



DEPARTMENT OF THE NAVY
NAVY MEDICINE OPERATIONAL TRAINING CENTER
DETACHMENT, NAVAL UNDERSEA MEDICAL INSTITUTE
BOX 159, NAVAL SUBMARINE BASE NILON
GROTON, CONNECTICUT 06349-5159

IN REPLY REFER TO:
NUMIINST 5420.2N

MAY 09 2019

NAVAL UNDERSEA MEDICAL INSTITUTE INSTRUCTION 5420.2N

Subj: BOARD FOR QUALIFICATION OF SUBMARINE MEDICAL OFFICERS

Ref: (a) MILPERSMAN 1210-130

Encl: (1) Qualification Procedures Supplementary Information
(2) Sample Thesis Proposal Approval Request Letter
(3) Sample Thesis Approval Request Letter
(4) Submarine Medical Officer Qualification Card
(5) Sample Request For Designation As Undersea Medical Officer: Qualified In Submarines (AQD 6UM)

1. Purpose. To establish the Board for Qualification of Submarine Medical Officers, to outline procedures to be followed by the Board, and to promulgate guidance for Submarine Medical Officer candidates.

2. Cancellation. NUMIINST 5420.2M

3. Background. Reference (a) sets forth the requirements for qualification of Submarine Medical Officers (SMO) and designates authority for approving such qualification to the Officer in Charge (OIC), Navy Medicine Operational Training Center Detachment, Naval Undersea Medical Institute (NUMI), Naval Submarine Base New London, Groton, CT.

4. Board Establishment. The OIC, NUMI, will appoint the Board for Qualification of Submarine Medical Officers from qualified submarine medical officers or subject matter experts on the thesis topic being considered. The Board will normally consist of four members, with the OIC, NUMI, serving as the senior member.

5. Duties and Responsibilities

a. OIC, NUMI

- (1) Serve as Senior Member of the Board.
- (2) Supervise the overall conduct and integrity of the qualification program.

(3) Make final determination and take final action on approval, modification, or rejection of proposed thesis topics and submitted theses.

(4) Report designation as Undersea Medical Officer - Qualified in Submarines per reference (a).

b. UMOC Course Supervisor

(1) Serve as Junior Member of the Board.

(2) Review all incoming and outgoing correspondence pertaining to SMO qualifications.

(3) Recommend board members to the OIC.

(4) Distribute and grade completed exams.

(5) Maintain all files pertaining to SMO qualification and archive all SMO theses.

c. OIC's Secretary

(1) Receive all incoming and outgoing correspondence pertaining to SMO qualification.

(2) Prepare all outgoing official correspondence.

6. Procedures

a. Email correspondence is the preferred method of communication, candidates should utilize:

usn.new-london.navmedotcnumict.list.smo@mail.mil

b. Enclosure (1) outlines the basic procedures for qualification of SMOs.

c. Enclosure (2) provides a template to be used for submission of thesis proposal.

d. Enclosure (3) provides the format to be used for submission of a final thesis.

e. Enclosure (4) is the SMO Qualification Card.

f. Enclosure (5) provides the format to request designation as a UMO Qualified in Submarines.



F. E. YEO

QUALIFICATION PROCEDURES SUPPLEMENTARY INFORMATION

1. Candidate Information. The following information shall accompany your first interaction with the Board for Qualification of Submarine Medical Officers:

- a. Full name and rank
- b. NUMI graduation date
- c. UMOC class number
- d. Command address in full
- e. Mobile phone
- f. Work phone
- g. Preferred email address

2. SMO Qualification Examination

a. The qualification exam is a three-part, multiple choice, examination covering radiation health, submarine medicine, and diving medicine. The candidate must score 80% or better on each part. In the case of a failure of any part, the candidate will be required to retake only the part they failed. The exam may be taken as many times as necessary to pass. However, reexaminations may not be submitted less than 60 days after submission of the previous exam.

b. Tests may be distributed electronically or on paper. Tests may not be copied or shared to ensure the integrity of the test is maintained. Completed exams will be submitted to the UMOC Course Supervisor at NUMI, via electronic means (email: usn.new-london.navmedotcnumict.list.smo@mail.mil)

c. When reexamination is required, the submitted examination will be returned to the applicant with incorrect questions identified.

3. Thesis/Technical Paper/Project Preparation

a. As a general principle, the thesis submission must be an individual scholarly contribution to the field of undersea medicine. The thesis project is an individual effort. While multiple UMOs may collaborate on a project, only one UMO will receive credit as a SMO thesis work.

b. It is imperative that the UMO follow the thesis submission process. Submitting a proposal for work already in progress or work received during a turn-over of UMOs will not be accepted in-lieu of bona-fide thesis proposal. For UMOs assigned to research commands, work may not begin on a SMO thesis project until approved by the board. Taking over as principle investigator on a project already in progress skips important procedural steps and is not consistent with the individual work concept discussed above.

c. Examples of an acceptable thesis include the following:

(1) Original research or case report published in a peer-reviewed journal directly relevant to undersea medicine which meets the Board's approval.

(2) Report and careful analysis of a special or unique undersea warfare operation. Examples would include an extraordinary diving accident or an epidemic impacting the submarine force.

(3) Analysis of a particular training, operational, or administrative problem which clearly defines the problem and presents well thought-out solutions.

(4) Comprehensive review of a topic relevant to undersea medicine. The UMO must ensure the review has not been previously submitted as a thesis work, and should not be reduplication of text-book level information.

(5) New development or significant rewrite/revision of a major undersea medicine-related Standard Operating Procedure (SOP) or instruction as dictated by a concurring Command or TYCOM level Undersea Medical Officer. The submission must be accepted and used by the affected Command, Group, or TYCOM when final development or revision of the policy is conducted.

d. It is the author's responsibility to ensure all material submitted is unclassified. Submission of classified material limits the ability to distribute the information to the undersea medicine community. The submission of classified material is discouraged, but can be considered by OIC, NUMI on a case-by-case basis.

e. Thesis Proposal: Once a topic for the thesis is selected by the candidate, the proposed topic must be submitted for approval to the OIC, NUMI using enclosure (2) as a guide. The proposal will be evaluated by the Board, and if approved, will be returned to the candidate along with any comments offered by the reviewers. If disapproved, reviewers' comments will be forwarded

to explain the decision or to guide the candidate in making revisions to the project which may make it acceptable. Thesis proposals shall be brief, serving as a summary of the proposed thesis and clearly delineating the goal(s) of the thesis. A bibliography, as appropriate, shall accompany each thesis proposal.

f. Final Thesis Submission: Any thesis submitted without prior topic approval shall not be considered. The completed thesis will be submitted in Microsoft Word or Portable Document Format (PDF), to the Board Recorder using enclosure (3) and the format below. Recommendations of the proposal reviewers must be incorporated or addressed. The final thesis will be reviewed by the Board and the candidate will be notified once the Board has made a final decision to accept or reject it.

g. Format of Thesis: The thesis shall be comprehensive. It shall be typed, double-spaced, with 1" margins and must follow the general requirements for submission to a scientific journal. An abstract and summary page are mandatory. The format below can be modified after consultation with the Junior Board Member if the nature of the thesis makes a different format preferable.

The following is the standardized format for submission:

(1) Title Page: The title page will include title, date, author name/rank, UMOC class number, and the statement: "Thesis submitted in partial fulfillment of the requirements for qualification as a Submarine Medical Officer."

- (2) Abstract
- (3) Summary page (problem, findings, applications, administrative information)
- (4) Table of Contents
- (5) List of illustrations
- (6) List of tables
- (7) Introduction
- (8) Description
- (9) Procedure/methods
- (10) Results
- (11) Discussion

(12) Conclusions

(13) References

(14) Index

(15) Appendices

4. Submarine Underway Qualification

a. Utilizing enclosure (4), the candidate shall document completion of the SMO qualification card and submit a completed copy to the Board Recorder for inclusion in the candidate's file.

b. All candidates are expected to complete the underway time promulgated in reference (a) of 30 days (720 hours).

c. Waivers to the above underway requirements may be granted under extraordinary circumstance on an individual basis. Requests will be submitted to OIC, NUMI, in standard Naval letter format, with command endorsement, and include all pertinent documentation clearly explaining why a candidate believes a waiver is warranted. In general, poor planning (i.e., submitting a waiver request just prior to residency) is not an acceptable basis for an extraordinary circumstance waiver. Furthermore, attempts at failed submarine rides while unfortunate, are not acceptable as submarine ride time equivalents.

5. Final Application for Designation as Submarine Medical Officer AOD 6UM. Enclosure (5) contains a sample letter format for a candidate's request to receive the Additional Qualification Designator of 6UM - Undersea Medical Officer - Qualified in Submarines (i.e., a Submarine Medical Officer). All appropriate enclosures shall accompany this final application package. Packages may be submitted electronically (with scanned, faxed or emailed documents).

SAMPLE THESIS PROPOSAL APPROVAL REQUEST LETTER

DD Mmm YY

From: Lieutenant John B. Doe, MC, USN
To: Officer in Charge, Navy Medicine Operational Training
Center Detachment, Naval Undersea Medical Institute,
Box 159, NAVSUBASE NLON, Groton, CT 06349-5159

Subj: REQUEST FOR APPROVAL OF PROPOSED SUBMARINE MEDICAL OFFICER
QUALIFICATION THESIS

Ref: (a) NUMIINST 5420.2 series

Encl: (1) Thesis Proposal with Bibliography

1. In compliance with reference (a), enclosure (1) is submitted
for approval by the Board for Qualification of Submarine Medical
Officers.

J. B. DOE

SAMPLE THESIS APPROVAL REQUEST LETTER

DD Mmm YY

From: Lieutenant John B. Doe, MC, USN
To: Officer in Charge, Navy Medicine Operational Training
Center Detachment, Naval Undersea Medical Institute,
Box 159, NAVSUBASE NLON, Groton, CT 06349-5159

Subj: REQUEST FOR APPROVAL OF SUBMARINE MEDICAL OFFICER
QUALIFICATION THESIS

Ref: (a) NUMIINST 5420.2 series

Encl: (1) Thesis

1. In compliance with reference (a), enclosure (1) is submitted
for approval by the Board for Qualification of Submarine Medical
Officers.

J. B. DOE

SUBMARINE MEDICAL OFFICER QUALIFICATION CARD

NAME _____

DATE BEGUN _____

DATE COMPLETED _____

The Undersea Medical Corps officer qualifying in submarines will maintain a qualification notebook containing, at a minimum, the following:

- a. All watch qualification cards.
- b. All qualification tests, quizzes, or examinations.
- c. All written work required by this enclosure.

I. REFERENCES

- a. Navy Regulations
- b. OPNAVINST 3120.32 series, Standard Organization and Regulations of the U.S. Navy
- c. Standard Organization and Regulations Manual (SORM)
- d. Ship's Information Books (SIBs); Training Aid Booklets (TABS); Ship System Manuals (SSMs)
- e. NAVSEA S9510-AB-ATM-010 (U), Nuclear Powered Submarine Atmosphere Control Manual
- f. NAVMED P-117, Manual of the Medical Department
- g. NAVMED P-5055, Radiation Health Protection Manual
- h. NAVMED P-5010, Manual of Naval Preventive Medicine
- i. COMSUBLANT/COMSUBPACINST (CSL/CSPINST) 6000.2 series, Standard Submarine Medical Procedures Manual
- j. CSL/CSPINST 6470.5 series, Submarine Radiation Health Manual
- k. BUMEDINST 6470.10 series, Initial Management of Irradiated or Radiactively Contaminated Personnel
- l. NAVSEA S9213-33-MMA-000/V, Radiological Controls for Ships
- m. OPNAVINST 5100.19 series, Navy Safety and Occupational Health Program Manual for Forces Afloat

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- n. NAVSEA S9086-CH-STM-030, Naval Ships' Technical Manual - Gas Free Engineering Manual
- o. BUMEDINST 6240.10 series, Water Quality Standards
- p. OPNAVINST 6400.1 series, Training, Certification, Supervisor Program, and Employment of Independent Duty Hospital Corpsmen (IDCs)
- q. CSL/CSPINST 6000.1 series, Submarine Duty Physical Standards and the Medical Waiver and Disqualification Process
- r. NAVSEA SS521-AG-PRO-010, U.S. Navy Diving Manual
- s. BUMEDINST 6320.38 series, Hyperbaric Oxygen Treatment in Navy Recompression Chambers
- t. OPNAVINST 6420.1 series, Physical Qualification for All Non-Submarine Personnel Embarking on Submarines
- u. NAVSEA SS521-AJ-PRO-010, Guidance for Diving in Contaminated Waters
- v. Bove and Davis' Diving Medicine

II. MEDICAL DEPARTMENT KNOWLEDGE REQUIREMENTS - Medical Department checkouts must be signed by the ship's Medical Department Representative (MDR) or Executive Officer (XO).

1. GENERAL INFORMATION - Describe the Chain of Command's medical responsibilities aboard a submarine. Include the specific assigned responsibilities of, and relationships among, the following personnel:

- a. Commanding Officer
- b. Executive Officer
- c. Medical Department Representative
- d. Squadron, Group, and Force Medical Officers

MDR/XO Date

2. ORGANIZATION AND ADMINISTRATION - Demonstrate understanding of routine organization and daily administration of the medical department including:

SUBMARINE MEDICAL OFFICER QUALIFICATION CARD

- a. Organization and maintenance of health records
- b. Maintenance of other required logs and journals
- c. Familiarity with medical department instructions
- d. Use of SNAP Automated Medical System (SAMS)
- e. Conduct of routine sick call
- f. Location of medical department equipment (O₂ bottles, backboard, Emergency Response Kit (ERK), etc.) and required maintenance of each
- g. Accident and Injury reporting requirements

MDR/XO Date

3. MEDICAL EVALUATION AND TREATMENT - Demonstrate understanding of the medical evaluation and treatment conducted by the MDR at sea including:

- a. Indications for medical consultations, to include a detailed understanding of the medical and administrative aspects and risk/benefit analysis of a MEDEVAC
- b. Options available for medical consultation while at sea, to include MEDEVAC, MEDADVICE, chat, and phone communication
- c. Familiarity with the protocols used for treatment of common submarine emergencies

MDR/XO Date

4. TRAINING - Be familiar with MDR training responsibilities including:

- a. Knowledge of minimum requirements for MDR periodic training
- b. Participation in at least one onboard Emergency Medical Assistance Team (EMAT) training evolution and drill

MDR/XO Date

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5. MEDICAL READINESS - Demonstrate familiarity with requirements for medical/dental readiness, including:

- a. Ship's Authorized Medical Allowance List (AMAL) and supply process
- b. Medical Readiness Inspections (MRI), including a walk-through of the MRI checklist with the MDR
- c. Ship's AMAL supply procedures, including supplemental Medical Allowance List and supply control
- d. Preventive maintenance schedules and procedures for medical equipment.

MDR/XO Date

6. PREVENTIVE MEDICINE AND SANITATION AFLOAT - Understand requirements for shipboard preventive medicine and sanitation and be able to demonstrate the following:

- a. Sanitation Inspection (Galley, General/Berthing/Heads)
- b. Potable water inspection
- c. Management of medical waste at sea

MDR/XO Date

7. ATMOSPHERE CONTROL - Know the requirements for atmospheric monitoring and the proper use of monitoring equipment to include:

- a. General features and use of fixed and portable monitoring equipment
- b. Sources of atmospheric contaminants while at sea
- c. Routine methods of regenerating and decontaminating the submarine atmosphere
- d. Principles and practice of emergency atmosphere management
- e. Principles and practice of gas-free engineering

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f. Basic understanding of the Submarine Atmosphere Health Assessment Program (SAHAP)

MDR/XO Date

8. RADIATION HEALTH REPORTS - Demonstrate familiarity with MDR responsibilities as they apply to the Radiation Health Program, including Internal and External reporting requirements such as:

- a. Situational/Annual reports
- b. CO's quarterly dosimetry report
- c. Dose transmittal letters
- d. Termination letters
- e. Responsibilities of the XO related to Radiation Health
- f. Dose Investigations
- g. Dose Estimates

MDR/XO Date

9. RADIATION HEALTH PROCEDURES - Demonstrate decontamination procedures by:

- a. Evaluating a radiological spill drill
- b. Displaying knowledge of decontamination standards and procedures
- c. Participating in a Radiation Control (RADCON) drill
- d. Performing a medical record review as part of an internal radiation health audit

MDR/XO Date

III. KNOWLEDGE REQUIREMENTS FOR SHIP'S SYSTEMS AND OPERATIONS - Ship's Systems checkouts may be signed by any submarine qualified crewmember proficient in the use of the relevant system.

SUBMARINE MEDICAL OFFICER QUALIFICATION CARD

A. GENERAL SUBMARINE ORIENTATION

1. PROPULSION PLANT INDOCTRINATION - Demonstrate a basic understanding of the design and function of the propulsion plant, to include:

a. Basic design of the reactor, including major reactor safety features

b. Sources of primary and secondary propulsion

Crewmember	Date
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2. EMERGENCY PROCEDURES - Describe the types of emergency evolutions and be able to explain the major players and procedures during fire, flooding, collision, propulsion plant casualty, battle stations, and submarine escape scenarios.

Crewmember	Date
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3. INTERIOR COMMUNICATIONS - Demonstrate proper shipboard communication procedures and be able to describe the purpose of the various communication circuits present onboard.

Crewmember	Date
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4. EMERGENCY EQUIPMENT PROFICIENCY - Demonstrate the ability to:

a. Locate emergency breathing devices throughout the ship, including Emergency Air Breathing (EAB) mask and Self Contained Breathing Apparatus (SCBA).

b. Don an appropriate emergency breathing device and demonstrate its use during a circuit of the ship.

Crewmember	Date
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5. SHIPBOARD PROTOCOL AND ETIQUETTE - Understand the social and professional expectations of embarked personnel to include:

a. Principles of wardroom etiquette

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- b. Etiquette of the Chiefs' Mess and the Crew's Mess
- c. Common submarine traditions and pastimes (including playing cribbage with the CO)
- d. Common enlisted ratings and their role onboard
- e. Responsibilities of the Chief of the Boat

Crewmember Date

B. SHIP CONSTRUCTION AND MAIN SYSTEMS

- 1. SHIP CONSTRUCTION, TANKS, AND COMPARTMENTS - Be able to diagram the major compartments of the ship as well as the location and use of the major tanks and spaces. Given a location on the ship, be able to describe various ways of getting to that location.

Crewmember Date

- 2. TRIM AND DRAIN SYSTEMS - Explain the importance and use of the trim and drain systems as they pertain to routine operations.

Crewmember Date

- 3. AIR SYSTEMS - Describe the features and uses of the different air systems onboard including High Pressure (HP) air, service air, and emergency Main Ballast Tank (MBT) blow.

Crewmember Date

- 4. HYDRAULIC SYSTEMS - Describe the features of the hydraulic systems onboard and their relation to the ship's control and operation.

Crewmember Date

C. SHIP SUPPORT SYSTEMS

- 1. ELECTRICAL SYSTEMS - Understand and locate the source of electrical power onboard and the means by which electrical power can be distributed and directed.

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Crewmember Date

2. WATER SYSTEMS - Explain the different water systems onboard including potable, sanitary, and flushing water. Understand the sources and uses of each.

Crewmember Date

3. WASTE DISPOSAL SYSTEM - Describe the use of the Trash Disposal Unit (TDU) and common injuries associated with it.

Crewmember Date

4. FOOD SERVICES SYSTEMS - Describe and locate the equipment available for the storage and preparation of food while underway, including refrigeration systems, chill boxes, freeze boxes, and cooking equipment.

Crewmember Date

D. COMBAT AND NAVIGATIONAL SYSTEMS

1. SONAR SYSTEMS - Stand part of a watch as sonar Under Instruction (UI). At the conclusion of which be able to:

- a. Describe the basic principles of underwater sound propagation
- b. List and describe the various sonar systems onboard and their uses
- c. Describe the main roles of the sonar department as well as the different roles within the sonar department
- d. Explain how information from sonar is shared and used throughout the ship

Crewmember Date

2. FIRE CONTROL - Stand part of a watch as fire control UI. At the conclusion of which be able to:

- a. Describe the function of fire control
- b. List and describe the various fire control systems

SUBMARINE MEDICAL OFFICER QUALIFICATION CARD

c. Describe the main roles of the fire control department as well as the different roles within the fire control department

d. Explain how information from fire control is shared and used throughout the ship

Crewmember	Date
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3. QUARTERMASTER/NAVIGATION - Stand part of a watch as quartermaster UI. At the conclusion of which be able to:

a. List and describe the various navigational systems and their use (RLGN, GPS, VMS, etc.)

b. Describe the main function of the quartermaster as well as the different roles within the navigation department

c. Explain how information from navigation is shared and used throughout the ship

Crewmember	Date
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4. SHIP'S CONTROL PANEL - Stand part of watch as helm/pilot UI. At the conclusion of which be able to:

a. Describe the role of the helm/pilot

b. List and describe the various steering systems and their use

c. Describe basic routine and emergency procedures in which helm/pilot play a large role

Crewmember	Date
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5. WEAPONS - Detail the types of weapons present onboard and the basics of their use, limitations, and capabilities.

Crewmember	Date
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SUBMARINE MEDICAL OFFICER QUALIFICATION CARD

6. RADIO - Describe the different means of communication onboard, including ESM, VHF, UHF, and VLF for routine and emergency communications.

Crewmember	Date
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IV. EXAMINATION AND QUALIFICATION - Complete an oral Undersea Medical Officer Submarine Qualification examination based on above requirements list. The oral exam must be attended by the MDR, a qualified OOD, and either/both the CO/XO. Certify satisfactory completion of all underway requirements for designation "Qualified Submarine Medical Officer."

MDR	Date
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OOD	Date
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CO/XO	Date
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SAMPLE REQUEST FOR DESIGNATION AS UNDERSEA MEDICAL
OFFICER: QUALIFIED IN SUBMARINES (AQD 6UM)

DD Mmm YY

From: Lieutenant John B. Doe, MC, USN
To: Officer in Charge, Navy Medicine Operational Training
Center Detachment, Naval Undersea Medical Institute,
Box 159, NAVSUBASE NLON, Groton, CT 06349-5159
Via: Commanding Officer, for LT John B. Doe

Subj: REQUEST FOR DESIGNATION AS UNDERSEA MEDICAL OFFICER -
QUALIFIED IN SUBMARINES (AQD: 6UM)

Ref: (a) MILPERSMAN 1210-130
(b) NUMIINST 5420.2 series

Encl: (1) Thesis Approval Letter
(2) Ride time memos documenting attainment of 30 days
underway time aboard submarine
(3) Submarine Medical Officer Qualification Card
(4) Submarine Medical Officer Examination Pass letter

1. In accordance with references (a) and (b), it is requested
that LT John B. DOE, MC, USN receive the additional qualification
designator (AQD) of 6UM and be designated as an UNDERSEA MEDICAL
OFFICER, QUALIFIED IN SUBMARINES.

2. Enclosures (1) through (4) are submitted in support of this
request and as proof of completion of all requirements detailed
in the references.

J. B. DOE