



COMDTPUB. P16700.4  
NVIC

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO.

Subj.: **PHYSICAL EVALUATION GUIDELINES FOR MERCHANT MARINER'S DOCUMENTS AND LICENSES**

1. **PURPOSE.** The purpose of this Circular is to provide guidelines for evaluating the physical condition of an applicant for a merchant marine license or document.
2. **DIRECTIVES AFFECTED.** Navigation and Vessel Inspection Circular No. 6-89 is canceled.
3. **BACKGROUND.**
  - a. Various regulations in Title 46, Code of Federal Regulations (CFR), Parts 10, 12, and 13 require individuals to be physically qualified to hold certain merchant mariner's licenses and documents. With the exception of visual acuity and color vision, these regulatory requirements are not specified. The physician conducting the physical examination makes the initial determination whether or not the seaman is "fit for duty," that is, physically qualified to carry out his or her duties and responsibilities. However, there are medical conditions that cannot be routinely detected during a physical examination, unless the mariner discloses the symptoms or conditions, such as sleep disorders. It is recommended that medical personnel conducting physicals question mariners about these areas.
  - b. Regulation I/9 of the International Convention on Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) requires each party to establish standards of medical fitness for seafarers. The medical standards listed in this NVIC are also the United States' standards for meeting the STCW's regulation.
  - c. Without specific guidelines for conducting the examination, or without a general familiarity with and appreciation for the rigors of employment in the maritime environment, most medical personnel are unable to fully evaluate the applicant's medical

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qualifications; therefore, this NVIC provides guidance to assist medical personnel in conducting these examinations.

#### 4. DISCUSSION.

- a. For a vessel to be operated safely, it is essential that the crewmembers be physically fit and free of debilitating illness and injury. The seafaring life is arduous, often hazardous, and the availability of medical assistance or treatment is generally minimal. As the international trend toward smaller crews continues, the ability of each crewmember to perform his or her routine duties and respond to emergencies becomes even more critical.
- b. All mariners should be capable of living and working in cramped spaces, frequently in adverse weather causing violent motion of the vessel. Extended workdays are common. All mariners must be able to participate in emergency evolutions such as firefighting or launching lifeboats or liferafts. Members of the deck and engine department must be capable of physical labor, climbing, and handling moderate weights (from 30-60 pounds).
- c. An applicant for an entry level rating i.e., ordinary seaman, wiper, or steward's department (food handler), does not require a physical examination, but he or she should have the agility, strength, and flexibility to:
  1. Climb steep or vertical ladders
  2. Maintain balance on a moving deck
  3. Pull heavy fire hoses up to 400 feet, and have the ability to lift fully charged fire hoses
  4. Rapidly don an exposure suit
  5. Step over door sills of 24 inches in height, and
  6. Open or close watertight doors that may weigh up to 56 pounds

An applicant with physical limitations who may not be able to perform the above actions may be issued a Merchant Marine Document (MMD) with suitable limitations. Regional Examination Centers (REC) processing an applicant who is restricted in his or her abilities shall contact the National Maritime Center (NMC-4C) for the appropriate endorsement.

- d. Enclosure (1) contains standards to guide physicians, physician assistants, and licensed nurse practitioners, in examining merchant seamen. It will also assist Coast Guard licensing personnel in evaluating an applicant's eligibility based on the findings.
- e. These guidelines are just that—guidelines. They are not intended to be absolute or all encompassing. Some individuals may have other medical conditions or physical limitations which would render them incompetent to perform their duties aboard a vessel. Others may be quite capable of working at sea without posing a

risk to themselves, their ship, or shipmates even though one of the listed conditions exists. Any cause for rejection is disqualifying only while the condition persists or is likely to cause disqualifying complications. While each applicant must be evaluated for their physical competence individually, the conditions described in enclosure (1) are those which have been considered disqualifying by the medical and maritime communities. Waivers may be considered where extenuating circumstances are such to warrant special consideration and it can be demonstrated that the applicant can perform safely the duties of the license or merchant mariner document. Requests for waivers will be submitted to the National Maritime Center (NMC-4C) by the REC for review and a final determination.

5. ACTION.

- a. The guidelines contained in this circular apply to all merchant marine physical examinations and should be provided to medical personnel for use in conjunction with the physical examination form (CG-719K or equivalent).
- b. All RECs should use this circular as a guide when evaluating physical examination results submitted by mariners in accordance with Title 46, CFR, Parts 10, 12, and 13.

Encl: (1) Potentially Disqualifying Conditions

Non-Standard Distribution:

B:a Commandant G-MOC (20); G-MSO (202); National Maritime Center (40)

C:e New Orleans, Miami (90); Boston, Baltimore, Puget Sound (45); San Francisco, Hampton Roads, Honolulu, Los Angeles/Long Beach, Houston, Boston, Charleston, Anchorage, Memphis, Toledo (40); Philadelphia (35); Mobile, Jacksonville, Portland OR (202); Portland ME, Port Arthur (15); Cleveland, Cincinnati, Louisville, Nashville, Paducah, Pittsburgh, St. Louis, Savannah, San Juan, Tampa, Galveston, Buffalo, Chicago, Detroit, Duluth, Milwaukee, San Diego, Valdez (10); Providence, Huntington, Wilmington, Corpus Christi (5) C:m New York (150)

D:l CG Liaison Officer MILSEALIGTCOMD M-60 STRAT MOB (1)

## POTENTIALLY DISQUALIFYING CONDITIONS

1. The physical standards in this enclosure apply to an applicant for an original license as a deck officer, engineer officer, or pilot. The same standards apply to the upgrade or renewal of these licenses unless specifically noted.
2. An applicant for either issuance of an original Merchant Mariner Document (MMD) or renewal of an MMD must also meet physical standards. With the exception of an MMD for the entry level ratings, the standards are the same ones that apply to issuance of a license. These standards are summarized below:
  - a. ORIGINAL MMD ENDORSED AS ORDINARY SEAMAN, WIPER, STEWARDS DEPARTMENT FOOD HANDLER

No physical required; however, applicants should have the agility, strength, and flexibility to:

1. Climb steep or vertical ladders
2. Maintain balance on a moving deck
3. Pull heavy firehoses up to 400 feet and have the ability to lift fully charged fire hoses
4. Rapidly don an exposure suit
5. Step over door sills of 24 inches in height
6. Open or close watertight doors that may weigh up to 56 pounds

b. MMD ENDORSED AS ABLE SEAMAN

Same physical requirements that apply to deck officer's licenses.

c. RENEWAL OF MMD ENDORSED AS ABLE SEAMAN

Same physical requirements for renewal of a deck officer's license.

d. MMD ENDORSED AS QMED OR TANKERMAN

Same requirements for original engineer's license. If the applicant has an unexpired engineer's license the physical exam may be waived.

e. RENEWAL OF MMD ENDORSED AS QMED OR TANKERMAN

Same physical requirements for renewal of an engineer's license.

**EYES**                      **VISUAL ACUITY:**

**DECK OFFICER:** The applicant must have vision correctable to 20/40 in each eye.

**ENGINEER OFFICER:** The applicant must have vision correctable to 20/50 in each eye.

In all cases, the uncorrected vision should be at least 20/800. A vision waiver may be granted if the applicant's corrected vision in the better eye is at least 20/40. Waivers will not be granted where any disease or condition exists that would cause progressive or degenerative visual acuity beyond the standards for a waiver. The applicant must have 100 degrees horizontal field of vision. All applicants with diabetes must submit documentation from their doctor that the diabetes is not affecting their eyesight.

### **COLOR VISION:**

**DECK OFFICER:** The applicant must have the ability to recognize basic colors in order to recognize color-coded indicator lights, diagrams, piping systems, valves and wiring. Deck officers must also be able to recognize colored lights that are used on aids to navigation, such as navigation lights on vessels.

**ENGINEER OFFICER:** The applicant must have the ability to distinguish the colors red, green, blue and yellow.

Satisfactory completion of any of the following methods is acceptable proof of color sense:

Pseudoisochromatic Plates (Dvorine, 2<sup>nd</sup> Edition: AOC: revised edition or AOC-HRR; Ishihara 16-, 24-, or 38 plate editions)  
Eldridge Green Color Perception Lantern  
Farnsworth Lantern  
Keystone Orthoscope  
Keystone Telebinocular  
SAMCTT (School of Aviation Medicine Color Threshold Tester)  
Titmus Optical Vision Tester  
Williams Lantern

**Monocular vision:** In the case of an applicant with loss of sight in one eye, medical information indicates that depth perception may be affected. The degree of loss or lack of depth perception varies among individuals. The degree of variability

is affected by the length of time that the applicant has been sightless in the eye and by the applicant's ability to compensate. Applicants must be evaluated individually to determine that they adequately compensate for their lack of vision and that they can safely work in the maritime environment. Such applicants shall provide letters of recommendation from former employers or co-workers attesting to their ability to perform duties similar to the duties required by the license or document sought. In cases where an applicant is unable to provide such documentation, for example, where loss of sight has recently occurred, a waiver may be based on a thorough medical report from an ophthalmologist. This report must substantiate that the applicant has compensated for the loss of depth perception and peripheral vision. All cases involving monocular vision must be forwarded to the National Maritime Center (NMC-4C) for resolution.

Persons requiring the use of glasses or contact lens to perform duties will be required to have a spare pair conveniently available on board the ship. Any need to wear visual aids to meet the required standards will be recorded on each license or document issued.

## HEARING

Hearing thresholds are checked at 500 Hertz, 1000 Hz, 2000 Hz and 3000 Hz. The frequency responses for each ear are averaged to give a measure of hearing ability.

### ORIGINAL DECK AND ENGINEER OFFICER LICENSES:

An average, unaided hearing threshold of 70 db or less for each ear and functional speech discrimination of at least 90% is acceptable.

**RENEWAL OR RAISE OF GRADE:** An average unaided hearing threshold of 70 db or less for each ear and/or functional speech discrimination of at least 80% at 55 db for each ear is acceptable.

**DECK OFFICER:** Hearing aids may be used by applicants to meet the auditory requirements for all renewal or raise of grade transactions. The aided threshold should be 40 db or less in each ear and functional speech discrimination should be at least 90% at 55 db in both ears. The unaided threshold should be 70 db or less in each ear and functional speech discrimination of at least 80% at 55 db, binaural.

**ENGINEER OFFICER:** Hearing aids may not be used to meet the auditory requirements for all renewal or raise of grade transactions. Engineer officers may not be granted a waiver because the use of a hearing aid in an engineering space may further damage the individual's hearing.

Other conditions outside of the ones discussed may be considered for a waiver when recommended by the Officer in Charge Marine Inspection.

## **SPEECH**

Severe speech impediment, such as lisping or stuttering which would impede communication in an emergency situation.

## **CARDIAC**

History of multiple myocardial infarctions: Functional class II, III or IV (INYHA-New York Heart Association). Any cardiac surgery, such as cardiac pacemaker, implant, bypass requires further evaluation.

Heart irregularity: Irregularity sufficient to compromise cardiac function.

Hypertension: uncontrolled hypertension or hypertension controlled by medication requiring close monitoring.

**ORIGINAL DECK AND ENGINEER OFFICER:** Blood pressure higher than 150/90 (regardless of treatment with medication).

**RENEWAL OR RAISE IN GRADE OF DECK AND ENGINEER OFFICER LICENSES:** Blood pressure higher than 160/100 if under age 50, or 175/100 if over age 50 and on medication.

## **PULMONARY**

Lung disease, including chronic or active asthma that incapacitate and require corticosteroids medication.

Tuberculosis or other active pulmonary disease.

## **GASTROINTESTINAL**

Chronic/recurrent pancreatitis;

Esophageal varices-one episode of gastrointestinal bleeding in past 6 months or 2 episodes in the past 2 years.

## **GENITOURINARY**

Chronic renal failure

## **ORTHOPEDIC**

Amputation, deformity, or arthritis resulting in impairment of motion or use of limbs or back.

Requests for waivers should include a report of a practical demonstration of mobility. The details of the test shall be

determined by the OCMI using the Marine Safety Manuel as a guide. The test should be conducted under conditions appropriate for the credential, route, and tonnage the applicant is applying for. Applicant should be able to respond adequately in emergency situations.

## **ENDOCRINE/METABOLIC DIABETES MELLITUS**

Insulin dependent diabetes or poorly controlled non-insulin dependent diabetes. All applicants with diabetes should submit documentation from their doctor that the diabetes is not affecting the applicant's eyesight. The applicant should provide thorough information from their physician, including a recent HgbA1c test. The test must be below 10.0 for waiver approval.

Addison's disease, Cushing's syndrome-Adrenal dysfunction hyperaldosteronism.

Obesity sufficient to impair ordinary activity or likely to prevent rapid response in emergency situation.

## **HEMATOLOGIC/ ONCOLOGIC**

Hemophilia

Leukemia

Malignancies - Untreatable, recurrent of currently undergoing treatment (chemotherapy, radiation).

## **NEUROLOGIC**

Any convulsive disorder resulting in an altered state of consciousness regardless of control by medication requires further evaluation.

Any condition which seriously limits balance or coordination (e.,g. Parkinson's disease, chorea, Meniere's disease).

Chronic organic/traumatic brain syndrome

Neurosyphilis

Narcolepsy

Senility

Somnambulism

## **PSYCHIATRIC**

Diagnosis of primary psychosis

Any condition requiring the use of psychotropic medication(s)

Suicidal behavior

Mental retardation



Drug addiction  
Current or chronic alcohol abuse/alcohol dependence/alcoholism

## **ALLERGIES**

Any severe allergy which would cause sudden incapacitation or be life-threatening

## **INFECTIOUS DISEASES**

Any communicable disease in its communicable or chronic carrier state which would present a health hazard to other crewmembers or passengers during casual shipboard contact, including meningitis, encephalitis, poliomyelitis within one year prior to examination. Residual neurological defects that interfere with satisfactory performance.

## **MEDICATIONS**

Anticoagulants (Warfarin, Coumadin)  
Systemic corticosteroids  
Psychotropic medications  
Medication side effects-See MISCELLANEOUS below

## **HIV-AIDS( ACQUIRED IMMUNODEFICIENCY SYNDROME)**

A disease of the human immune system that is caused by infection with HIV, which is commonly transmitted in blood and bodily secretions. This requires review by the National Maritime

Center for the medications (and their side effects) presently prescribed, the applicants present condition and the stage of the disease.

## **MISCELLANEOUS**

Any other disease, constitutional defect, medication (side effects), sleep disorders or therapy which would result in gradual deterioration of performance of duties, sudden incapacitation or otherwise compromise shipboard safety, including required response in an emergency situation

In order to speed up the waiver process, it is recommended that the waiver package include the following information for the review of the case:

## **DIABETES**

Narrative from doctor on diabetes education  
Recent test (HgbA1c) for long term control of diabetes

## **CARDIAC**

Exercise stress test (a Thallium test may be requested for some cases) to determine condition of heart and reaction of heart and vascular system under emergency situations

List of all medications and possible side effects

Narrative from doctor giving history of condition and prognosis of condition

VISION  
Color vision must be checked by one of the acceptable tests. Field of vision should show total for both eyes. A normal reading would be 90 degrees for each eye for a total of 180 degrees

In all cases, the waiver package should include a narrative from the examining physician describing the condition, the prognosis, any restrictions, and all medications prescribed.