



DEPARTMENT OF THE NAVY

NAVAL TRAINING CENTER  
2601A PAUL JONES ST  
GREAT LAKES, ILLINOIS 60088-2845

NTCGLAKESINST 5100.16G

N33

**MAY 14 1999**

NTC GREAT LAKES (COMPLEX<sup>2</sup>) INSTRUCTION 5100.16G

From: Commander, Naval Training Center, Great Lakes

Subj: RESPIRATORY PROTECTION PROGRAM

Ref: (a) OPNAVINST 5100.23E

(b) 29 CFR 1910.134

(c) CNETINST 3541.1 D CH-1 22 Jun 199

Encl: (1) Respirator Program Requirements

(2) Respirator Fit-Test/Training Record

(3) Request for Medical Clearance for Respirator Use

1. Purpose. This instruction provides guidelines and responsibilities for administering the respirator use and protection program as required by references (a) and (b).

2. Cancellation. NTCGLAKESINST 5100.16F. This instruction has been substantially revised and should be reviewed in its entirety.

3. Background. A harmful or hazardous atmosphere is one that is explosive, oxygen deficient, contains a toxic gas, vapor, mist or particulate at a concentration at or above regulatory levels. Work activities at Naval Training Center (NTC) could generate air contaminants that can be dangerous if inhaled. Preferred means of protecting personnel from exposure to a potentially hazardous atmosphere is to substitute the use of a less hazardous product/process and ensure accepted engineering control measures such as local exhaust ventilation is in operation, when practical. Engineering controls should be implemented when exposure to airborne contaminants exceed regulatory limits.

4. Applicability. This instruction applies to all NTC component and tenant commands.

5. Policy. It is imperative to provide appropriate respiratory protection equipment to personnel identified by the Respiratory Protection Program Manager (RPPM) as requiring respiratory protection due to the nature of their work. Employees,

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inspectors and visitors entering a respiratory protection area, even when exposure time is of short duration, must be provided the appropriate respiratory protection and meet all program requirements. Personnel are required to wear respiratory protection when occupying areas or performing operations that are documented as health hazardous; or are suspected of being health hazardous where adequate sampling data has not been obtained. Issuance of respirators shall not be used as a justification for avoiding further evaluation of health hazards.

6. Action:

a. Commander, Naval Training Center and Commanding Officers shall:

(1) Appoint a trained Respiratory Protection Program Manager (RPPM), in writing, to administer all aspects of respiratory protection according to references (a) and (b) and enclosure (1).

(2) Submit letters of designation to the cognizant Occupational Safety and Health Manager.

b. Respiratory Protection Program Managers shall:

(1) Administer all aspects of respiratory protection according to references (a) and (b) and enclosure (1).

(2) Obtain respirator training identified in enclosure (1) and provide a copy of the training certificate to the cognizant Occupational Safety and Health Manager.

(3) Ensure proper respirator selection and use is accomplished for each activity requiring respirator protection.

(4) Arrange and/or conduct training for respirator wearers on the use, limitation, upkeep, cleaning, and storage of respirators per enclosure (1).

(5) Arrange and/or conduct respirator fit-testing on respirator users per enclosure (1).

(6) Provide completed copies of the Respirator Fit-Test/Training Records, enclosure (2), to the cognizant Occupational Safety and Health Manager.

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(7) Monitor the Respiratory Protection Program effectiveness by conducting an annual audit of the program. Provide a copy of the audit to the cognizant Occupational Safety and Health Manager.

(8) Establish and/or approve Standard Operating Procedures (SOPs) for respirators prior to use. Submit copies of SOPs to the cognizant Occupational Safety and Health Manager. Ensure SOPs are available in the work centers where respirators are used.

(9) Maintain respirator medical qualifications for users, and document on enclosure (3). Refer personnel to the Occupational Health Clinic for evaluation.

(10) Ensure breathing air sources meet Grade 'D' air standards per reference (a).

(11) Implement a change schedule for chemical canisters/cartridges.

(12) Purchase approved respiratory protection equipment and maintain a central storage/issue area for respiratory protection equipment. One or more centrally located facilities can be provided at an activity depending on its nature and size.

(13) Designate Respiratory Protection Program Assistants, in writing, as needed to control the varied aspects of the program. Provide training appropriate to the assignment. Document assistant's authority and limitations. Submit copies of above to the cognizant Occupational Safety and Health Manager.

(14) Consult Naval Hospital Occupational Health personnel on all aspects of the Respiratory Protection Program, as needed.

c. Commanding Officer, U.S. Naval Hospital shall:

(1) Provide Industrial Hygiene services to evaluate work sites for harmful or hazardous atmospheres. Submit findings of evaluations with recommendations to component/tenant commanding officers prior to the conduct of work.

(2) Conduct appropriate medical evaluations of personnel using respirators and document outcome on enclosure (3).

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(3) Notify the RPPM of any adverse health effects diagnosed during routine surveillance which could be due to improper respirator fit, respirator failure or exceeding respirator protection factors, etc.

(4) Provide RPPMs with consultation/liaison services on all aspects of the Respiratory Protection Program.

(5) Provide an annual written evaluation to the RPPM on the effectiveness of the command's Respiratory Protection Program and conduct workplace assessments as required.

d. Supervisors of Respirator Wearers shall:

(1) Enforce compliance with the proper use of respiratory protection equipment per enclosure (1).

(2) Enforce periodic inspection, cleaning, disinfection and maintenance of respiratory protection equipment per enclosure (1).

(3) Ensure proper storage of respiratory protection equipment per enclosure (1).

(4) Maintain written Standard Operating Procedures (SOP) in the workspace, governing the selection, care, issue, and use of respirators for each specific operation. Include emergency and rescue procedures as necessary.

(5) Obtain respirators from the command RPPM only.

(6) Enforce medical surveillance attendance at the Occupational Health Clinic, Building 237.

e. The Respirator User shall:

(1) Use the provided respirator according to the SOP and training received.

(2) Perform a face piece user seal check, per the SOP, each time the respirator is donned. Contact the supervisor if the test fails. Do not use the respirator.

(3) Inspect the respirator before and after each use according to the SOP and return the equipment to the command RPPM when its use is no longer required, or when any malfunction, missing or defective part is noted.

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(4) Report any malfunction of the respirator to the supervisor. Do not use the respirator.

(5) Guard against damage to the respirator.

7. Reports and Forms. The Respirator Fit-Test/Training Record, NTC-GL 5100/9 (Rev. 3-99), Medical Clearance for Respirators Use, NTC-GL 5100/16 (Rev. 3-99) may be reproduced locally.



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Distribution:

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List I, II (Case A), III-A, III-B, III-C

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RESPIRATOR PROGRAM REQUIREMENTS

1. Respirator Selection. Respirators will be selected from the three basic types: Air-purifying, supplied-air, or self-contained.

a. Only respirators approved by the National Institute of Occupational Safety and Health (NIOSH) or by NIOSH/Mine Safety and Health Administration (MSHA) shall be used.

b. To correctly assess the nature of the hazard requiring respiratory protection, the following factors must be considered.

(1) The chemical, physical and toxicological properties of the contaminant, such as:

(a) Warning properties of the contaminant, gas or vapor (smell, taste, eye irritation, or respiratory irritation).

(b) Whether the contaminant is absorbed through the skin.

(c) Whether the contaminants are "Immediately Dangerous to Life or Health (IDLH)" or whether they would produce injurious effects after prolonged exposure.

(2) Concentration of the contaminant in the atmosphere.

(3) Permissible Exposure Limit (PEL) for the contaminants.

(4) Whether an oxygen-deficient or oxygen-rich atmosphere exists or may be created.

(5) Whether toxic, flammable, or explosive by-products are present or may be produced.

(6) The nature, extent, and frequency of the duties performed by personnel (e.g., welding, painting, etc.) in the work area.

(7) Sorbent efficiency of cartridge or canister.

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(8) Any possibilities of high heat or reaction with sorbent material in the cartridge or canister.

(9) Any possibility of explosion hazard of the substance absorbed on cartridge or canister sorbent.

(10) Respirator protection factor or degree of protection provided.

(11) Any possibility of shock sensitivity (explosion hazard) of the substances absorbed on the cartridge or canister sorbent.

(12) The current workplace evaluation conducted by the cognizant Industrial Hygienist.

2. Respirator Training. Conduct initial respirator training with annual refresher training that is tailored to the individual. The length of training is not specified; what is important is that the information be retained by the employee. Training will be documented on enclosure (2) and conducted in conjunction with the fit-test. A command specific lesson plan is needed. NTC Lesson Plan OSH-1 is available from the NTC Safety Office, Building 3400, Room 230 and may be used for this training. Such training shall include the following:

- a. Nature and degree of respiratory hazards.
- b. Respirator selection based on the specific hazards.
- c. Why the respirator is necessary and how improper fit, usage or maintenance can compromise the protective effect of the respirator.
- d. Donning/doffing procedures, fit-testing and user seal checks.
- e. The limitations and capabilities of the respirator.
- f. Respirator care, including cleaning, inspection, maintenance, storage and/or replacement.
- g. How to use the respirator effectively in emergency situations including situations in which the respirator malfunctions.

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h. How to recognize medical signs and symptoms that may limit or prevent the effective use of the respirator.

3. RPPM Training. Due to the large variation in the quality of respiratory protection training available for RPPMs and the complexity of respiratory protection, minimum acceptable training for RPPMs is defined. One of the following training courses is required before an RPPM appointment:

a. OSHA Training Institute course numbers 222 or 222A, Respiratory Protection.

b. NIOSH course number 593, Respiratory Protection.

c. Navy Respiratory Protection Program Manager Course (A-493-0072).

d. Any respiratory protection course that has as least 32 hours of training and covers the topics listed below:

(1) Respiratory hazards,

(2) Federal standards applicable to respirators,

(3) Minimum Respiratory Protection Program requirements and administration,

(4) Respirator types, selection, certification, and limitations,

(5) Respirator cleaning, maintenance, and inspection,

(6) Qualitative and quantitative fit testing, including actual laboratory fit testing,

(7) Breathing air quality,

(8) Medical considerations,

(9) Respirator training,

(10) Confined spaces/Immediately Dangerous to Life or Health (IDLH) atmospheres,

(11) Special problems in program administration (facial hair, lenses fogging, etc.), and

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(12) Standard Operating Procedures.

e. The course certificate from the OSHA, NIOSH, or Navy course is required as verification of training. If another course is attended, both the course certificate and a course syllabus specifying training topics and number of hours are required.

f. Assistant or alternate RPPMs are not required to comply with the above. Those assisting with respirator program training, fit-testing, or other program elements must receive training appropriate to the responsibilities assigned. For example, the RPPM can provide on-the-job training, or the command might require the assistant to complete formal training.

4. Respirator Fit-Testing. Each individual required to wear a respirator shall be tested at the time of initial fitting and annually thereafter, in conjunction with respirator training. All respirators which are equipped with tightly fitted face pieces must be fit-tested in a negative pressure mode. At a minimum, use the qualitative fit-test method along with the following procedures to ensure adequate fit:

a. Respirator shall be donned according to manufacturer's recommendations.

b. The wearer shall perform a user seal check each time the respirator is used per manufacturer's instructions.

(1) Qualitative Respirator Fit-Testing. Use isoamyl acetate (banana oil), saccharin mist or irritant smoke, as appropriate, to test for proper fit. References (a) and (b) provide amplifying information.

(2) Quantitative Fit-Testing. May be used where facilities are available, or where mandatory. Testing shall be conducted per the equipment manufacturer's instructions. References (a) and (b) provide amplifying fit-test information.

c. Document respirator fit-testing on enclosure (2).

d. No respiratory protection equipment, except positive pressure supplied-air hoods or loose fitting powered air purifying respirators, shall be worn by individuals with beards, sideburns, etc., that prevent a good face seal. Where the user's facial hair, etc., interferes with the proper performance of the respiratory protection equipment, the user (employee)

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shall be removed/transferred from the position until they can be satisfactorily fit-tested. Other items that may interfere with a proper fit of the respiratory protection equipment could be a skull cap that projects under the face piece, temple pieces on eye glasses, or the absence of one or both dentures.

e. Provide manufacturer's specific eyewear for use with full-face respirator if prescription eyewear is required.

5. Standard Operating Procedures. RPPMs shall establish SOPs governing the selection, care, issue and use of respirators. Emergency and rescue guidance will be included, as needed. The SOP will be posted in the general work area requiring respirators and will be approved by the activity's RPPM.

6. Inspection, Maintenance and Storage. The inspection and cleaning of respirators shall be performed at the central respirator facility by trained personnel. Respirator maintenance personnel shall:

a. Inspect each returned respirator for possible defects as follows:

<u>Items To Inspect</u>	<u>Possible Defects</u>
Head bands/neck straps	Damaged, loss of elasticity, fraying
Face piece	Damaged or distortion, vision impairment, cracking
Inhalation and exhalation valves	Condition of rubber, distortion, cuts, proper seating
Filter cartridge gaskets	Damaged, cut or torn seats
Prefilter	Inappropriate type for job, excessive breathing resistance, rips, tears or holes
Cartridge or filter	Inappropriate type for job, damaged, outdated, or used to capacity
Canister	Broken seal, outdated, damaged, inappropriate type for job

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b. Remove and discard all used filters, prefilters, cartridges and canisters.

c. Disassemble and hand wash the face piece and parts in a mild cleaning and sanitizing solution, and rinse, per manufacturer's instructions. If there are no manufacturer's instructions, follow reference (b) instructions. Strong cleaning and disinfecting agents may damage respirator parts. Avoid temperatures above 43 degrees Celsius (110 degrees Fahrenheit) and vigorous mechanical agitation. Do not use solvents (e.g., paint removers) which can affect rubber and other parts.

d. Reassemble respirator and replace any damaged parts.

e. Place respirator in a clean and sanitary container.

f. Store the respirator in a clean, uncontaminated area without crowding which may distort the face piece.

g. Do not perform any work on reducing valves, regulators or alarms. Return these items to the manufacturer for repair.

h. Inspect each emergency respirator after each use monthly and maintain a record of inspection findings.

7. Self-Contained Breathing Apparatus (SCBA). Where SCBAs are filled either locally or by outside agencies, documentation of Grade 'D' air quality must be demonstrated by obtaining copies of testing results published by recognized authorities. Such documentation must be obtained with each group of bottles filled or quarterly for each source compressor. Conduct an annual fit-test in the negative pressure mode. References (a) and (b) provide amplifying information on breathing air quality and compressor/hose requirements.

8. Military Unique Respirators. <sup>Student use of</sup> SCBA's and Oxygen Breathing Apparatus (OBA) used for military fire fighting training and other emergencies are considered "military unique" and not subject to the provisions of references (a) and (b).









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NTC GREAT LAKES (COMPLEX<sup>2</sup>) INSTRUCTION 5100.16G CHANGE TRANSMITTAL 1

From: Commander, Naval Training Center, Great Lakes

Subj: RESPIRATORY PROTECTION PROGRAM

1. Purpose. To issue change 1 to the basic instruction.
2. Action. Make the following pen and ink change to the basic instruction.

a. Page 1: In the reference block insert, "(c) CNETINST 3541.1D"

b. Change enclosure 1, page 6, paragraph 8 to read "8. Military Firefighting Training. Student use of the SCBA/Oxygen Breathing Apparatus (OBA) used for military firefighting training and other emergencies are considered "military unique." Students undergoing training are subject to reference (c), not references (a) and (b). Instructors using SCBAs will comply with references (a), (b) and (c). Instructor OBA use will be in accordance with reference (c)."

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