

SOP-GEN-017 Respiratory Protection Program

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1.0 Introduction

TDI-Brooks has determined that employees may be exposed to harmful vapors, gasses or particulates in the following operations. Required PPE for these activities are indicated on the TDI-Brooks PPE Matrix and is in addition to whatever is required by the Safety Data Sheet.

- 1.1 Painting in the interior of the vessel – Painting on vessels is a common practice and most marine paints and epoxies contain organic compounds which could produce potentially harmful organic vapors. A half face respirator with the appropriate cartridges should be used. In addition, forced air ventilation and opening all doors will reduce exposure.
- 1.2 Use of OSPHO or similar acid to treat metals- OSPHO or other acids are often used to pre-treat metal surfaces. These can produce potentially harmful acid gas vapors requiring the use of half face respirator with the appropriate cartridge.
- 1.3 Processing geochemical or geotechnical cores - On geochemical coring operations, we may take a core sample that contains hydrogen sulfide or methane. In these cases, proper ventilation of the lab and processing areas by opening all doors, using fans and removing personnel from the lab until the majority of the gas dissipates precludes the need for a respirator. We also have wall mounted and personal gas detecting devices which may be used for specific projects.

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1.4 Firefighting- All STCW endorsed personnel onboard a vessel have been trained in firefighting and may be called upon to participate in drills or to actively fight a real fire. SCBAs with negative pressure respirator masks are a standard part of firefighting gear.

1.5 Asbestos- When work with lagging is involved and the area cannot be certified free of asbestos, repairs will be postponed until a certified asbestos removal company can do the work or certify that the lagging is asbestos free. Because of the complexity of working with asbestos outlined in 29 CFR 1915 Subpart Z, and the rare situations in which it would apply, **asbestos related work will not be conducted by TDI-Brooks personnel and asbestos related work by a certified asbestos removal company will not occur without a Management of Change** specifically approved and signed off by both the Port Captain and Port Engineer.

2.0 Scope and Application

This program applies to all employees who may be required to wear respirators during routine or emergency operations.

3.0 References

The OSHA General Industry standard does not apply to offshore operations; however, we do refer to 29 CFR 1910.134 Respiratory Protection Standard as a guideline for developing TDI-Brooks policies and procedures.

4.0 Responsibilities

The Program Administrator is responsible for administering the respiratory protection program. The Program Administrator for TDI-Brooks is the **HSE Manager**.

Duties of the program administrator include:

- Identifying work areas, processes or tasks that require workers to wear respirators and evaluating hazards
- Selection of respiratory protection options
- Monitoring respirator use to ensure respirators are used in accordance with their certifications.

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- Arranging for and/ or conducting training. Training is provided for SCBAs as part of STCW.
- Ensuring proper storage and maintenance of respiratory protection equipment. Vessel Captains and Chief Mates ensure proper storage and maintenance of SCBAs, EEBDs and half face respirators on the vessels.
- Maintaining records required by the program. Maintenance records as appropriate are kept on board as part of the regular safety gear inspections.
- Evaluating the program.
- Updating the written program as needed.

Supervisors are responsible for ensuring that the respiratory protection program is implemented in their particular areas. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure the employees under their charge also understand and follow the program. Duties of the supervisors include:

- Ensuring that employees under their supervision (including new hires) have received appropriate training and medical evaluation every two years.
- Ensuring the availability of appropriate respirators and accessories.
- Being aware of tasks requiring the use of respiratory protection.
- Enforcing the proper use of respiratory protection when required.
- Ensuring respirators fit well and function correctly.
- Ensuring that respirators are properly cleaned, maintained and stored according to the respiratory protection plan. (Follow manufacturer's instructions)
- Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding the program.

Each employee has the responsibility to wear his or her respirator when required and in the manner in which they were trained. Employees must also:

- Care for and maintain respirators as instructed and store them in a clean, sanitary location.
- Notify their supervisor if the respirator does not fit well and request a new one that fits properly.
- Notify their supervisor or the Program Administrator of any respiratory hazards they feel are not adequately addressed in the workplace and of any other concerns they may have regarding the program.

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5.0 Procedures

The Program Administrator will select respirators (SCBAs, EEBDs and half face respirators) to be used based on the hazards to which workers may be exposed and in accordance with industry best practices and NIOSH guidelines. SCBA gear is tested and training is conducted during onboard fire drills on the vessels. Other hazard evaluations will be revised as needed and will include:

- 5.1 A list of the potential respiratory hazards an employee may face
- 5.2 Steps to mitigate those hazards
- 5.3 The type of respirator to use in specific routine or emergency situations

6.0 Respirator Use and Inspection

TDI-Brooks has vessels deployed all over the world, and as a result, different equipment by different manufacturers may be used on any given vessel. The table in figure 6.1 shows the basic respirator types that may be encountered on our vessels.

Basic Respirator Types used by TDI-Brooks International			
Type	Potential Uses	Potential Users	When needed
SCBAs Self contained breathing apparatus	Firefighting, Confined Space Rescue	SCTW trained crew	As Required
EEBDs Emergency escape breathing devices	Escape from the ship in an emergency which compromises the atmosphere	Any employee	As Required

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Half Face respirators with P100 cartridges	Painting in enclosed spaces	Any employee	Per PPE Matrix
Paper filter masks (disposable)	Sanding, spray painting	Any employee	Voluntary

Table 6.1

7.0 Cleaning, Maintenance and Storage

Respirators will be cleaned, maintained, inspected and stored according to manufacturers' instructions. **Respirators are NOT to be stored in paint lockers or with the chemicals they are designed to prevent the user from inhaling.**

8.0 Certification

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approved label, which must not be removed or defaced during use.

9.0 Medical Evaluations

Medical evaluations are required every two years as part of the merchant mariner physical.

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