

INCH POUND

A-A-59771

22 February 2005

COMMERCIAL ITEM DESCRIPTION
SELF-CONTAINED BREATHING APPARATUS (SCBA)

The General Services Administration has authorized the use of this commercial item description, for all federal agencies.

1. SCOPE. This commercial item description covers a National Fire Protection Association (NFPA) 1981 compliant Self-Contained Breathing Apparatus (SCBA) to be used to provide breathing air for fire fighting and damage control activities aboard Navy ships where atmospheres are classified as being Immediately Dangerous to Life or Health (IDLH).

2. SALIENT CHARACTERISTICS.

2.1 Physical characteristics. The basic components of the SCBA shall include a compressed air cylinder secured to the user's back with a back frame and harness, a first stage regulator, a facepiece, and a mask-mounted, second stage regulator. The SCBA shall conform to the following characteristics in addition to those specified in NFPA 1981.

2.1.1 Air cylinder. The SCBA air cylinder shall be fully wound carbon fiber wrapped composite construction and certified under current requirements established by the Department of Transportation (DOT).

2.1.1.1 Pressure indicator. The cylinder valve shall include a pressure indicator, which shall provide a continuous reading of cylinder pressure.

2.1.1.2 Cylinder valve connection. The cylinder valve shall utilize a Compressed Gas Association (CGA) 347 connection.

2.1.1.3 Cylinder supplied. The SCBA shall be delivered with a 30-minute or a 45-minute cylinder as specified (see 6.2), as rated by NIOSH in accordance with 42 CFR 84, installed in the SCBA back frame.

2.1.1.4 Charge air. All cylinders shall be delivered fully charged with Type 1, Grade D quality air in accordance with ANSI/CGA G-7.1 and with a moisture content of -65°F dew point.

2.1.2 Back frame and harness.

2.1.2.1 Cylinder size adjustment. The back frame shall be able to accommodate either a 30-minute or a 45-minute cylinder as rated by NIOSH in accordance with 42 CFR 84. Adjustments to the back frame to switch between cylinder sizes shall be made without tools and require less than ten seconds.

2.1.2.2 Air cylinder replacement. It shall be possible to remove and reinstall an air cylinder in less than 60 seconds while the SCBA is being worn by another user without the use of tools.

2.1.2.3 Harness adjustment range. The backpack harness waist and shoulder straps or belts shall fit a range of user sizes (body dimensions) from the 5th percentile female to the 95th percentile male as defined by ASTM F1166.

2.1.3 Voice projection unit (VPU). The VPU shall be facepiece mounted and shall attach to and be completely supported by the SCBA facepiece.

2.1.3.1 Operating controls. The operating controls shall be limited to a single, watertight, on/off switch for activation.

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2.1.3.2 On/off indication. The VPU shall have a light emitting diode (LED) on the exterior of the VPU, which illuminates whenever power is on, but is not in the wearer's field of vision where it becomes a distraction to the user in low-light conditions.

2.1.3.3 Replaceability. It shall be possible for the user to remove a VPU from the facepiece and attach an identical replacement unit to the facepiece in less than 30 seconds, while wearing gloves and without the use of tools.

2.1.3.4 Maintenance. The VPU shall not require periodic maintenance, other than cleaning and replacement of batteries.

2.1.4 Power supply.

2.1.4.1 Batteries. The VPU and Heads-Up Display (HUD) shall be powered by alkaline batteries and shall use no more than the indicated number of one of the following battery types for each VPU or HUD:

NEDA 14A (C cell): 1 battery per set

NEDA 15A (AA cell): 2 batteries per set

NEDA 1604A (9 volt): 1 battery per set

2.1.4.2 Batteries supplied. Upon delivery, batteries for the HUD and VPU shall be supplied with the SCBA in a separate, sealed package.

2.1.5 Size limitation.

2.1.5.1 Stowage size. The SCBA with a 30-minute or a 45-minute cylinder installed shall fit into a stowage area not to exceed 12 inches wide by 25 inches high by 11 inches deep.

2.1.5.2 Maximum depth. The SCBA with a 30-minute cylinder shall not have a depth greater than 8.5 inches, including cylinder retention band.

2.1.6 Facepiece. The facepiece shall be clearly marked to identify facepiece size if available in more than one size.

2.1.6.1 Lens replacement. The facepiece lens shall be replaceable without the use of special tools and the time to replace the lens shall not exceed 8 minutes. The lens shall be interchangeable with all facepiece sizes, if applicable.

2.1.6.2 Nosecup. The facepiece shall be equipped with a nosecup and shall have size clearly marked, if applicable. The nosecup shall be removable without the use of special tools and interchangeable with all size facepieces.

2.1.6.3 Corrective spectacles. The SCBA shall have a NIOSH approved spectacle kit available as an accessory.

2.1.7 Cleaning and disinfecting.

2.1.7.1 Facepiece. The facepiece shall be fully immersible in a dilute sanitizing solution, defined as 2 tablespoons of Wescodyne G or sodium hypochlorite per 1½ gallons of water, for the purpose of cleaning and disinfecting. Preparation time, i.e., removal of non-immersible parts such as the VPU, for full immersion shall be less than 30 seconds.

2.1.7.2 Second stage regulator. If any part of the second stage regulator is exposed to the exhalation path, the second stage regulator shall be fully immersible in a dilute sanitizing solution, defined as 2 tablespoons of Wescodyne G or sodium hypochlorite per 1½ gallons of water, for the purpose of routine cleaning and disinfecting.

2.2 Performance requirements. The SCBA shall meet the following performance requirements in addition to all requirements specified in NFPA 1981.

2.2.1 Certification. The SCBA shall be certified to 42 CFR 84 and certified by NIOSH for fire fighting and emergency responder use in Chemical, Biological, Radiological, and Nuclear (CBRN) environments.

2.2.2 Rated duration. The SCBA shall have a minimum rated service time of thirty minutes and forty-five minutes depending on the size of the installed air cylinder, when tested by NIOSH in accordance with 42 CFR 84.

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2.2.3 VPU operating time. The VPU shall have a minimum operating life of 6 hours.

2.2.4 Second stage regulator operation. The second stage regulator shall operate in the pressure demand mode.

2.2.4.1 Bypass. Second stage regulators shall include a separate control for admitting purge air into the facepiece to clear fogging.

2.2.4.2 Air shutoff control. The second stage regulator shall include a separate control for air shutoff. The air shutoff control shall provide a convenient means to stop the flow of breathing air to the facepiece when the user is in a safe breathing environment.

2.2.5 Recharge capability. It shall be possible to fully recharge the air cylinder while the SCBA is being worn and in use (user is "on air"). It shall be possible to fully recharge an empty 45-minute air cylinder (pressure less than 500 psig) to 4500 psig in this manner in less than one minute.

2.2.6 Stowage and survivability. The SCBA shall pass shock and vibration testing while stowed in a Model 12 locker in accordance with NAVSEA DWG 53711-664-7246014.

2.2.6.1 Shock. The SCBA shall be shock tested in accordance with MIL-S-901, Shock Grade A, Class II, Test Type A. Upon completion of test, the SCBA shall pass a functional test in accordance with the Testing subsection of NFPA 1852.

2.2.6.2 Vibration. The SCBA shall be vibration tested in accordance with MIL-STD-167-1, Type I. The exploratory variable range shall be 4 Hz to 50 Hz. Upon completion of test, the SCBA shall pass a functional test in accordance with the Testing subsection of NFPA 1852.

2.3 Safety. All parts or components of the equipment, as well as the assembled units delivered, shall, as a minimum, be fabricated to eliminate hazards to personnel, interfacing equipment, and the equipment itself. The equipment shall be safe to use in the intended environment as specified herein and shall include over-pressurization protection.

3. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

4. PRODUCT CONFORMANCE PROVISIONS.

4.1 Product conformance. The products provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance.

4.2 Market acceptability. The following market acceptability criteria are necessary to document the quality of the product to be provided under the CID.

4.2.1 The manufacturer of the item must have been producing a product meeting the requirements of this CID for at least 2 years.

4.2.2 The manufacturer must have sold at least 1000 units meeting this CID in the commercial market over the past 2 years.

5. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

6. NOTES.

6.1 Source of documents.

6.1.1 ANSI. ANSI standards are available from the American National Standards Institute, 25 W. 43rd St, 4 floor, New York, NY 10036 or online at <http://www.ansi.org>.

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6.1.2 ASTM. ASTM standards are available from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 or online at <http://www.astm.org/>.

6.1.3 CFR. The Code of Federal Regulations (CFR) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20401 or online at <http://www.gpoaccess.gov/index.html>.

6.1.4 CGA. CGA specifications and standards are available from the Compressed Gas Association, Inc., 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923 or online at <http://www.cganet.com>.

6.1.5 MIL-SPECS. Military Specifications are available at <http://astimage.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Bldg. 4D, Philadelphia, PA 19111-5094.

6.1.6 MIL-STDs. Military Standards are available at <http://astimage.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Bldg. 4D, Philadelphia, PA 19111-5094.

6.1.7 NFPA. National Fire Protection Association (NFPA) standards are available from NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471 or online at www.nfpa.org.

6.2 Ordering data. The contract or order should specify the following:

- a. CID document number and revision.
- b. Cylinder supplied (see 2.1.1.3).
- c. Product conformance provisions.
- d. Packaging requirements.

6.3 Keywords.

Air
 CBRN
 Cylinder
 Damage control
 Fire fighting
 Investigator
 Personnel protection equipment
 Respirator
 Safety equipment

MILITARY INTERESTS

Custodians:

Army – EA
 Navy – SH
 Air Force – 03

Preparing Activity:
 Navy – SH
 (Project 4240-0693-000)

Review Activities:

Navy – AS
 Air Force – 11, 84, 99

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