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOT Dry Side Operator (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 30% of watchstation

333.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

333.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

334 LOT WET-SIDE OPERATOR

NAME_____ RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOT WET-SIDE OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

334 LOT WET-SIDE OPERATOR

Estimated completion time: 2 weeks

334.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

334.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X EXCLUDING 5344/5 basic Scuba Diver).

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

330 Basic LOT Operator

Completed _____
(Qualifier and Date)

.3 FUNDAMENTALS FROM THIS PQS:

144 Naval Special Warfare Overview

Completed _____ 5% of Watchstation
(Qualifier and Date)

222 Navy Dive Computer

Completed _____ 5% of Watchstation
(Qualifier and Date)

334.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?

334 LOT WET- SIDE OPERATOR (CONT)

G. Satisfactorily perform this task under supervision of a designated LOT Wet Side Operator.

		Questions
334.2.1	Demonstrate a thorough knowledge of all LOT system and subsystems.	A B C D E F G
	_____ (Signature and Date)	
.2	Demonstrate proper operation of all system and subsystems related to LOT operations.	A B C D E F G
	_____ (Signature and Date)	
.3	Demonstrate proper communication procedures.	A B C D E F G
	_____ (Signature and Date)	

Completed .2 area comprises 20% of watchstation

334.3 INFREQUENT TASKS – none to be discussed

334.4 ABNORMAL CONDITIONS

For the LOT Casualties listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

334 LOT WET-SIDE OPERATOR (CONT)

		Questions
334.4.1	Air Casualty	A B C D E F G H
	_____ (Signature and Date)	
.2	Over Pressurization	A B C D E F G H
	_____ (Signature and Date)	
.3	Loss of Communication	A B C D E F G H
	_____ (Signature and Date)	
.4	Loss of Pressure	A B C D E F G H
	_____ (Signature and Date)	
.5	Electrical short Circuit/Loss of Electrical Power	A B C D E F G H
	_____ (Signature and Date)	
.6	Oxygen Leak	A B C D E F G H
	_____ (Signature and Date)	
.7	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	

Completed .4 area comprises 20% of watchstation

334 LOT WET-SIDE OPERATOR (CONT)

334.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
H. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
334.5.1	Emergency Procedures, Emergency Bail Out	A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 20% of watchstation

334.6 WATCHES

334.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOT Wet Side Operator (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 30% of watchstation

334 LOT WET-SIDE OPERATOR (CONT)

334.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

334.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

FINAL QUALIFICATION NAVEDTRA 43910-B

335 LOT DIVING SUPERVISOR

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOT DIVING SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

335 LOT DIVING SUPERVISOR

Estimated completion time: 2 weeks

335.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

335.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X Excluding 5344/5 basic Scuba Diver).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

306 Scuba Diving Supervisor

Completed _____
(Qualifier and Date)

330 Basic LOT Operator

Completed _____
(Qualifier and Date)

.3 SYSTEMS FROM THIS PQS:

222 Navy Dive Computer

Completed _____ 3% of Watchstation
(Qualifier and Date)

223 Navy Dive Planner

Completed _____ 3% of Watchstation
(Qualifier and Date)

335 LOT DIVING SUPERVISOR (CONT'D)

335.1.4 FUNDAMENTALS FROM THIS PQS:

144 Naval Special Warfare Overview

Completed _____ 4% of Watchstation
(Qualifier and Date)

335.2 TASKS

For the tasks listed below:

A. What are the steps of these operational procedure and Operating Instructions?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Walk through and trace system from origination in host ship to termination in the LOT
H. Satisfactorily perform this task under supervision of a designated LOT Diving Supervisor.

Questions

335.2.1 Demonstrate a thorough knowledge of all LOT system and subsystems. A B C D E F G H

_____
(Signature and Date)

.2 Vent System A B C D E F G H

_____
(Signature and Date)

.3 Drain System A B C D E F G H

_____
(Signature and Date)

.4 Flood System A B C D E F G H

_____
(Signature and Date)

335 LOT DIVING SUPERVISOR (CONT'D)

Questions

335.5 Electrical System A B C D E F G H

_____
(Signature and Date)

.6 Communication System A B C D E F G H

_____
(Signature and Date)

.7 Oxygen System A B C D E F G H

_____
(Signature and Date)

.8 Air System A B C D E F G H

_____
(Signature and Date)

.9 Atmosphere Monitoring System A B C D E F G H

_____
(Signature and Date)

.10 Fire Fighting System A B C D E F G H

_____
(Signature and Date)

.11 Emergency Vent A B C D E F G H

_____
(Signature and Date)

.12 Full Mission Profile A B C D E F G H

_____
(Signature and Date)

.13 Chain of Command A B C D E F G H

_____
(Signature and Date)

335 LOT DIVING SUPERVISOR (CONT'D)

Questions

.14 Watch Station Responsibilities A B C D E F G H

_____
(Signature and Date)

.15 Submarine Control Watch Stations A B C D E F G H

_____
(Signature and Date)

.16 Stowage Location A B C D E F G H

_____
(Signature and Date)

.17 Ordnance Compatibility A B C D E F G H

_____
(Signature and Date)

.18 Maintenance Procedures and Tag Out A B C D E F G H

_____
(Signature and Date)

.19 Required Training A B C D E F G H

_____
(Signature and Date)

.20 LOT Pre-Dive Operations A B C D E F G H

_____
(Signature and Date)

.21 Prep for Wet Operations A B C D E F G H

_____
(Signature and Date)

.22 LOT Flood-up A B C D E F G H

_____
(Signature and Date)

335 LOT DIVING SUPERVISOR (CONT'D)

Questions

.23 LOT Drain-down — A B C D E F G H

_____
(Signature and Date)

.24 Air Station Operations — A B C D E F G H

_____
(Signature and Date)

.25 LOT Air Management, Diver's Air Monitoring and Sampling procedures — A B C D E F G H

_____
(Signature and Date)

.26 LOT Ventilation Requirements — A B C D E F G H

_____
(Signature and Date)

.27 Air Purity Guidelines for LOT Operations — A B C D E F G H

_____
(Signature and Date)

Completed .2 area comprises 20% of watchstation

335.3 INFREQUENT TASKS – none to be discussed

335.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

335 LOT DIVING SUPERVISOR (CONT'D)

Questions

335.4.1 Air Casualty A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization A B C D E F G H

_____
(Signature and Date)

.3 Loss of Communication A B C D E F G H

_____
(Signature and Date)

.4 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

.5 Electrical short Circuit/Loss of Electrical Power A B C D E F G H

_____
(Signature and Date)

.6 Oxygen Leak A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 20% OF WATCHSTATION

335.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
I. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

335 LOT DIVING SUPERVISOR (CONT'D)

		Questions
335.5.1	Emergency Bail Out	A B C D E F G H
	_____ (Signature and Date)	
.2	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	
.3	Injured wet-side Operator	A B C D E F G H
	_____ (Signature and Date)	
.4	Emergency Surfacing	A B C D E F G H
	_____ (Signature and Date)	
.5	Diver Casualty in the LOT	A B C D E F G H
	_____ (Signature and Date)	
.6	Inadvertent Safety Flare Activation	A B C D E F G H
	_____ (Signature and Date)	
.7	Operating LOT Emergency Vent and Drain	A B C D E F G H
	_____ (Signature and Date)	

Completed .5 area comprises 20% of watchstation

335 LOT DIVING SUPERVISOR (CONT'D)

335.6 WATCHES

335.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOT Diving Supervisor (3 Times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 30% of watchstation

335.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

335.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

FINAL QUALIFICATION NAVEDTRA 43910-B

336 LOT OFFICER

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOT OFFICER (NAVEDTRA43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

336 LOT OFFICER

Estimated completion time: 2 weeks

336.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

336.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X EXCLUDING 5344/5 basic Scuba Diver).

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

330 Basic LOT Operator

Completed _____
(Qualifier and Date)

.3 Fundamentals From This PQS:

144 Naval Special Warfare Overview

Completed _____ 3% of Watchstation
(Qualifier and Date)

336.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
H. Satisfactorily perform this task under supervision of a designated LOT Officer.

336 LOT OFFICER (CONT'D)

		Questions
336.2.1	Demonstrate a thorough knowledge of all LOT system and subsystems.	A B C D E F G H
	_____ (Signature and Date)	
.2	Explain the LOT Concepts of Operations for Chain of Command.	A B C D E F G H
	_____ (Signature and Date)	
.3	Explain the LOT Concepts of Operations for Watchstation Responsibilities.	A B C D E F G H
	_____ (Signature and Date)	
.4	Explain the LOT Concepts of Operations for Lock out / lock in procedures.	A B C D E F G H
	_____ (Signature and Date)	
.5	Explain the LOT Concepts of Operations for Surface Support Requirements.	A B C D E F G H
	_____ (Signature and Date)	
.6	Explain the LOT Concepts of Operations for Submarine Control Watchstation.	A B C D E F G H
	_____ (Signature and Date)	
.7	LOT Pre-Dive Operations	A B C D E F G H
	_____ (Signature and Date)	
.8	Preparations for Wet Operations	A B C D E F G H
	_____ (Signature and Date)	

336 LOT OFFICER (CONT'D)

Questions

336.2.9 LOT Flood-up A B C D E F G H

_____
(Signature and Date)

.10 Lock Out/Lock in Operations A B C D E F G H

_____
(Signature and Date)

.12 LOT Drain-down A B C D E F G H

_____
(Signature and Date)

.13 Rig for Dive A B C D E F G H

_____
(Signature and Date)

.13 Air Station Operations A B C D E F G H

_____
(Signature and Date)

.14 LOT Air System Management, Testing, and Charging A B C D E F G H

_____
(Signature and Date)

.15 LOT Ventilation Requirements and Procedures A B C D E F G H

_____
(Signature and Date)

.16 Air Purity Guidelines for LOT Operations A B C D E F G H

_____
(Signature and Date)

Completed .2 area comprises 25% of watchstation

336.3 INFREQUENT TASKS – none to be discussed

336 LOT OFFICER (CONT'D)

336.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not Taken.
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
abnormal condition.

Questions

336.4.1 Air Casualty A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization A B C D E F G H

_____
(Signature and Date)

.3 Loss of Communication A B C D E F G H

_____
(Signature and Date)

.4 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

.5 Electrical short Circuit/Loss of Electrical Power A B C D E F G H

_____
(Signature and Date)

.6 Oxygen Leak A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 25% OF WATCHSTATION

336 LOT OFFICER (CONT'D)

336.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
J. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
336.5.1	Emergency Bail Out	A B C D E F G H
	_____ (Signature and Date)	
.2	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	
.3	Injured wet-side Operator	A B C D E F G H
	_____ (Signature and Date)	
.4	Emergency Surfacing	A B C D E F G H
	_____ (Signature and Date)	
.5	Diver Casualty in the LOT	A B C D E F G H
	_____ (Signature and Date)	
.6	Inadvertent Safety Flare Activation	A B C D E F G H
	_____ (Signature and Date)	

336 LOT OFFICER (CONT'D)

Questions

.7 Operating LOT Emergency Vent and Drain A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 25% of watchstation

336.6 WATCHES

336.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOT Officer (3 Times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 22% of watchstation

336.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

336.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

337 BASIC LOCK OUT CHAMBER (LOC) OPERATOR

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified BASIC LOC OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

337 BASIC LOCK OUT CHAMBER (LOC) OPERATOR

Estimated completion time: 2 weeks

337.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

337.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

144 Naval Special Warfare Overview

Completed _____ 3% of Watchstation
(Qualifier and Date)

337.2 TASKS

For the tasks listed below:

A. Attend classroom instruction covering LOC Configuration.
B. Attend Classroom instruction covering LOC Operations.
C. Attend Classroom instruction on host ship familiarization.
D. What are the steps of this procedure?
E. What control/coordination is required?
F. What means of communications are used?
G. What safety precautions must be observed?
H. What parameters/operating limits must be monitored?
I. Satisfactorily perform this task.

	Questions
337.2.1 General Configuration.	A B C D E F G HI

_____
(Signature and Date)

337 BASIC LOCK OUT CHAMBER (LOC) OPERATOR (CONT'D)

Questions

337.2.2 Air System — A B C D E F G H I

_____
(Signature and Date)

.3 Flood and Drain System — A B C D E F G H I

_____
(Signature and Date)

.4 Vent System — A B C D E F G H I

_____
(Signature and Date)

.5 Oxygen System — A B C D E F G H I

_____
(Signature and Date)

.6 Electrical System — A B C D E F G H I

_____
(Signature and Date)

.7 Host ship System — A B C D E F G H I

_____
(Signature and Date)

.8 Operating Instruction (OIs) — A B C D E F G H I

_____
(Signature and Date)

.9 Lockout Operations — A B C D E F G H I

_____
(Signature and Date)

.10 Effect of LOC operations on Host Ship Capabilities — A B C D E F G H I

_____
(Signature and Date)

337 BASIC LOCK OUT CHAMBER (LOC) OPERATOR (CONT'D)

Questions

.11 Discuss noise silencing techniques and there importance A B C D E F G HI

_____
(Signature and Date)

Completed .2 area comprises 30% of watchstation

337.3 INFREQUENT TASKS – none to be discussed

337.4 ABNORMAL CONDITIONS – none to be discussed

337.5 EMERGENCIES

For the emergencies listed below:

A. Attend Classroom instruction on Casualty Management
B. What indications and alarms are received?
C. What immediate action is required?
D. What are the probable causes?
E. What operating limitations are imposed?
F. What other emergencies or malfunctions may occur if immediate action is not taken?
G. How does this emergency affect other operations/equipment/watchstations?
H. What follow-up action is required?
I. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

337.5.1 Casualty Procedures (CPs) A B C D E F G H I

_____
(Signature and Date)

.2 LOC Casualty Management A B C D E F G H I

_____
(Signature and Date)

.3 Medical Assists and Capabilities A B C D E F G H I

_____
(Signature and Date)

Completed .5 area comprises 30% of watchstation

337 BASIC LOCK OUT CHAMBER (LOC) OPERATOR (CONT'D)

337.6 WATCHES

337.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

Basic LOC operator (1 Time)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 37% OF WATCHSTATION

337.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

337.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

338 LOC TENDER

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOC TENDER (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

338 LOC TENDER

Estimated completion time: 2 weeks

338.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

338.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

337 Basic LOC Operator

Completed _____
(Qualifier and Date)

338.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated LOC Tender.

		Questions
338.2.1	Standard Air Decompression Tables	A B C D E F G

_____
(Signature and Date)

338 LOC TENDER (CONT)

Questions

338.2.2 Residual Nitrogen Table A B C D E F G

_____
(Signature and Date)

.3 Chart LOC personnel diving profiles and ventilation schedules during LOT Diving operations A B C D E F G

_____
(Signature and Date)

.4 Communication console A B C D E F G

_____
(Signature and Date)

.5 Video Cameras A B C D E F G

_____
(Signature and Date)

.8 CO2 monitor A B C D E F G

_____
(Signature and Date)

Completed .2 area comprises 30% of watchstation

338.3 INFREQUENT TASKS – none to be discussed

338.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

338 LOC TENDER (CONT)

Questions

338.4.1 Loss of Communications A B C D E F G H

_____
(Signature and Date)

.2 Loss of Power/ Ground Fault A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 30% OF WATCHSTATION

338.5 EMERGENCIES – None to be discussed.

338.6 WATCHES

338.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOC Tender (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 40% of watchstation

338.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

338.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

FINAL QUALIFICATION NAVEDTRA 43910-B

339 LOC DIVER

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOC DIVER (NAVEDTRA43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

339 LOC DIVER

Estimated completion time: 2 weeks

339.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

339.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

337 Basic LOC Operator

Completed _____
(Qualifier and Date)

.3 SYSTEMS FROM THIS PQS:

222 Navy Dive Computer

Completed _____ 3% of watchstation
(Qualifier and Date)

339.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated LOC Diving Supervisor.

339 LOC DIVER (CONT'D)

		Questions
339.2.1	Rigging Equipment Hardware	A B C D E F G
	_____ (Signature and Date)	
.2	CRRC rigging	A B C D E F G
	_____ (Signature and Date)	
.3	SSN Deck Storage Configuration	A B C D E F G
	_____ (Signature and Date)	
.4	Interior systems of the LOC	A B C D E F G
	_____ (Signature and Date)	
.5	All interior equipment	A B C D E F G
	_____ (Signature and Date)	
.6	Hand Signals and Light Signals	A B C D E F G
	_____ (Signature and Date)	
.7	Rig the Deck	A B C D E F G
	_____ (Signature and Date)	
.8	Rigging lockout/lock in	A B C D E F G
	_____ (Signature and Date)	

COMPLETED .2 AREA COMPRISES 30% OF WATCHSTATION

339.3 INFREQUENT TASKS – None to be discussed.

339 LOC DIVER (CONT'D)

339.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition

		Questions
339.4.1	Air Casualty	A B C D E F G H
	_____ (Signature and Date)	
.2	Over Pressurization	A B C D E F G H
	_____ (Signature and Date)	
.3	Loss of Pressure	A B C D E F G H
	_____ (Signature and Date)	
.4	Electrical short Circuit/Loss of Electrical Power	A B C D E F G H
	_____ (Signature and Date)	
.5	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	
.6	Emergency Bail Out	A B C D E F G H
	_____ (Signature and Date)	

339 LOC DIVER (CONT'D)

Questions

339.4.7 Emergency Surfacing A B C D E F G H

_____
(Signature and Date)

.8 Diver Casualty A B C D E F G H

_____
(Signature and Date)

.9 SSN Broach A B C D E F G H

_____
(Signature and Date)

Completed .4 area comprises 30% of watchstation

339.5 EMERGENCIES – None to be discussed.

339.6 WATCHES – STAND THE FOLLOWING WATCHES UNDER QUALIFIED SUPERVISION:

Lock Out Chamber Diver (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 37% OF WATCHSTATION.

339.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

339.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

340 LOC DRY-SIDE OPERATOR

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOC DRY-SIDE OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

340 LOC DRY-SIDE OPERATOR

Estimated completion time: 2 weeks

340.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

340.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

337 Basic LOC Operator

Completed _____
(Qualifier and Date)

340.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated LOC Dry Side Operator

		Questions
340.2.1	Demonstrate a thorough knowledge of all LOC system and subsystems	A B C D E F G

_____
(Signature and Date)

340 LOC DRY-SIDE OPERATOR (CONT)

Questions

340.2.2 Demonstrate proper operation of all subsystems related to LOC operations — A B C D E F G

_____
(Signature and Date)

.3 Demonstrate proper communication procedures — A B C D E F G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 25% OF WATCHSTATION.

340.3 INFREQUENT TASKS – none to be discussed

340.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

340.4.1 Air Casualty — A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization — A B C D E F G H

_____
(Signature and Date)

.3 Loss of Communication — A B C D E F G H

_____
(Signature and Date)

340 LOC DRY-SIDE OPERATOR (CONT)

Questions

340.4.4 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

.5 Electrical short Circuit/Loss of Electrical Power A B C D E F G H

_____
(Signature and Date)

.6 Oxygen Leak A B C D E F G H

_____
(Signature and Date)

.7 Fire Casualty A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 25% OF WATCHSTATION.

340.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

340.5.1 Emergency Procedures, Emergency Bail Out A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 25% OF WATCHSTATION.

340 LOC DRY-SIDE OPERATOR (CONT)

340.6 WATCHES

340.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOC Dry Side Operator (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 25% OF WATCHSTATION.

340.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

340.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

341 LOC WET-SIDE OPERATOR

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOT WET-SIDE OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

341 LOC WET-SIDE OPERATOR

Estimated completion time: 2 weeks

341.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

341.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X EXCLUDING 5344/5 basic Scuba Diver).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

337 Basic LOC Operator

Completed _____
(Qualifier and Date)

.3 SYSTEMS FROM THIS PQS:

222 Navy Dive Computer

Completed _____ 3% of watchstation
(Qualifier and Date)

341.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated LOC Wet Side Operator.

341 LOC WET- SIDE OPERATOR (CONT)

Questions

341.2.1 Demonstrate a thorough knowledge of all LOC system and subsystems. A B C D E F G

_____
(Signature and Date)

.2 Demonstrate proper operation of all system and subsystems related to LOC operations. A B C D E F G

_____
(Signature and Date)

.3 Demonstrate proper communication procedures. A B C D E F G

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 25% OF WATCHSTATION.

341.3 INFREQUENT TASKS – none to be discussed

341.4 ABNORMAL CONDITIONS

For the LOC Casualties listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

341.4.1 Air Casualty A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization A B C D E F G H

_____
(Signature and Date)

341 LOC WET-SIDE OPERATOR (CONT)

Questions

341.4.3 Loss of Communication A B C D E F G H

_____
(Signature and Date)

.4 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

.5 Electrical short Circuit/Loss of Electrical Power A B C D E F G H

_____
(Signature and Date)

.6 Oxygen Leak A B C D E F G H

_____
(Signature and Date)

.7 Fire Casualty A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 25% OF WATCHSTATION.

341.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

341 LOC WET-SIDE OPERATOR (CONT)

Questions

341.5.1 Emergency Procedures, Emergency Bail Out A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 25% OF WATCHSTATION.

341.6 WATCHES

341.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOC Wet Side Operator (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 25% OF WATCHSTATION.

341.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

341.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

FINAL QUALIFICATION NAVEDTRA 43910-B

342 LOC DIVING SUPERVISOR

NAME_____ RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOT DIVING SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

342 LOC DIVING SUPERVISOR

Estimated completion time: 2 weeks

342.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

342.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X Excluding 5344/5 basic Scuba Diver).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

306 Scuba Diving Supervisor

Completed _____
(Qualifier and Date)

337 Basic LOC Operator

Completed _____
(Qualifier and Date)

.3 SYSTEMS FROM THIS PQS:

222 Navy Dive Computer

Completed _____ 5% of watchstation
(Qualifier and Date)

223 Navy Dive Planner

Completed _____ 5% of watchstation
(Qualifier and Date)

342 LOC DIVING SUPERVISOR (CONT'D)

342.2 TASKS

For the tasks listed below:

A. What are the steps of these operational procedure and Operating Instructions?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
I. What parameters/operating limits must be monitored?
J. Walk through and trace system from origination in host ship to termination in the LOT
H. Satisfactorily perform this task under supervision of a designated LOC Diving Supervisor.

Questions

342.2.1 Demonstrate a thorough knowledge of all LOC system and subsystems. A B C D E F G H

_____
(Signature and Date)

.2 Vent System A B C D E F G H

_____
(Signature and Date)

.3 Drain System A B C D E F G H

_____
(Signature and Date)

.4 Flood System A B C D E F G H

_____
(Signature and Date)

.5 Electrical System A B C D E F G H

_____
(Signature and Date)

.6 Communication System A B C D E F G H

_____
(Signature and Date)

342 LOC DIVING SUPERVISOR (CONT'D)

		Questions
342.2.7	Oxygen System	A B C D E F G H
	_____ (Signature and Date)	
.8	Air System	A B C D E F G H
	_____ (Signature and Date)	
.9	Atmosphere Monitoring System	A B C D E F G H
	_____ (Signature and Date)	
.10	Fire Fighting System	A B C D E F G H
	_____ (Signature and Date)	
.11	Emergency Vent	A B C D E F G H
	_____ (Signature and Date)	
.12	Full Mission Profile	A B C D E F G H
	_____ (Signature and Date)	
.13	Chain of Command	A B C D E F G H
	_____ (Signature and Date)	
.14	Watch Station Responsibilities	A B C D E F G H
	_____ (Signature and Date)	
.15	Submarine Control Watch Stations	A B C D E F G H
	_____ (Signature and Date)	

342 LOC DIVING SUPERVISOR (CONT'D)

Questions

342.2.16 Stowage Location A B C D E F G H

_____
(Signature and Date)

.17 Ordnance Compatibility A B C D E F G H

_____
(Signature and Date)

.18 Maintenance Procedures and Tag Out A B C D E F G H

_____
(Signature and Date)

.19 Required Training A B C D E F G H

_____
(Signature and Date)

.20 LOC Pre-Dive Operations A B C D E F G H

_____
(Signature and Date)

.21 Prep for Wet Operations A B C D E F G H

_____
(Signature and Date)

.22 LOC Flood-up A B C D E F G H

_____
(Signature and Date)

.23 LOC Drain-down A B C D E F G H

_____
(Signature and Date)

.24 Air Station Operations A B C D E F G H

_____
(Signature and Date)

342 LOC DIVING SUPERVISOR (CONT'D)

Questions

342.2.25 LOC Air Management, Diver's Air Monitoring and Sampling procedures — A B C D E F G H

_____
(Signature and Date)

.26 LOC Ventilation Requirements — A B C D E F G H

_____
(Signature and Date)

.27 Air Purity Guidelines for LOC Operations — A B C D E F G H

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 20% OF WATCHSTATION.

342.3 INFREQUENT TASKS – none to be discussed

342.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not taken?
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the corrective/immediate action for this abnormal condition.

Questions

342.4.1 Air Casualty — A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization — A B C D E F G H

_____
(Signature and Date)

342 LOC DIVING SUPERVISOR (CONT'D)

Questions

342.4.3 Loss of Communication A B C D E F G H

_____
(Signature and Date)

.4 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

.5 Electrical short Circuit/Loss of Electrical Power A B C D E F G H

_____
(Signature and Date)

.6 Oxygen Leak A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 30% OF WATCHSTATION.

342.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
K. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

342.5.1 Emergency Bail Out A B C D E F G H

_____
(Signature and Date)

.2 Fire Casualty A B C D E F G H

_____
(Signature and Date)

342 LOC DIVING SUPERVISOR (CONT'D)

Questions

342.5.3 Injured wet-side Operator A B C D E F G H

_____
(Signature and Date)

.4 Emergency Surfacing A B C D E F G H

_____
(Signature and Date)

.5 Diver Casualty in the LOC A B C D E F G H

_____
(Signature and Date)

.6 Inadvertent Safety Flare Activation A B C D E F G H

_____
(Signature and Date)

.7 Operating LOC Emergency Vent and Drain A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 20% OF WATCHSTATION.

342.6 WATCHES

342.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOC Diving Supervisor (3 Times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

342 LOC DIVING SUPERVISOR (CONT'D)

COMPLETED .6 AREA COMPRISES 20% OF WATCHSTATION.

342.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

342.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

FINAL QUALIFICATION NAVEDTRA 43910-B

343 LOC OFFICER

NAME_____ RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified LOC OFFICER (NAVEDTRA 43910-B).

RECOMMENDED_____DATE_____
Supervisor

RECOMMENDED_____DATE_____
Division Officer

RECOMMENDED_____DATE_____
Department Head

QUALIFIED_____DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

343 LOC OFFICER

Estimated completion time: 2 weeks

343.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

343.1.1 SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X EXCLUDING 5344/5 basic Scuba Diver).

Completed _____
(Qualifier and Date)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

337 Basic LOC Operator

Completed _____
(Qualifier and Date)

343.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated LOC Officer.

343 LOC OFFICER (CONT'D)

		Questions
343.2.1	Demonstrate a thorough knowledge of all LOC system and subsystems.	A B C D E F G H
	_____ (Signature and Date)	
.2	Explain the LOC Concepts of Operations for Chain of Command.	A B C D E F G H
	_____ (Signature and Date)	
.3	Explain the LOC Concepts of Operations for Watchstation Responsibilities.	A B C D E F G H
	_____ (Signature and Date)	
.4	Explain the LOC Concepts of Operations for Lock out / lock in procedures.	A B C D E F G H
	_____ (Signature and Date)	
.5	Explain the LOC Concepts of Operations for Surface Support Requirements.	A B C D E F G H
	_____ (Signature and Date)	
.6	Explain the LOC Concepts of Operations for Submarine Control Watchstation.	A B C D E F G H
	_____ (Signature and Date)	
.7	LOC Pre-Dive Operations	A B C D E F G H
	_____ (Signature and Date)	
.8	Preparations for Wet Operations	A B C D E F G H
	_____ (Signature and Date)	

343 LOC OFFICER (CONT'D)

Questions

343.2.9 LOC Flood-up A B C D E F G H

_____
(Signature and Date)

.10 Lock Out/Lock in Operations A B C D E F G H

_____
(Signature and Date)

.11 LOC Drain-down A B C D E F G H

_____
(Signature and Date)

.12 Rig for Dive A B C D E F G H

_____
(Signature and Date)

.13 Air Station Operations A B C D E F G H

_____
(Signature and Date)

.14 LOC Air System Management, Testing, and Charging A B C D E F G H

_____
(Signature and Date)

.15 LOC Ventilation Requirements and Procedures A B C D E F G H

_____
(Signature and Date)

.16 Air Purity Guidelines for LOC Operations A B C D E F G H

_____
(Signature and Date)

COMPLETED .2 AREA COMPRISES 25% OF WATCHSTATION.

343.3 INFREQUENT TASKS – none to be discussed

343 LOC OFFICER (CONT'D)

343.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not Taken.
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
abnormal condition.

Questions

343.4.1 Air Casualty A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization A B C D E F G H

_____
(Signature and Date)

.3 Loss of Communication A B C D E F G H

_____
(Signature and Date)

.4 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

.5 Electrical short Circuit/Loss of Electrical Power A B C D E F G H

_____
(Signature and Date)

.6 Oxygen Leak A B C D E F G H

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 25% OF WATCHSTATION.

343 LOC OFFICER (CONT'D)

343.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
343.5.1	Emergency Bail Out	A B C D E F G H
	_____ (Signature and Date)	
.2	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	
.3	Injured wet-side Operator	A B C D E F G H
	_____ (Signature and Date)	
.4	Emergency Surfacing	A B C D E F G H
	_____ (Signature and Date)	
.5	Diver Casualty in the LOC	A B C D E F G H
	_____ (Signature and Date)	
.6	Inadvertent Safety Flare Activation	A B C D E F G H
	_____ (Signature and Date)	

343 LOC OFFICER (CONT'D)

Questions

343.5.7 Operating LOC Emergency Vent and Drain A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 25% OF WATCHSTATION.

343.6 WATCHES

343.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

LOC Officer (3 Times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

COMPLETED .6 AREA COMPRISES 25% OF WATCHSTATION.

343.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

343.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

344 DRY DECK SHELTER (DDS) BASIC OPERATOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watch station. Recommend designation as a qualified DRY DECK SHELTER BASIC OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

344 DDS BASIC OPERATOR

Estimated completion time: 2 weeks

344.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

344.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 FUNDAMENTALS FROM THIS PQS:

120 UNDERWATER PHYSIOLOGY AND FIRST AID

Completed _____ 2% of Watchstation
(Qualifier and Date)

121 US Navy Diving Organization

Completed _____ 2% of Watchstation
(Qualifier and Date)

123 Diving Symbols and Formulas

Completed _____ 2% of Watchstation
(Qualifier and Date)

124 Diving Records and Reports

Completed _____ 2% of Watchstation
(Qualifier and Date)

144 Naval Special Warfare Mission Fundamentals

Completed _____ 2% of Watchstation
(Qualifier and Date)

344 DDS BASIC OPERATOR (CONT'D)

344.1.3 SYSTEMS FROM THIS PQS:

222 Navy Dive Computer

Completed _____ 2% of Watchstation
(Qualifier and Date)

344.2 TASKS

For the tasks listed below:

A. Attend classroom instruction covering DDS Configuration.
B. Attend Classroom instruction covering DDS Operations.
C. Attend Classroom instruction on host ship familiarization.
D. What are the steps of this procedure?
E. What control/coordination is required?
F. What means of communications are used?
G. What safety precautions must be observed?
H. What parameters/operating limits must be monitored?
I. Satisfactorily perform this task.

Questions

344.2.1 General Configuration. A B C D E F G H I

_____
(Signature and Date)

.2 Draw and discuss systems and subsystems. A B C D E F G H I

_____
(Signature and Date)

.3 Air and Vent Systems A B C D E F G H I

_____
(Signature and Date)

.4 Flood, Drain, and Nitrogen Systems A B C D E F G H I

_____
(Signature and Date)

.5 Hydraulic Systems A B C D E F G H I

_____
(Signature and Date)

344 DDS BASIC OPERATOR (CONT'D)

Questions

344.2.6 Oxygen Systems A B C D E F G H I

_____
(Signature and Date)

.7 Electrical Systems A B C D E F G H I

_____
(Signature and Date)

.8 Host Ship Systems A B C D E F G H I

_____
(Signature and Date)

.9 DDS Transporter A B C D E F G H I

_____
(Signature and Date)

.10 Standard Operating Procedures (SOP's) Vol A B C D E F G H I

_____
(Signature and Date)

.11 DDS Install / Removal A B C D E F G H I

_____
(Signature and Date)

.12 Mass Swimmer Lockout Operations (MSLO / MSLI) A B C D E F G H I

_____
(Signature and Date)

.13 Host Ship General Configuration A B C D E F G H I

_____
(Signature and Date)

.16 Host Ship Ballast System A B C D E F G H I

_____
(Signature and Date)

.17 Host Ship Weapons A B C D E F G H I

_____
(Signature and Date)

344 DDS BASIC OPERATOR (CONT'D)

Questions

344.2.18 Host Ship Propulsion A B C D E F G H I

_____
(Signature and Date)

.19 Effect of DDS on Host Ship Capabilities A B C D E F G H I

_____
(Signature and Date)

.20 Host Ship Interface A B C D E F G H I

_____
(Signature and Date)

.21 Discuss noise silencing techniecs and there importance A B C D E F G HI

_____
(Signature and Date)

Completed .2 area comprises 20% of watchstation

344.3 INFREQUENT TASKS – none to be discussed

344.4 ABNORMAL CONDITIONS

For the abnormal conditions listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What emergencies or malfunctions may occur if immediate action is not Taken.
F. How does this condition affect other operations/equipment/watchstations?
G. What follow-up action is required?
abnormal condition.

Questions

.1 Air Casualty A B C D E F G

_____
(Signature and Date)

.2 DDS Casualty Management A B C D E F G

_____
(Signature and Date)

344 DDS BASIC OPERATOR (CONT'D)

		Questions
344.4.3	Medical Assists and Capabilities	A B C D E F G

_____
(Signature and Date)

COMPLETED .4 AREA COMPRISES 20% OF WATCHSTATION

344.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
344.5.1	Standard Emergency Procedures (SEP)	A B C D E F G H

_____
(Signature and Date)

COMPLETED .5 AREA COMPRISES 23% OF WATCHSTATION

344.6 WATCHES

344.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS TENDER (1 times)

_____
(Signature and Date)

Completed .6 area comprises 25% of watchstation

344 DDS BASIC OPERATOR (CONT'D)

344.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

344.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

345 DDS TENDER

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watch station. Recommend designation as a qualified DRY DECK SHELTER TENDER (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

345 DDS TENDER

Estimated completion time: 2 weeks

345.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

345.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 WATCH STATIONS FROM THIS PQS:

344 Basic DDS Operator

Completed _____
(Signature and Date)

345.2 TASKS

For the tasks listed below:

A. Attend classroom instruction covering DDS Configuration.
B. Attend Classroom instruction covering DDS Operations.
C. Attend Classroom instruction on host ship familiarization.
D. What are the steps of this procedure?
E. What control/coordination is required?
F. What means of communications are used?
G. What safety precautions must be observed?
H. What parameters/operating limits must be monitored?
I. Satisfactorily perform this task under supervision of a designated DDS Tender.

		Questions
345.2.1	Standard Air Decompression Tables	A B C D E F G H I

_____
(Signature and Date)

345 DDS TENDER (CONT'D)

Questions

345.2.2 Combat Swimmer Multi Level Dive Tables — A B C D E F G H I

_____
(Signature and Date)

.3 Residual Nitrogen Table — A B C D E F G H I

_____
(Signature and Date)

.4 Chart DDS personnel diving profiles — A B C D E F G H I

_____
(Signature and Date)

.5 Calculate and chart ventilation schedules for each event during DDS diving operations. — A B C D E F G H I

_____
(Signature and Date)

.6 Operate DDS communication console — A B C D E F G H I

_____
(Signature and Date)

.7 Operate the Diver Recall System — A B C D E F G H I

_____
(Signature and Date)

.8 Demonstrate the log keeping procedures — A B C D E F G H I

_____
(Signature and Date)

Completed .2 area comprises 33% of watchstation

345.3 INFREQUENT TASKS – None to be discussed

345.4 ABNORMAL TASKS – None to be discussed

345 DDS TENDER (CONT'D)

345.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

345.5.1 Loss of Communications. A B C D E F G H

_____
(Signature and Date)

.2 SSN Emergency Surfacing A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 33% of watchstation

345.6 WATCHES

345.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS TENDER (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 33% of watchstation

345 DDS TENDER (CONT'D)

345.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

345.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

346 DDS HYPERBARIC CHAMBER OPERATOR

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DDS HYPERBARIC CHAMBER OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

346 DDS HYPERBARIC CHAMBER OPERATOR

Estimated completion time: 2 weeks

346.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

346.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 WATCH STATIONS FROM THIS PQS:

344 Basic DDS Operator

Completed _____
(Signature and Date)

346.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated DDS Chamber Operator

		Questions
346.2.1	Demonstrate proper operations of all subsystems related to DDS Hyperbaric chamber operations.	A B C D E F G

_____
(Signature and Date)

346 DDS HYPERBARIC CHAMBER OPERATOR (CONT'D)

		Questions
346.2.2	Watch Station Responsibilities	A B C D E F G
	_____ (Signature and Date)	
.3	Explain how ventilation and drainage affects are affected by conditions in the DDS spheres during lock-out.	A B C D E F G
	_____ (Signature and Date)	
.4	Demonstrate proper communication procedures.	A B C D E F G
	_____ (Signature and Date)	
.5	Operate atmospheric air monitoring instruments	A B C D E F G
	_____ (Signature and Date)	
.6	DDS Ventilation Requirements and Procedures	A B C D E F G
	_____ (Signature and Date)	
.7	Explain why pressure lock-out from DDS is not possible.	A B C D E F G
	_____ (Signature and Date)	
	Completed .2 area comprises 33% of watchstation	

346.3 INFREQUENT TASKS – None to be discussed

346.4 ABNORMAL TASKS – None to be discussed

346 DDS HYPERBARIC CHAMBER OPERATOR (CONT'D)

346.5 EMERGENCIES

For each emergency listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
346.5.1	Air Casualty	A B C D E F G H
	_____ (Signature and Date)	
.2	Over Pressurization	A B C D E F G H
	_____ (Signature and Date)	
.3	Loss of Communications	A B C D E F G H
	_____ (Signature and Date)	
.4	Loss of Pressure	A B C D E F G H
	_____ (Signature and Date)	
.5	Electrical Short Circuit / Loss Of Electrical Power	A B C D E F G H
	_____ (Signature and Date)	
.6	Oxygen Leak	A B C D E F G H
	_____ (Signature and Date)	

346 DDS HYPERBARIC CHAMBER OPERATOR (CONT'D)

Questions

346.5.7 Fire Casualty A B C D E F G H

_____
(Signature and Date)

.8 High / Low Oxygen in Hyperbaric Chamber A B C D E F G H

_____
(Signature and Date)

.9 High CO2 in Hyperbaric Chamber A B C D E F G H

_____
(Signature and Date)

.10 Unconscious Trunk Operator A B C D E F G H

_____
(Signature and Date)

.11 Loss of scrubber A B C D E F G H

_____
(Signature and Date)

.12 Injured Diver in the Hangar A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 33% of watchstation

346.6 WATCHES

346 DDS HYPERBARIC CHAMBER OPERATOR (CONT'D)

346.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS Chamber Hyperbaric Chamber Operator (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 33% of watchstation

346.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

346.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

347 DDS TRANSFER TRUNK OPERATOR

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DRY DECK SHELTER TRANSFER TRUNK OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

347 DDS TRANSFER TRUNK OPERATOR

Estimated completion time: 2 weeks

347.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

347.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 WATCH STATIONS FROM THIS PQS:

344 Basic DDS Operator

Completed _____
(Qualifier and Date)

347.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated DDS Transfer Trunk Operator

		Questions
347.2.1	Demonstrate proper operations of all subsystems related to DDS Transfer Trunk operations.	A B C D E F G

_____
(Signature and Date)

347 DDS TRANSFER TRUNK OPERATOR (CONT'D)

		Questions
347.2.2	Watch Station Responsibilities	A B C D E F G
	_____ (Signature and Date)	
.3	Explain how ventilation and drainage affects are affected by conditions in the DDS spheres during lock-out.	A B C D E F G
	_____ (Signature and Date)	
.4	Demonstrate proper communication procedures.	A B C D E F G
	_____ (Signature and Date)	
.5	Operate atmospheric air monitoring instruments	A B C D E F G
	_____ (Signature and Date)	
.6	DDS Ventilation Requirements and Procedures	A B C D E F G
	_____ (Signature and Date)	

Completed .2 area comprises 33% of watchstation

347.3 INFREQUENT TASKS – None to be discussed

347.4 ABNORMAL TASKS – None to be discussed

347.5 EMERGENCIES

For each emergency listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

347 DDS HYPERBARIC TRANSFER TRUNK OPERATOR (CONT'D)

Questions

347.5.1 Air Casualty — A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization — A B C D E F G H

_____
(Signature and Date)

.3 Loss of Communications — A B C D E F G H

_____
(Signature and Date)

.4 Loss of Pressure — A B C D E F G H

_____
(Signature and Date)

.5 Electrical Short Circuit / Loss Of Electrical Power — A B C D E F G H

_____
(Signature and Date)

.6 Oxygen Leak — A B C D E F G H

_____
(Signature and Date)

.7 Fire Casualty — A B C D E F G H

_____
(Signature and Date)

.8 Hangar Emergency Bailout — A B C D E F G H

_____
(Signature and Date)

.9 Nitrogen System Leak — A B C D E F G H

_____
(Signature and Date)

347 DDS HYPERBARIC TRANSFER TRUNK OPERATOR (CONT'D)

Questions

347.5.10 Injured Diver in the Hangar A B C D E F G H

_____
(Signature and Date)

.11 Emergency Watertight Door Operating Procedures A B C D E F G H

_____
(Signature and Date)

.12 Emergency Surfacing A B C D E F G H

_____
(Signature and Date)

.13 Operating Transfer Trunk Emergency Vent and Drain A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 33% of watchstation

347.6 WATCHES

347.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS Transfer Trunk Operator (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 33% of watchstation

347 DDS HYPERBARIC TRANSFER TRUNK OPERATOR (CONT'D)

347.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

347.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

348 DDS HANGAR DECK CREWMAN

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DRY DECK SHELTER HANGER DECK CREWMAN (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

348 DDS HANGAR DECK CREWMAN

Estimated completion time: 2 weeks

348.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

348.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 WATCH STATIONS FROM THIS PQS:

344 Basic DDS Operator

Completed _____
(Qualifier and Date

348.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a designated DDS Hanger Deck Crewman

		Questions
348.2.1	DDS portable track.	A B C D E F G

_____
(Signature and Date)

348 DDS HANGAR DECK CREWMAN (CONT'D)

		Questions
348.2.2	SDV cradle in all configurations.	A B C D E F G
	_____ (Signature and Date)	
.3	Demonstrate proficiency with the winches and associated hardware.	A B C D E F G
	_____ (Signature and Date)	
.4	Set up air systems downstream of SHA-30 for wet operations	A B C D E F G
	_____ (Signature and Date)	
.5	Trace air system downstream of SHA-30 from memory	A B C D E F G
	_____ (Signature and Date)	
.6	Indicate from memory the location of all emergency air Scuba Flasks	A B C D E F G
	_____ (Signature and Date)	
.7	Demonstrate proficiency with SDV handling tackle	A B C D E F G
	_____ (Signature and Date)	
.8	Rig the DS3 buoy	A B C D E F G
	_____ (Signature and Date)	
.9	SDV Launch Procedures (Launch and Recovery)	A B C D E F G
	_____ (Signature and Date)	
.10	Demonstrate proficiency with all Standard Operating Procedures Hand Signals and Light Signals	A B C D E F G
	_____ (Signature and Date)	

348 DDS HANGAR DECK CREWMAN (CONT'D)

Questions

348.2.11 Demonstrate proficiency with rigging cradle for MSLO / MSLI operations. A B C D E F G

_____
(Signature and Date)

.12 Mask swimmer lock in/out A B C D E F G

_____
(Signature and Date)

Completed .2 area comprises 33% of watchstation

348.3 INFREQUENT TASKS – None to be discussed

348.4 ABNORMAL TASKS – None to be discussed

348.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

348.5.1 Air Casualty A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization A B C D E F G H

_____
(Signature and Date)

.3 Loss of Communications A B C D E F G H

_____
(Signature and Date)

348 DDS HANGAR DECK CREWMAN (CONT'D)

		Questions
348.5.4	Loss of Pressure	A B C D E F G H
	_____ (Signature and Date)	
.5	Loss of Hover Control	A B C D E F G H
	_____ (Signature and Date)	
.6	Oxygen Leak	A B C D E F G H
	_____ (Signature and Date)	
7	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	
.8	Hangar Emergency Bailout	A B C D E F G H
	_____ (Signature and Date)	
.9	Nitrogen System Leak	A B C D E F G H
	_____ (Signature and Date)	
.10	Unconscious Trunk Operators	A B C D E F G H
	_____ (Signature and Date)	
.11	Emergency Watertight Door Operating Procedures	A B C D E F G H
	_____ (Signature and Date)	
.12	Emergency Surfacing	A B C D E F G H
	_____ (Signature and Date)	

348 DDS HANGAR DECK CREWMAN (CONT'D)

		Questions
.13	Diver Casualty Procedures	A B C D E F G H

_____
(Signature and Date)

.14	Electric Winch Will Not Stop	A B C D E F G H

_____
(Signature and Date)

.15	SDV Battery Accident	A B C D E F G H

_____
(Signature and Date)

.16	Hydraulic System Failure	A B C D E F G H

_____
(Signature and Date)

.17	Jettison Portable Track	A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 33% of watchstation

348.6 WATCHES

348.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS Hanger Deck Crewman during SDV Launch/Recovery Operation (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

348 DDS HANGAR DECK CREWMAN (CONT'D)

348.6.1 DDS Hanger Deck Crewman MSLO / MSLI Operation (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 33% of watchstation

348.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

348.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

349 DDS DECK CAPTAIN

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DRY DECK SHELTER DECK CAPTAIN (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

349 DDS DECK CAPTAIN

Estimated completion time: 2 weeks

349.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

349.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 WATCH STATIONS FROM THIS PQS:

344 Basic DDS Operator

Completed _____
(Qualifier and Date)

.3 348 DDS Hangar Deck Crewman

Completed _____
(Qualifier and Date)

349.2 TASKS – None to be discussed

349.3 INFREQUENT TASKS – None to be discussed

349.4 ABNORMAL TASKS – None to be discussed

349 DDS DECK CAPTAIN (CONT'D)

349.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
349.5.1	SSN Broach	A B C D E F G H
	_____ (Signature and Date)	
.2	Hangar Emergency Bailout	A B C D E F G H
	_____ (Signature and Date)	
.3	Jettison Portable Track	A B C D E F G H
	_____ (Signature and Date)	
.4	SDV Fulton Recovery	A B C D E F G H
	_____ (Signature and Date)	
.5	SDV Battery Accident	A B C D E F G H
	_____ (Signature and Date)	
.6	Emergency Surfacing	A B C D E F G H
	_____ (Signature and Date)	

349 DDS DECK CAPTAIN (CONT'D)

Questions

349.5.7 Diver Casualty Procedures A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 50% of watchstation

349.6 WATCHES

349.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS Deck Captain SDV Launch/Recovery Operation (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

DDS Deck Captain MSLO / MSLI Operation (2 times)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 50% of watchstation

349.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

349.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an oral examination board

_____
(Signature and Date)

350 DDS HANGAR OPERATOR

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DRY DECK SHELTER HANGAR OPERATOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

350 DDS HANGAR OPERATOR

Estimated completion time: 2 weeks

350.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

350.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

Completed _____
(Qualifier and Date)

.2 WATCH STATIONS FROM THIS PQS:

344 Basic DDS Operator

Completed _____
(Qualifier and Date)

350.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a DDS Diving Supervisor.

		Questions
350.2.1	Demonstrate proper operations of all subsystems related to hangar operations	A B C D E F G

_____
(Signature and Date)

.2	Discuss Dry Operations	A B C D E F G

_____
(Signature and Date)

350 DDS HANGAR OPERATOR (CONT'D)

		Questions
350.2.3	Explain how ventilation and drainage affects or is affected by conditions in the DDS spheres during lock-out.	A B C D E F G
	_____ (Signature and Date)	
.4	Demonstrate proper communication procedures.	A B C D E F G
	_____ (Signature and Date)	
.5	Operate atmospheric air monitoring instruments	A B C D E F G
	_____ (Signature and Date)	
.6	DDS Ventilation Requirements and Procedures	A B C D E F G
	_____ (Signature and Date)	
.7	Discuss Scuba Charging Operations	A B C D E F G
	_____ (Signature and Date)	
.8	Perform Hanger Flood Up and Drain Down	A B C D E F G
	_____ (Signature and Date)	
.9	SDV Launch Procedures (Launch and Recovery)	A B C D E F G
	_____ (Signature and Date)	
.10	Transfer Trunk Procedures	A B C D E F G
	_____ (Signature and Date)	
.11	Transfer Trunk (Drain Down)	A B C D E F G
	_____ (Signature and Date)	

Completed .2 area comprises 33% of watchstation

350 DDS HANGAR OPERATOR (CONT'D)

350.3 INFREQUENT TASKS – None to be discussed

350.4 ABNORMAL TASKS – None to be discussed

350.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
350.5.1	Air Casualty	A B C D E F G H
	_____ (Signature and Date)	
.2	Over Pressurization	A B C D E F G H
	_____ (Signature and Date)	
.3	Loss of Communications	A B C D E F G H
	_____ (Signature and Date)	
.4	Loss of Pressure	A B C D E F G H
	_____ (Signature and Date)	
.5	Electrical Short Circuit / Loss Of Electrical Power	A B C D E F G H
	_____ (Signature and Date)	

350 DDS HANGAR OPERATOR (CONT'D)

		Questions
350.5.6	Oxygen Leak	A B C D E F G H
	_____ (Signature and Date)	
.7	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	
.8	Hangar Emergency Bailout / Loss of Hover Control	A B C D E F G H
	_____ (Signature and Date)	
.9	Nitrogen System Leak	A B C D E F G H
	_____ (Signature and Date)	
.10	Unconscious Trunk Operators	A B C D E F G H
	_____ (Signature and Date)	
.11	Emergency Watertight Operating Procedures	A B C D E F G H
	_____ (Signature and Date)	
.12	Emergency Surfacing	A B C D E F G H
	_____ (Signature and Date)	
.13	Diver Casualty Procedures	A B C D E F G H
	_____ (Signature and Date)	
.14	Electric Winch Will Not Stop	A B C D E F G H
	_____ (Signature and Date)	

350 DDS HANGAR OPERATOR (CONT'D)

Questions

350.5.15 SDV Battery Accident A B C D E F G H

_____
(Signature and Date)

.16 Hydraulic System Failure A B C D E F G H

_____
(Signature and Date)

.17 Jettison Portable Track A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 33% of watchstation

350.6 WATCHES

350.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS Hanger Operator (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 33% of watchstation

350.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

350.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an Oral Examination Board from a DDS Diving Supervisor

_____
(Signature and Date)

351 DDS HANGAR SUPERVISOR

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DRY DECK SHELTER HANGAR SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

351 DDS HANGAR SUPERVISOR

Estimated completion time: 2 weeks

351.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

351.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

COMPLETED _____
(QUALIFIER AND DATE)

.2 PQS QUALIFICATIONS:

WATCHSTATIONS FROM THIS PQS:

306 Scuba Diving Supervisor

Completed _____
(Qualifier and Date)

344 Basic DDS Operator

Completed _____
(Qualifier and Date)

349 DDS Hanger Deck Captain

Completed _____
(Qualifier and Date)

350 DDS Hanger Operator

Completed _____
(Qualifier and Date)

351.2 TASKS – None to be discussed

351.3 INFREQUENT TASKS – None to be discussed

351.4 ABNORMAL TASKS – None to be discussed

351 DDS HANGAR SUPERVISOR (CONT'D)

351.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
351.5.1	Air Casualty	A B C D E F G H
	_____ (Signature and Date)	
.2	Over Pressurization	A B C D E F G H
	_____ (Signature and Date)	
.3	Loss of Communications	A B C D E F G H
	_____ (Signature and Date)	
.4	Loss of Pressure	A B C D E F G H
	_____ (Signature and Date)	
.5	Electrical Short Circuit / Loss Of Electrical Power	A B C D E F G H
	_____ (Signature and Date)	
.6	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	

351 DDS HANGAR SUPERVISOR (CONT'D)

Questions

351.5.7 Hangar Emergency Bailout / Loss of Hover Control A B C D E F G H

_____
(Signature and Date)

.8 Emergency Watertight DoorsOperating Procedures A B C D E F G H

_____
(Signature and Date)

.9 Emergency Surfacing A B C D E F G H

_____
(Signature and Date)

.10 Diver Casualty Procedures A B C D E F G H

_____
(Signature and Date)

.11 Electric Winch Will Not Stop A B C D E F G H

_____
(Signature and Date)

.12 SDV Battery Accident A B C D E F G H

_____
(Signature and Date)

.13 Hydraulic System Failure A B C D E F G H

_____
(Signature and Date)

.14 Jettison Portable Track A B C D E F G H

_____
(Signature and Date)

.15 SDV Fulton Recovery A B C D E F G H

_____
(Signature and Date)

Completed .5 area comprises 50% of watchstation

351 DDS HANGAR SUPERVISOR (CONT'D)

351.6 WATCHES

351.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS Hangar Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 50% of watchstation

351.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

351.7.1 EXAMINATIONS — Pass a written examination from a DDS Diving Supervisor

_____
(Signature and Date)

.2 EXAMINATIONS — Pass an Oral Examination Board From a DDS Diving Supervisor

_____
(Signature and Date)

352 DDS DIVING SUPERVISOR

NAME_____RATE/RANK_____

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A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DRY DECK SHELTER DIVING SUPERVISOR (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Supervisor

RECOMMENDED_____ DATE_____
DDS Diving Officer / Master Diver

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

352 DDS DIVING SUPERVISOR

Estimated completion time: 18 months

352.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

352.1. SCHOOLS:

Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X) or Qualified Navy Diver (7201, 849X or 534X).

COMPLETED _____
(QUALIFIER AND DATE)

Local JQR for host ship DDS Air Station Operator (Platform Specific)

COMPLETED _____
(QUALIFIER AND DATE)

.2 PQS QUALIFICATIONS:

NAVEDTRA 43523-B Watchstation 305 Qualified Quality Assurance Inspector

COMPLETED _____
(QUALIFIER AND DATE)

.3 WATCHSTATIONS FROM THIS PQS:

305 Chamber Supervisor

COMPLETED _____
(QUALIFIER AND DATE)

306 Scuba Diving Supervisor

Completed _____
(Qualifier and Date)

344 Basic DDS Operator

Completed _____
(Qualifier and Date)

345 DDS Tender

Completed _____
(Qualifier and Date)

346 DDS Hyperbaric Chamber Operator

Completed _____
(Qualifier and Date)

347 DDS Transfer Trunk operator

Completed _____
(Qualifier and Date)

350 DDS Hangar Operator

Completed _____
(Qualifier and Date)

352.1.5 SYSTEMS FROM THIS PQS:

223 Navy Dive Planner

Completed _____ 3% of watchstation
(Qualifier and Date)

352.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure and its interface with the host ship?
B. What are the reasons for each step and functions of this DDS Standard Operating Procedures?
C. Trace this DDS system from its origination in the host ship to termination in the shelter.
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task under supervision of a DDS Diving Supervisor.

		Questions
352.2.1	SDV Handling System	A B C D E F G

_____
(Signature and Date)

352 DDS DIVING SUPERVISOR (CONT)

		Questions
352.2.2	Hydraulic System	A B C D E F G
	_____ (Signature and Date)	
.3	Vent System	A B C D E F G
	_____ (Signature and Date)	
.4	Drain System	A B C D E F G
	_____ (Signature and Date)	
.5	Flood System	A B C D E F G
	_____ (Signature and Date)	
.6	Electrical System	A B C D E F G
	_____ (Signature and Date)	
.7	Communication System	A B C D E F G
	_____ (Signature and Date)	
.8	Air System	A B C D E F G
	_____ (Signature and Date)	
.9	Oxygen System	A B C D E F G
	_____ (Signature and Date)	
.10	Full Mission Profile	A B C D E F G
	_____ (Signature and Date)	

352 DDS DIVING SUPERVISOR (CONT)

		Questions
352.2.11	Chain of Command	A B C D E F G
	_____ (Signature and Date)	
.12	Watchstation Responsibilities	A B C D E F G
	_____ (Signature and Date)	
.13	Shore Based	A B C D E F G
	_____ (Signature and Date)	
.14	Storage Blocking Requirements	A B C D E F G
	_____ (Signature and Date)	
.15	Maintenance	A B C D E F G
	_____ (Signature and Date)	
.16	System Certification	A B C D E F G
	_____ (Signature and Date)	
.17	DDS Testing Procedures	A B C D E F G
	_____ (Signature and Date)	
.18	DDS Installation, Testing and Removal to-from host	A B C D E F G
	_____ (Signature and Date)	
.19	Assembly and disassembly of shore based training	A B C D E F G
	_____ (Signature and Date)	

352 DDS DIVING SUPERVISOR (CONT)

		Questions
352.2.20	DDS Installation and Testing	A B C D E F G
	_____ (Signature and Date)	
.21	Loading – Unloading DDS Transporter with DDS	A B C D E F G
	_____ (Signature and Date)	
.22	DDS Pre-Dive Operations	A B C D E F G
	_____ (Signature and Date)	
.23	Scuba Charging Operations	A B C D E F G
	_____ (Signature and Date)	
.24	Prep for Wet Operations	A B C D E F G
	_____ (Signature and Date)	
.25	Hanger Flood Up	A B C D E F G
	_____ (Signature and Date)	
.26	SDV Launch Procedures	A B C D E F G
	_____ (Signature and Date)	
.27	Transfer Trunk Flood-up	A B C D E F G
	_____ (Signature and Date)	
.28	Transfer Trunk Drain Down	A B C D E F G
	_____ (Signature and Date)	

352 DDS DIVING SUPERVISOR (CONT)

		Questions
352.2.30	Hyperbaric Chamber Operations	A B C D E F G
	_____ (Signature and Date)	
.31	SDV Recovery	A B C D E F G
	_____ (Signature and Date)	
.32	Hanger Drain Down	A B C D E F G
	_____ (Signature and Date)	
.33	Air Stations Operations	A B C D E F G
	_____ (Signature and Date)	
.34	Oxygen Charging and Off Loading	A B C D E F G
	_____ (Signature and Date)	
.35	Power Panel System Charging Procedures	A B C D E F G
	_____ (Signature and Date)	
.36	Hydraulic System Charging and Operating Procedures	A B C D E F G
	_____ (Signature and Date)	
.37	Hanger Outer Door Dogging Procedures	A B C D E F G
	_____ (Signature and Date)	
.38	DDS Powered Door System Operating Procedures	A B C D E F G
	_____ (Signature and Date)	

352 DDS DIVING SUPERVISOR (CONT)

		Questions
352.2.39	DDS Air Management, Diver's Air Monitoring and Sampling Procedures	A B C D E F G
	_____ (Signature and Date)	
.40	DS-3 Buoy Operational Procedures	A B C D E F G
	_____ (Signature and Date)	
.41	DDS Ventilation Requirements	A B C D E F G
	_____ (Signature and Date)	
.42	DDS Mobility (Road, Rail, Air)	A B C D E F G
	_____ (Signature and Date)	
.43	DDS / SDV Battery Handling Procedures	A B C D E F G
	_____ (Signature and Date)	
.44	SDV Battery Charging Procedures	A B C D E F G
	_____ (Signature and Date)	
.45	Leak Testing of Oxygen Portable Piping and Charging oxygen flask from host ship.	A B C D E F G
	_____ (Signature and Date)	
.46	DDS Transporter Operations (Pre Underway Check List)	A B C D E F G
	_____ (Signature and Date)	
.47	Interim Air Purity Guidelines for DDS Operations	A B C D E F G
	_____ (Signature and Date)	

Questions

352.2.48 Power Panel Nitrogen System Flask Charging Procedures A B C D E F G

_____
(Signature and Date)

Completed .2 area comprises 31% of watchstation

352.3 INFREQUENT TASKS – None to be discussed

352.4 ABNORMAL TASKS – None to be discussed

352.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

Questions

352.5.1 Air Casualty A B C D E F G H

_____
(Signature and Date)

.2 Over Pressurization A B C D E F G H

_____
(Signature and Date)

.3 Loss of Communications A B C D E F G H

_____
(Signature and Date)

.4 Loss of Pressure A B C D E F G H

_____
(Signature and Date)

352 DDS DIVING SUPERVISOR (CONT)

		Questions
352.5.5	Electrical Short Circuit / Loss Of Electrical Power	A B C D E F G H
	_____ (Signature and Date)	
.6	Oxygen Leak	A B C D E F G H
	_____ (Signature and Date)	
.7	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	
.8	SDV Battery Accident	A B C D E F G H
	_____ (Signature and Date)	
.9	Hangar Emergency Bailout/ Loss of Hover Control	A B C D E F G H
	_____ (Signature and Date)	
.10	Emergency Watertight Door Operating Procedures	A B C D E F G H
	_____ (Signature and Date)	
.11	Emergency Surfacing	A B C D E F G H
	_____ (Signature and Date)	
.12	Diver Casualty Procedures	A B C D E F G H
	_____ (Signature and Date)	
.13	Electric Winch Failure	A B C D E F G H
	_____ (Signature and Date)	

352 DDS DIVING SUPERVISOR (CONT)

		Questions
352.5.14	Hydraulic System Failure	A B C D E F G H
	_____ (Signature and Date)	
.15	Jettison Portable Track	A B C D E F G H
	_____ (Signature and Date)	
.16	Nitrogen System Leak	A B C D E F G H
	_____ (Signature and Date)	
.17	Unconscious Trunk Operator	A B C D E F G H
	_____ (Signature and Date)	
.18	Operating Transfer Trunk Emergency Vent and Drain	A B C D E F G H
	_____ (Signature and Date)	
.19	Injured Diver in the Hangar	A B C D E F G H
	_____ (Signature and Date)	
.20	Demonstrate a through knowledge of the following Diving Medical Emergencies: Decompression Sickness Pulmonary Over Inflation Syndrome Barotruama Gas Toxicity (CO2, CO, O2)	A B C D E F G H
	_____ (Signature and Date)	
	Completed .5 area comprises 33% of watchstation	

352 DDS DIVING SUPERVISOR (CONT)

352.6 WATCHES

352.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS Diving Supervisor (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

Completed .6 area comprises 33% of watchstation

352.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

352.7.1 EXAMINATIONS — Pass a written examination from a DDS Diving Officer.

_____
(DDS Diving Officer Signature and Date)

.2 EXAMINATIONS — Pass an Oral Examination Board with DDS Officer and DDS Diving supervisor.

_____
(Signature and Date)

353 DDS DIVING OFFICER

NAME_____RATE/RANK_____

This page is to be used as a record of satisfactory completion of designated sections of the Personnel Qualification Standard (PQS). Only specified supervisors may signify completion of applicable sections either by written or oral examination, or by observation of performance. The examination or checkout need not cover every item; however, a sufficient number should be covered to demonstrate the examinee's knowledge. Should supervisors *give away* their signatures, unnecessary difficulties can be expected in future routine operations.

A copy of this completed page shall be kept in the individual's training jacket.

The trainee has completed all PQS requirements for this watchstation. Recommend designation as a qualified DRY DECK SHELTER DIVING OFFICER (NAVEDTRA 43910-B).

RECOMMENDED_____ DATE_____
DDS Diving Officer

RECOMMENDED_____ DATE_____
Department Head

QUALIFIED_____ DATE_____
Commanding Officer or Designated Representative

SERVICE RECORD ENTRY_____ DATE_____

353 DDS DIVING OFFICER

Estimated completion time: 10 weeks

353.1 PREREQUISITES

FOR OPTIMUM TRAINING EFFECTIVENESS, THE FOLLOWING ITEMS SHOULD BE COMPLETED PRIOR TO STARTING YOUR ASSIGNED TASKS BUT SHALL BE COMPLETED PRIOR TO FINAL WATCHSTATION QUALIFICATION.

353.1.1 Qualified Naval Special Warfare Operator (113X, 715X, 532X, or 849X), Diving CWO (720X), Master Diver (5341).

Completed _____
(Qualifier and Date)

.2 WATCHSTATIONS FROM THIS PQS:

352 DDS DIVING SUPERVISOR

Completed _____
(Qualifier and Date)

353.2 TASKS

For the tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions must be observed?
F. What parameters/operating limits must be monitored?
G. Satisfactorily perform this task.

		Questions
353.2.1	Full Mission Profile	A B C D E F G

_____
(Signature and Date)

.2	Chain of Command	A B C D E F G

_____
(Signature and Date)

353 DDS DIVING OFFICER (CONT)

		Questions
353.2.3	Watch Station Responsibilities	A B C D E F G
	_____ (Signature and Date)	
.4	Shore Base Training	A B C D E F G
	_____ (Signature and Date)	
.5	DDS Storage Block Requirements	A B C D E F G
	_____ (Signature and Date)	
.6	Maintenance	A B C D E F G
	_____ (Signature and Date)	
.7	System Certification	A B C D E F G
	_____ (Signature and Date)	
.8	DDS Testing Procedures	A B C D E F G
	_____ (Signature and Date)	
.9	Host Ship's Valve Line Up for DDS Operations	A B C D E F G
	_____ (Signature and Date)	
.10	DDS PMS / Maintenance Tag Out Procedures	A B C D E F G
	_____ (Signature and Date)	
.11	DDS Pre-Dive Operations	A B C D E F G
	_____ (Signature and Date)	

353 DDS DIVING OFFICER (CONT)

		Questions
353.2.12	Scuba Charging Procedures in DDS	A B C D E F G
	_____ (Signature and Date)	
.13	Prep for Wet Operations	A B C D E F G
	_____ (Signature and Date)	
.14	Hangar Flood Up	A B C D E F G
	_____ (Signature and Date)	
.15	SDV Launch Procedures	A B C D E F G
	_____ (Signature and Date)	
.16	Transfer Trunk Flood Up	A B C D E F G
	_____ (Signature and Date)	
.17	Transfer Trunk Drain Down	A B C D E F G
	_____ (Signature and Date)	
.18	Hyperbaric Chamber Operations	A B C D E F G
	_____ (Signature and Date)	
.19	SDV Recovery	A B C D E F G
	_____ (Signature and Date)	
.20	Hangar Drain Down	A B C D E F G
	_____ (Signature and Date)	

353 DDS DIVING OFFICER (CONT)

		Questions
353.2.21	DDS Dry Deck Launch Operations	A B C D E F G
	_____ (Signature and Date)	
.22	DDS Pre-Underway Check-off List	A B C D E F G
	_____ (Signature and Date)	
.23	Rig for Dive	A B C D E F G
	_____ (Signature and Date)	
.24	Rig for Shutdown	A B C D E F G
	_____ (Signature and Date)	
.25	Air Station Operations	A B C D E F G
	_____ (Signature and Date)	
.26	Hydraulic System Charging and Operating Procedures	A B C D E F G
	_____ (Signature and Date)	
.27	Hangar Outer Door Dogging Procedures	A B C D E F G
	_____ (Signature and Date)	
.28	SDV Battery Charging Procedures	A B C D E F G
	_____ (Signature and Date)	
.29	SDV Battery Handling Procedures	A B C D E F G
	_____ (Signature and Date)	

353 DDS DIVING OFFICER (CONT)

		Questions
353.2.30	DDS Air System Management, Testing, and Charging	A B C D E F G

_____
(Signature and Date)

.31	Air Purity Guidelines for DDS Operations	A B C D E F G

_____
(Signature and Date)

.32	DDS Ventilation Requirements and Procedures	A B C D E F G

_____
(Signature and Date)

.33	Demonstrate a thorough knowledge of the limitations of authority in regards to the host ships valve line up for diving.	A B C D E F G

_____
(Signature and Date)

.34	What are the limitations of authority to DDS PMS/Maintenance Tag Out Procedures.	A B C D E F G

_____
(Signature and Date)

Completed .2 area comprises 20% of watchstation

353.3 INFREQUENT TASKS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions a must be observed?
F. What parameters must be monitored?
G. What conditions require this infrequent task?
H. Satisfactorily perform or simulate this infrequent task.

		Questions
353.3.1	Re-entry Control Procedures	A B C D E F G H

_____
(Signature and Date)

353 DDS DIVING OFFICER (CONT)

		Questions
353.3.2	Scope of Certification	A B C D E F G H
	_____ (Signature and Date)	
.3	Formal and Controlled Work Packages	A B C D E F G H
	_____ (Signature and Date)	
.4	Certification Authority	A B C D E F G H
	_____ (Signature and Date)	
.5	Exception from Re-entry Control	A B C D E F G H
	_____ (Signature and Date)	
.6	Diver System Cleanliness	A B C D E F G H
	_____ (Signature and Date)	
.7	QAI / CMPO / Craftsman Responsibilities	A B C D E F G H
	_____ (Signature and Date)	
.8	DDS Installation and Testing on host ship	A B C D E F G H
	_____ (Signature and Date)	
.9	DDS Deep Dive Testing	A B C D E F G H
	_____ (Signature and Date)	
.10	DDS Removal	A B C D E F G H
	_____ (Signature and Date)	
.11	MSLO / MSLI Operations	A B C D E F G H
	_____ (Signature and Date)	

353 DDS DIVING OFFICER (CONT)

		Questions
353.3.12	Oxygen System Charging and Off Loading	A B C D E F G H

_____
(Signature and Date)

.13	Power Panel Nitrogen System Flask Charging Procedures	A B C D E F G H

_____
(Signature and Date)

.14	DDS Lifting Rig Assembly and Torque Patterns	A B C D E F G H

_____
(Signature and Date)

.15	Pre-Shipment Check Off List	A B C D E F G H

_____
(Signature and Date)

Completed .3 area comprises 20% of watchstation

353.4 ABNORMAL CONDITIONS

For the infrequent tasks listed below:

A. What are the steps of this procedure?
B. What are the reasons for each step?
C. What control/coordination is required?
D. What means of communications are used?
E. What safety precautions a must be observed?
F. What parameters must be monitored?
G. What conditions require this infrequent task?

		Questions
353.4.1	Departure from Specification	A B C D E F G

_____
(Signature and Date)

Completed .4 area comprises 20% of watchstation

353 DDS DIVING OFFICER (CONT)

353.5 EMERGENCIES

For the emergencies listed below:

A. What indications and alarms are received?
B. What immediate action is required?
C. What are the probable causes?
D. What operating limitations are imposed?
E. What other emergencies or malfunctions may occur if immediate action is not taken?
F. How does this emergency affect other operations/equipment/watchstations?
G. What follow-up action is required?
H. Satisfactorily perform or simulate the immediate action for this emergency.

		Questions
353.5.1	Air Casualty	A B C D E F G H
	_____ (Signature and Date)	
.2	Over Pressurization	A B C D E F G H
	_____ (Signature and Date)	
.3	Loss of Communications	A B C D E F G H
	_____ (Signature and Date)	
.4	Loss of Pressure	A B C D E F G H
	_____ (Signature and Date)	
.5	Electrical Short Circuit / Loss Of Electrical Power	A B C D E F G H
	_____ (Signature and Date)	
.6	Oxygen Leak	A B C D E F G H
	_____ (Signature and Date)	

353 DDS DIVING OFFICER (CONT)

		Questions
353.5.7	Fire Casualty	A B C D E F G H
	_____ (Signature and Date)	
.8	SDV Battery Accident	A B C D E F G H
	_____ (Signature and Date)	
.9	Hangar Emergency Bailout/ Loss of Hover Control	A B C D E F G H
	_____ (Signature and Date)	
.10	Emergency Watertight Door Operating Procedures	A B C D E F G H
	_____ (Signature and Date)	
.11	Emergency Surfacing	A B C D E F G H
	_____ (Signature and Date)	
.12	Diver Casualty Procedures	A B C D E F G H
	_____ (Signature and Date)	
.13	Electric Winch Failure	A B C D E F G H
	_____ (Signature and Date)	
.14	Hydraulic System Failure	A B C D E F G H
	_____ (Signature and Date)	
.15	Jettison Portable Track	A B C D E F G H
	_____ (Signature and Date)	

Questions

353.5.16 Nitrogen System Leak — A B C D E F G H

_____
(Signature and Date)

.17 Unconscious Trunk Operator — A B C D E F G H

_____
(Signature and Date)

.18 Operating Transfer Trunk Emergency Vent and Drain — A B C D E F G H

_____
(Signature and Date)

.19 Injured Diver in the Hangar — A B C D E F G H

_____
(Signature and Date)

.20 Demonstrate a through knowledge of the following Diving Medical Emergencies: — A B C D E F G H
Decompression Sickness
Pulmonary Over Inflation Syndrome
Barotruama
Gas Toxicity (CO2, CO, O2)

_____
(Signature and Date)

Completed .5 area comprises 20% of watchstation

353.6 WATCHES

353.6.1 STAND THE FOLLOWING WATCHES UNDER INSTRUCTION:

DDS Diving Officer (3 times)

_____
(Signature and Date)

_____
(Signature and Date)

_____
(Signature and Date)

353 DDS DIVING OFFICER (CONT)

Completed .6 area comprises 20% of watchstation

353.7 EXAMINATIONS (OPTIONAL EXCEPT AS REQUIRED BY TYCOM/ISIC, ETC.)

353.7.1 EXAMINATIONS Pass a written examination

_____
(Signature and Date)

.2 EXAMINATIONS Pass an Oral Examination Board

_____
(Signature and Date)

QUALIFICATION PROGRESS SUMMARY FOR DIVING SALVAGE WARFARE SPECIALIST (DSWS)

NAME_____RATE/RANK_____

This qualification progress summary is used to track the progress of a trainee in the watchstations for this PQS and ensure awareness of remaining tasks. It should be kept by the individual or in the individual's training jacket and updated with an appropriate signature (Training Petty Officer, Division Officer, Senior Watch Officer, etc.) as watchstations are completed.

---

301 DIVING SALVAGE WARFARE SPECIALIST (DSWS)

Completed _____ Date_____
(Signature)

---

302 DIVER'S LIFE SUPPORT SYSTEM (DLSS) OPERATOR

Completed _____ Date_____
(Signature)

---

303 CHAMBER OPERATOR

Completed _____ Date_____
(Signature)

---

304 INSIDE TENDER

Completed _____ Date_____
(Signature)

QUALIFICATION PROGRESS SUMMARY FOR DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

305 CHAMBER SUPERVISOR

Completed _____ Date_____
(Signature)

306 SCUBA DIVING SUPERVISOR

Completed _____ Date_____
(Signature)

307 AIR DIVING SUPERVISOR

Completed _____ Date_____
(Signature)

308 DIVER'S LIFE SUPPORT SYSTEM (DLSS) MAINTENANCE TECHNICIAN

Completed _____ Date_____
(Signature)

309 MIXED GAS DIVING SUPERVISOR

Completed _____ Date_____
(Signature)

310 MK 16 MAINTENANCE TECHNICIAN

Completed _____ Date_____
(Signature)

QUALIFICATION PROGRESS SUMMARY FOR DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

311 MK 16 DIVING SUPERVISOR

Completed _____ Date_____
(Signature)

312 MK 25 CLOSED CIRCUIT TECHNICIAN

Completed _____ Date_____
(Signature)

313 MK 25 DIVING SUPERVISOR

Completed _____ Date_____
(Signature)

314 REENTRY CONTROL SUPERVISOR

Completed _____ Date_____
(Signature)

315 RIGGER

Completed _____ Date_____
(Signature)

316 SALVAGE MACHINERY OPERATOR

Completed _____ Date_____
(Signature)

QUALIFICATION PROGRESS SUMMARY FOR DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

317 UNDERWATER CUTTER AND WELDER

Completed _____ Date_____
(Signature)

318 UNDERWATER SALVOR

Completed _____ Date_____
(Signature)

319 SALVAGE SUPERVISOR

Completed _____ Date_____
(Signature)

320 SALVAGE SAFETY OBSERVER

Completed _____ Date_____
(Signature)

321 UNDERWATER SHIP'S HUSBANDRY SPECIALIST

Completed _____ Date_____
(Signature)

322 DIVE STATION DIVING OFFICER

Completed _____ Date_____
(Signature)

323 ONBOARD DIVER SAFETY CHECK OFF TECHNICIAN

Completed _____ Date_____
(Signature)

QUALIFICATION PROGRESS SUMMARY FOR DIVING SALVAGE WARFARE SPECIALIST (DSWS) (CONT'D)

324 SUBMARINE RESCUE AIR SYSTEMS TECHNICIAN

Completed _____ Date_____
(Signature)

325 SUBMARINE RESCUE CHAMBER OPERATOR

Completed _____ Date_____
(Signature)

326 SUBMARINE RESCUE CHAMBER SUPERVISOR

Completed _____ Date_____
(Signature)

327 EXPEDITIONARY OPERATOR

Completed _____ Date_____
(Signature)

328 DIVER PROPULSION DEVICE (DPD) PILOT

Completed _____ Date_____
(Signature)

329 USMC COMBAT DIVE SUPERVISOR COURSE INSTRUCTOR

Completed _____ Date_____
(Signature)

330 BASIC LOCK OUT TRUNK (LOT) OPERATOR

Completed _____ Date_____
(Signature)

331 LOT TENDER

Completed _____ Date_____
(Signature)

332 LOT DIVER

Completed _____ Date_____
(Signature)

333 LOT DRY-SIDE OPERATOR

Completed _____ Date_____
(Signature)

334 LOT WET-SIDE OPERATOR

Completed _____ Date_____
(Signature)

335 LOT DIVING SUPERVISOR

Completed _____ Date_____
(Signature)

336 LOT OFFICER

Completed _____ Date_____
(Signature)

337 BASIC LOCK OUT CHAMBER (LOC) OPERATOR

Completed _____ Date_____
(Signature)

338 LOC TENDER

Completed _____ Date_____
(Signature)

339 LOC DIVER

Completed _____ Date_____
(Signature)

340 LOC DRY-SIDE OPERATOR

Completed _____ Date_____
(Signature)

341 LOC WET-SIDE OPERATOR

Completed _____ Date_____
(Signature)

342 LOC DIVING SUPERVISOR

Completed _____ Date_____
(Signature)

343 LOC OFFICER

Completed _____ Date_____
(Signature)

344 DRY DECK SHELTER (DDS) BASIC OPERATOR

Completed _____ Date_____
(Signature)

345 DDS TENDER

Completed _____ Date_____
(Signature)

346 DDS HYPERBARIC CHAMBER OPERATOR

Completed _____ Date_____
(Signature)

347 DDS TRANSFER TRUNK OPERATOR

Completed _____ Date_____
(Signature)

348 DDS HANGAR DECK CREWMAN

Completed _____ Date_____
(Signature)

349 DDS DECK CAPTAIN

Completed _____ Date_____
(Signature)

350 DDS HANGAR OPERATOR

Completed _____ Date_____
(Signature)

351 DDS HANGAR SUPERVISOR

Completed _____ Date_____
(Signature)

352 DDS DIVING SUPERVISOR

Completed _____ Date_____
(Signature)

353 DDS DIVING OFFICER

Completed _____ Date_____
(Signature)

LIST OF REFERENCES USED IN THIS PQS

NOTE: Most diving references are available on the NAVSEA Technical Documentation Library CD NSN 0910-LP-100-6972 or at the Supervisor of Salvage and Diving website (http://www.supsalv.org/divingpubs.html)

1080#4 UM-01, Enlisted Distribution and Verification Report Users Manual
4th Marine Division http://www.mfr.usmc.mil/4thMARDIV/4thRecon/
774V6P3, “Chapter 4-7-4", S9SSN-ZQ-SSM-SPO/(U)
AN/BQC-1D Sonar Communications Set Maintenance Manual, SE340-AD-MMM-010/BQC-1D
ANALOX 1000 USN USER MANUAL
ANALOX CO2 USER MANUAL
Aqua Lung S.E.A. (Survival Egress Air) Users Manual, P/N 108349-Rev. 12/2000
Aqua Lung Technical Maintenance Manual S.E.A. MK2 (Survival Egress Air) Rev 2/2004
Bauer Instruction Manual
BUPERSINST 1430.16E, Advancement Manual
CINCLANTFLT/CINPACFLTINST 4790.3, Joint Fleet Maintenance Manual
Co Analyzer Operation Manual
COMDTINST M16672.2D, Navigational Rules International-Inland
Command Standard Organization and Regulations Manual (SORM)
Communications Security Material Guide, CMS-1A
COMNAVSURFLANT/COMNAVSURFPACINST 4400.1J, Surface Force Supply Procedures
Compressor Purification Manual
Construction Battalion Battle Skills Guide Book 1, P1160
Emergency Generator Manual
EODB 60A-1-1-22, General EOD Safety Precautions
EODB 60A-1-1-37, Underwater Ordnance (UWO), Operations and Procedures
EODB 60A-2-1-62 U.S. Sonar Set, Hand-Held, AN/PQS-2A
Flyaway Recompression Chamber (FARCC) PSOB
Harris Guide, 10415-0108-4100
Hazardous Material User’s Guide
HELLE Model 3220 Wire Diver Phone Operating Instructions/Instruction Manual
HPAC Technical Manual
I-MEF Order 4000.1(Series)
Local System Operating Procedures/Emergency Procedures (OP/EP)
Manufacturer’s Technical Manual
Manufacturer's Technical Manual for Diver Underwater Television System (DUCTS)
Marine Lifesaving & Diving Equipment Prime Vendor Program (http://www.dscp.dla.mil/gi/general/mardiv.htm)
Marine Corps Common Skills Handbook, Book 1B (PCN 50600000900)
MAR-VEL Model #PWH-100/3 Hot Water Heater
MCRP 3-37A, NBC Field Handbook (PCN 14400004300)
MK 11 MOD 0 USN O&M Technical Manual
MILPERSMAN 1220-100, The Diver/EOD/SEAL/UCT Program
MIL-STD-1330
MIL-STD-1622
NDSTC Trainee Guide for DPD (44.1 MK-25 MOD 2 Diving)
Naval Doctrine Publication 1, Naval Warfare

LIST OF REFERENCES (CONT'D)

Naval Doctrine Publication 4, Naval Logistics
Naval Doctrine Publication 5, Naval Planning
Naval Doctrine Publication 6, Naval Command and Control
NAVEDTRA 12100, Boatswain' s Mate
NAVEDTRA 14042, Boatswain Mate 3 & 2
NAVEDTRA 14067, Seaman
NAVEDTRA 14134, Legalman 3 & 2
NAVEDTRA 14144, Military Requirements for Chief Petty Officer
NAVEDTRA 14222, Information Systems Technician Training Series Module 01- Admin and Security
NAVEDTRA 14226, Information Systems Training Series Module 5-Comms Center Ops
NAVEDTRA 14295, Hospital Corpsman
NAVEDTRA 14234, Seabee Combat Handbook, Vol. 1
NAVEDTRA 14241, Storekeeper 1&C
NAVEDTRA 14242, Storekeeper 3&2
NAVEDTRA 14325, Basic Military Requirements
NAVEDTRA 14504, Military Requirements for PO3 & 2
NAVPERS 15560C, Naval Military Personnel Manual
NAVPERS 15909G, Enlisted Transfer Manual
NAVSEA 0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1 (Strandings)
NAVSEA 0910-LP-107-7600, Salvage Safety Manual
NAVSEA 0925-LP-000-1000, U.S. Navy Towing Manual
NAVSEA S9086-CH-STM-010/CH-074VIR5, Welding and Allied Processes
NAVSEA 0990-LP-000-3010, U.S. Navy Ship Salvage Manual, Vol. 21
NAVSEA 0994-LP-017-8010, U.S. Navy Salvor's Handbook
NAVSEA 389-0288, Radiological Controls
NAVSEA S9086-T9-STM-010/CH-594, Naval Ships' Technical Manual Chapter 594, Salvage—Submarine Safety Escape and Rescue Systems
NAVSEA Drawing 53711 639 4274 (sheet 2 of 5)
NAVSEA ltr 10560 Ser 00C/3112 of 15 May 97, Authorized for Navy Use List (http://www.supsalv.org/pdf/new_anu.pdf)
NAVSEA ltr 3151 Ser 00C/4225 of 23 Oct 1996, Standardized Diver Re-Entry Control (REC) Program
NAVSEA Process Instruction 00C4-PI-004, Compressor Capacity Test
NAVSEA S0300-A6-MAN-010, U.S. Navy Ship Salvage Manual, Vol. 1
NAVSEA S0300-A6-MAN-020, U.S. Navy Ship Salvage Manual, Vol. 2
NAVSEA S0300-A7-HBK-010, U.S. Navy Salvor's Handbook
NAVSEA S0300-BB-MAN-010, U.S. Navy Underwater Cutting and Welding Manual
NAVSEA S0300-BV-CAT-010, U.S. Navy Emergency Ship Salvage Material Catalog, Vol. 1
NAVSEA S0400-AD-URM-010/TUM, Tag-out Users Manual
NAVSEA S0600-AA-PRO-020/CH-2, Underwater Ship's Husbandry Manual, General Information and Safety Precautions
NAVSEA S0600-AA-PRO-030/CH-3, Propellers
NAVSEA S0600-AA-PRO-100/CH-10, Underwater Ships Husbandry Manual, Diver Tools
NAVSEA S0600-AA-PRO-120/CH-12, Controllable Pitch Propellers
NAVSEA S0600-AA-PRO-160/CH-16, Cofferdams

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NAVSEA S0600-AA-PRO-170/CH-17, Underwater Ship Husbandry Manual Inspection Procedures
NAVSEA S6269-AZ-MNO-010, Mobile Electric Power Unit 30KW
NAVSEA S6560-AG-OMP-010, Underwater Breathing Apparatus (UBA) MK 21 MOD 1
NAVSEA S9086-CQ-STM-010/CH-081, Waterborne Underwater Hull Cleaning of Navy Ships
NAVSEA S9233-A3-MMO-010, Model 2 Diesel Hydraulic Power Unit
NAVSEA S9505-AM-GYD-010, Submarine Fastening Criteria (Non-nuclear)
NAVSEA S9592-AY-MMO-020, Flyaway Recompression Chamber (FARCC)
NAVSEA S9592-B1-MMO-010, Fly Away Dive System (FADS) III Air
NAVSEA S9592-B2-OMI-010, Fly Away Dive System (FADS) III Mixed-Gas System
NAVSEA S9597-AB-MMO-0l0, Operation and Maintenance Instructions for Hydraulic Cable Puller System
NAVSEA SG700-D6-MMO-010, Power Unit, MK 9 MOD 0
NAVSEA SL740-AA-MAN-010, U.S. Navy Towing Manual
NAVSEA S0400-AA-SAF-010, U.S. Navy Salvage Safety Manual
NAVSEA SS500-AM-MMO-010, ARS 50 Class Operations Handbook
NAVSEA SS500-AW-MMM-010, Transportable Recompression Chamber System (TRCS)
NAVSEA SS500-AX-MMA-010, Oxygen Transfer Pump Assembly (OTPA)
NAVSEA SS500-B1-MM0-010, Standard Navy Double-Lock Recompression Chamber (SNDL)
NAVSEA SS500-HK-MM0-010, Light Weight Diving System (LWDS)
NAVSEA SS500-SA-MMA-010, Ready Operational Pierside Emergency Repair Cart (ROPER)
NAVSEA SS521-AA-MAN-010, U.S. Navy Diving and Manned Hyperbaric System Safety Certification Manual
NAVSEA SS521-AB-HBK-010, Continuation of Certification Handbook for U.S. Navy Diving Systems
NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
NAVSEA SS521-AH-PRO-010, U.S. Navy Diving Umbilical Description, Materials and Assembly Manual (UBA MK 20 and MK 21)
NAVSEA SS600-A3-MMA-010/53833, Marine Corps TM 09603B-14&P/1 MK 25 Mod 2 Underwater Breathing Apparatus (UBA) Rev 1
NAVSEA SS600-AH-MMA-010, Underwater Breathing Apparatus, MK 16 MOD 0
NAVSEA SS600-AJ-MMO-010, Operation and Maintenance Manual for Underwater Breathing Apparatus MK-25 REVISION 1
NAVSEA SS600-AK-MMO-010, Underwater Breathing Apparatus (UBA) MK 20 MOD 0
NAVSEA SS600-AQ-MMO-010 Operations and Organizational Level Maintenance Manual for MK 16 MOD 1
NAVSEA SS750-AA-MMA-010/850FT, Technical Manual for Modernized 850 Foot Submarine Rescue Chamber Operation and Maintenance
NAVSEA/Manufacturer’s Technical Manual/System Drawings
NAVSUP P 485, Rev. 3, Afloat Supply Procedures Manual
NAVSUP P 486, Food Service Management General Messes
NAVSUP P 487, Rev. 3, Ship's Store Afloat
Navy Tactics, Techniques, and Procedures, Naval Special Warfare Submarine Operations Manual, NTTP 3-05.4 (REV.A)
NDC Generation III Operation and Maintenance Instructions, 14 July 2005
NSTM S9086-T8-STM-010/CH-593, Pollution Control
NSTM S9086-TV-STM-000/CH-581, Anchoring
NSTM S9086-TW-STM-010/CH-582, Mooring and Towing

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NSTM S9086-TX-STM-010/CH-583, Boats and Small Craft
NTP-3 (J), Naval Telecommunications Publications-3
Operations & Maintenance Manual EXO BR MS Balanced Regulator Full Face Mask Military Standard DSI Part #100-036
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RCMS-Rescue Chamber Monitoring System Technical Manual
Rupert Scale Instructions
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Technical Manual for Modernized 850 Foot Submarine Rescue Chamber Operation and Maintenance, SS750-AA-MMA-010/850FT
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The Bluejacket’s Manual, Twenty-Second Edition
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USMC Command Locater http://www.usmc.mil/marinelink/websites.nsf/unitslocation
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U.S. Navy Thalmann Algorithm Dive Planner for Microsoft Windows® Users Manual

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