



Fleet Safety Manual

7.B.3 - ENTRY INTO CONFINED SPACES

1 PURPOSE

- a) To ensure that any entry into confined spaces is undertaken only under controlled and safe circumstances.

2 RESPONSIBILITIES

2.1 COMMANDING OFFICERS IN CONSULTATION WITH CHIEF ENGINEERS

- a) Commanding Officers, in consultation with Chief Engineers, shall identify those spaces which may pose risks as confined spaces. A list of all identified spaces and the associated risk assessments are to be kept onboard.

2.2 ENTRY SUPERVISORS

- a) Entry Supervisors are in charge of approving and cancelling Confined Space Entry Permits and shall ensure that they have been signed. They shall ensure that all tests have been completed; team members and equipment are in place and are responsible to ensure that an adequate rescue plan is in place. They shall ensure that procedures are followed; all workers involved in Confined Space Entry operations are familiar with this procedure and have received Confined Space Entry Training.

3 INSTRUCTION

3.1 GENERAL

- a) It is mandatory that the Confined Space Entry Permit and checklist, located in Annex D – Forms of the Fleet Safety Manual (FSM), are completed. The Confined Space Entry Permit is issued by the Entry Supervisor.
- b) The Maritime Occupational Safety and Health (MOHS) Regulations require that these permits be retained aboard for at least two years following the date that they were signed. In the event that conditions changed inside the space or conditions could not be complied with the Permit shall be kept for 10 years.

3.2 ENTRY SUPERVISOR

- a) The Entry Supervisor shall determine it is safe to enter a confined space by ensuring:
- that potential hazards have been identified in the pre-entry risk assessment; paying particular attention to possible flooding of the confined space and adjacent spaces, due to open access points, piping, and such. As far as possible, these hazards have been isolated, mitigated or made safe;
 - that the space has been thoroughly ventilated by natural or mechanical means to remove any toxic or flammable gases, and to ensure an adequate level of oxygen throughout the space;
 - that the atmosphere of the space has been tested as appropriate with properly calibrated instruments to ascertain acceptable levels of oxygen and acceptable levels of flammable or toxic vapours;
 - that the space has been secured for entry and is properly illuminated;
 - that a suitable system of communication between all parties for use during entry has been agreed and tested;
 - that an attendant has been instructed to remain at the entrance and to monitor the space while it is occupied;
 - that no entry shall take place unless a trained and equipped rescue team is on site, that a rescue plan has been agreed upon and rescue team responsibilities have been assigned.
 - that personnel have proper Personnel Protective Equipment (PPE) and are equipped for the entry and subsequent tasks; and
 - that a permit has been issued and duly signed authorizing entry.
- b) Only qualified trained personnel shall be assigned the duties of entering, functioning as attendants, or functioning as members of rescue teams. All personnel involved shall be familiarized and receive a basic safety briefing prior to engaging in any work.
- c) All equipment used in conjunction with entry shall be in good working condition and shall be inspected prior to use.
- d) When mechanical ventilation of the space is required to ensure readings are maintained within the limits set in section 3.3 (b), the ventilation shall continue for the entire period that the space is occupied and during temporary breaks. In the event of a failure of the ventilation system, any persons in the enclosed space shall leave the space immediately.

3.3 TESTING THE ATMOSPHERE

- a) Appropriate testing of the atmosphere of a space shall be carried out with properly calibrated equipment by persons trained in the use of the equipment. The manufacturer's instructions shall be strictly followed.

- b) Prior to entering a space, steady readings of the following must be obtained using a multi-gas meter, calibrated to factory specifications and bump tested before use:
 - not less than 19.5% and not more than 23% oxygen by volume as measured by oxygen content meter
 - not more than 10 % of lower flammable limit (LEL)
- c) Testing shall be carried out before a person initially enters the space and after the space has been left unattended. Continuous monitoring shall be carried out while persons are in the space, until all work is completed.
- d) Persons shall leave the space immediately if a deterioration of conditions is suspected or indicated by a change in the atmospheric readings or if mechanical ventilation fails or stops (when used).

3.4 PRECAUTIONS REQUIRED WHERE ATMOSPHERE IS KNOWN OR SUSPECTED TO BE UNSAFE

- a) If the atmosphere in a confined space is suspected or known to be unsafe, the space shall only be entered when no practical alternative exists. Entry under these conditions shall only be made for further testing, essential operation, safety of life, or safety of the vessel. The number of persons permitted to enter the space shall be the minimum required.
- b) Suitable breathing apparatus (a supply of clean air independent of the atmosphere within the space) shall always be worn and only persons who have been trained in the use of such apparatus shall be allowed to enter the space. All personnel entering the space have been provided with rescue harnesses and lifelines. Appropriate PPE shall be worn wherever there is a risk of toxic substances or chemicals coming into contact with the skin or eyes of those entering the enclosed space.

3.5 EMERGENCY

- a) In the event of an emergency, under no circumstances shall the attending crewmember enter the space. The attendant is to summon the rescue team and the rescue team shall evaluate the situation to ensure the safety of those entering the space to undertake rescue operations.

4 DOCUMENTATION

- Confined Space Entry Permits (Annex D – Forms)
- Log Book Entries
- Training Records
- Calibration Records

