**ENCLOSED SPACE ENTRY FORM**

Refer to [Enclosed Space Entry Work Permit Procedure](file:///C:\Users\DELL\Dropbox\SMS%2015%20April%202020\Volume%20VIII\Volume%20IV\Hyperlink\Enclosed%20space%20entry%20procedure.doc), for further information.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Vessel:** |  | **Period of Validity**  **(Not to exceed 12 hrs)** | **From Date:** |  | **To Date:** |  |
| **Time:** |  | **Time:** |  |
| **Location (One form for each space):** | | |  | | | |
| **Reason for Entry:** | | |  | | | |

**Section 1 – Preliminary Potential Hazard (To be completed by Competent Person - Chief Officer, Chief Engineer or 2nd Engineer)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Enclosed Space Last Contained: | |  | | | | | |
|  | | | | | | | |
| **Risk** | **Yes** | **No** | **Hazard Description** | **Control Actions Taken** | | | |
| Electrical |  |  |  |  | | | |
| Mechanical |  |  |  |  | | | |
| Chemical |  |  |  |  | | | |
| Sources of Ignition |  |  |  |  | | | |
| Hazardous Atmosphere |  |  |  |  | | | |
| Internal Construction |  |  |  |  | | | |
| Do you consider (Job Hazard Analysis) necessary for this task? | | | | Yes |  | No |  |
| (Attach a completed JHA, if the answer one of the above is “Yes”) | | | | | | | |

**Section 2A - Pre-Entry Atmosphere Tests by Responsible Person (If the enclosed space is vacated for break, atmosphere of the space should be fully re-tested prior entry)**

| **No.** | **Gas** | **Time** | **Allowable** | **Actual Reading** |
| --- | --- | --- | --- | --- |
| 1. | Oxygen |  | % volume (20.8 %) |  |
| 2. | Hydrocarbon |  | % LFL (Less than 1%) |  |
| 3. | Hydrogen Sulphide (H2S) |  | Parts Per Million (PPM) |  |
| 4. | Carbon Monoxide |  | Parts Per Million (PPM) |  |
| 5. | Toxic Gases - ppm |  | Specify gas & not more than 50% OEL – Refer to page 9 item no.9 (c) |  |
| 6. |  |  |  |  |

**Section 2A - Pre-Entry Atmosphere Tests by Responsible Person (After Break)**

| **No.** | **Gas** | **Time** | **Allowable** | **Actual Reading** |
| --- | --- | --- | --- | --- |
| 1. | Oxygen |  | % volume (20.8 %) |  |
| 2. | Hydrocarbon |  | % LFL (Less than 1%) |  |
| 3. | Hydrogen Sulphide (H2S) |  | Parts Per Million (PPM) |  |
| 4. | Carbon Monoxide |  | Parts Per Million (PPM) |  |
| 5. | Toxic Gases - ppm |  | Specify gas & not more than 50% OEL – Refer to page 9 item no.9 (c) |  |
| 6. |  |  |  |  |

**Section 2A - Pre-Entry Atmosphere Tests by Responsible Person (After Break)**

| **No.** | **Gas** | **Time** | **Allowable** | **Actual Reading** |
| --- | --- | --- | --- | --- |
| 1. | Oxygen |  | % volume (20.8 %) |  |
| 2. | Hydrocarbon |  | % LFL (Less than 1%) |  |
| 3. | Hydrogen Sulphide (H2S) |  | Parts Per Million (PPM) |  |
| 4. | Carbon Monoxide |  | Parts Per Million (PPM) |  |
| 5. | Toxic Gases - ppm |  | Specify gas & not more than 50% OEL – Refer to page 9 item no.9 (c) |  |
| 6. |  |  |  |  |

**Section 2B - INITIAL ENTRY ATMOSPHERE TESTS BY ONE OR TWO CREW MEMBERS MAKING THE INITIAL ENTRY carrying EEBD and personal gas monitor**

| **No.** | **Gas** | **Time** | **Allowable** | **Actual Reading** |
| --- | --- | --- | --- | --- |
| 1. | Oxygen |  | % volume (20.8 %) |  |
| 2. | Hydrocarbon |  | % LFL (Less than 1%) |  |
| 3. | Hydrogen Sulphide (H2S) |  | Parts Per Million (PPM) |  |
| 4. | Carbon Monoxide |  | Parts Per Million (PPM) |  |
| 5. | Toxic Gases - ppm |  | Specify gas & not more than 50% OEL – Refer to page 9 item no.9 (c) |  |
| 6. |  |  |  |  |

**Section 2B – Initial Entry Atmosphere Tests by one or two crew members making the initial entry carrying EEBD and personal gas monitor (After Break)**

| **No.** | **Gas** | **Time** | **Allowable** | **Actual Reading** |
| --- | --- | --- | --- | --- |
| 1. | Oxygen |  | % volume (20.8 %) |  |
| 2. | Hydrocarbon |  | % LFL (Less than 1%) |  |
| 3. | Hydrogen Sulphide (H2S) |  | Parts Per Million (PPM) |  |
| 4. | Carbon Monoxide |  | Parts Per Million (PPM) |  |
| 5. | Toxic Gases - ppm |  | Specify gas & not more than 50% OEL – Refer to page 9 item no.9 (c) |  |
| 6. |  |  |  |  |

**Section 2B – Initial Entry Atmosphere Tests by one or two crew members making the initial entry carrying EEBD and personal gas monitor (After Break)**

| **No.** | **Gas** | **Time** | **Allowable** | **Actual Reading** |
| --- | --- | --- | --- | --- |
| 1. | Oxygen |  | % volume (20.8 %) |  |
| 2. | Hydrocarbon |  | % LFL (Less than 1%) |  |
| 3. | Hydrogen Sulphide (H2S) |  | Parts Per Million (PPM) |  |
| 4. | Carbon Monoxide |  | Parts Per Million (PPM) |  |
| 5. | Toxic Gases - ppm |  | Specify gas & not more than 50% OEL – Refer to page 9 item no.9 (c) |  |
| 6. |  |  |  |  |

**Section 2C - Preparation and checks done by the Responsible Officer prior to entry and during the work in Enclosed Space**

|  | **Yes** | **No** | **N/A** |
| --- | --- | --- | --- |
| Has the space been isolated by blanking off, or isolating, all connecting pipelines? |  |  |  |
| Have valves on all pipelines connected to the space been closed and secured to prevent their accidental opening? |  |  |  |
| Is a Lock out/Tag out required (for those vessels where this is implemented)? |  |  |  |
| Has the space been cleaned? (for cargo tanks) |  |  |  |
| Has the space been thoroughly ventilated? |  |  |  |
| Provision maintained for continuous ventilation |  |  |  |
| Are arrangements in place for frequent atmosphere checks to be made while the space is occupied and after breaks? |  |  |  |
| Are arrangements in place for continuous ventilation throughout the period of occupation and during breaks? |  |  |  |
| Is adequate illumination provided? |  |  |  |
| Is rescue & resuscitation equipment available for immediate use by the entrance to the space? (2 x BA set, 2 x EEBD set, rescue line, resuscitator)  BA Set No.1 pressure \_\_\_\_\_\_\_\_\_ bars  BA Set No.2 pressure \_\_\_\_\_\_\_\_\_ bars  EEBD Set No. 1 pressure \_\_\_\_\_\_\_\_\_\_\_ bars  EEBD Set No. 2 pressure \_\_\_\_\_\_\_\_\_\_\_ bars |  |  |  |
| Has the safety standby person been designated to stand by the entrance to the space? |  |  |  |
| Has the Officer of the Watch (bridge, engine room, cargo control room) been advised of the planned entry? |  |  |  |
| Has a system of communication (safety standby person to space /Bridge/ Control Room) been agreed and tested?  Working Channel: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |  |  |  |
| Are emergency and evacuation procedures established and understood? |  |  |  |
| Is all equipment in use, of an approved type? |  |  |  |
| Has the Risk assessment conducted? (Attach a completed JHA to this form)? |  |  |  |
| Has the personal gas detector had been issued to the person entering the enclosed space? |  |  |  |
| Tripping hazard identified? |  |  |  |
| Inert Gas pipeline secured and locked? |  |  |  |
| Weather condition evaluated as safe? |  |  |  |
| Permit requires from Port Authority (If required)? |  |  |  |
| Personnel involved have adequate rest? |  |  |  |
| Gas testing equipment calibrated and recently tested prior to use? |  |  |  |
| Personnel involved wear proper and sufficient PPE? |  |  |  |
| Contingency evacuation plan ready and well understood? |  |  |  |
| Tool box meeting conducted? |  |  |  |

**Section 2d - Oncoming responsible officer in charge**

I have verified, fully understood, and will maintain the conditions that apply to this enclosed space entry form.

|  |  |  |
| --- | --- | --- |
| From: | To: | Signature: |
| From: | To: | Signature: |
| From: | To: | Signature: |
| From: | To: | Signature: |
| From: | To: | Signature: |

**Section 3A – Pre-Entry Checks (*To be checked by each person entering the space*)**

|  |  |  |
| --- | --- | --- |
| **Item** | **Yes** | **No** |
| I have received instructions or permission from the Master or Competent person to enter the enclosed space? |  |  |
| Has Section 1 and Section 2A & 2C of this permit has been satisfactorily completed by the Competent Person and Responsible person, for persons entering for initial entry checks? |  |  |
| Has Section 1 and Section 2A, 2B & 2C of this permit has been satisfactorily completed by the Competent Person and Responsible person for persons other than those entering for initial entry checks? (to be completed after initial entry checks in section 2B are completed) |  |  |
| I have agreed and understand the communication procedures. |  |  |
| I have agreed upon a reporting interval of ..............minutes |  |  |
| Emergency and evacuation procedures have been agreed and are understood. |  |  |
| I am aware that t the space must be vacated immediately in the event of ventilation failure or if atmosphere tests change from agree safe criteria. |  |  |

**Section 3B – Pre-Entry Checks (*To be checked by Responsible Officer and each person entering the space*)**

| **Item** | **Yes** | **No** | **N/A** |
| --- | --- | --- | --- |
| Person entering the space are familiar with any breathing apparatus to be used |  |  |  |
| The breathing apparatus has been tested as follows:  - Gauge and capacity of air supply  - Low pressure audible alarm if fitted  - Face mask – under positive pressure and not leaking (leak test) |  |  |  |
| The means of communication has been tested and emergency signals agreed |  |  |  |
| All personnel entering the space have been provided with rescue harnesses and, where practicable, lifelines**.** |  |  |  |

**Section 3C – To be signed by below person entering the space on completion of Section 3A and 3B**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| By affixing the signatures below, the persons entering the spaces confirmed they have read and understood the precaution, check and participated in the tool box meeting. | | | | |
| **No.** | **Name** | **Rank** | **Date** | **Signature** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Section 3D – To be signed by the below persons on completion of Section 1 to 3 checks**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Person** | **Rank** | **Name** | **Date** | **Time** | **Signature** |
| Competent Person |  |  |  |  |  |
| Responsible Officer |  |  |  |  |  |
| Team Leader |  |  |  |  |  |
| Attendant - Safety Standby Person |  |  |  |  |  |

**Master is to sign below to confirm that he is satisfied that all necessary preparations for the enclosed space entry have been completed and it is safe to enter.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Master:** |  |  | **Date/Time:** |  |
| **Signature:** |  |  |  |  |

**Section 4A - Personnel Entry Log - *(Completed by the Officer on Watch as reported by the Attendant -safety standby person)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Name of Person Entering Enclosed Space** | **Rank** | **Time In** | **Time Out** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Section 4B – Repetitive Gas Check Record - *(Completed by the Officer on Watch as reported by the Attendant -Safety Standby Person at intervals not exceeding 30 mins when the enclosed space is occupied)***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Code** | **Date** | **Time** | **Oxygen - % volume (20.9%)** | **HC - % LEL (Less than 1%)** | **Toxic Gases – ppm (Specify gas & OEL)** | **Signed by Duty Officer** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **Code:**  R – Repetitive test at agreed frequency  RP – Requested test | | | | | | |

**Section 5 – Declaration of Closure (*To be checked by Responsible Officer*)**

|  |  |
| --- | --- |
| **Item** | **Tick (√ )** |
| Entry operation completed (lnsert Date / Time: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_). |  |
| On completion of entry, have all persons exited the space and materials & equipment (as applicable) been removed from enclosed space? |  |
| On completion of entry, have all the warning notices and Tag Out/Lock Out have been removed? |  |
| Master has been informed of closure? |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Declared by Competent Person:** |  |  | **Entry Permit Closed - Date/ Time:** |  |
| **Signature:** |  |  |  |  |

**Notes:**

1. An Enclosed Space Entry Permit should be authorized by the Master.
2. Enclosed space means a space which has any of the following characteristics:

* Limited openings for entry and exit
* Poor natural ventilation
* Is not designed for continuous worker occupancy

and includes, but is not limited to, recommended enclosed spaces and spaces which do not meet the criteria for an enclosed space but may have an unsafe atmosphere and should be subjected to the enclosed space entry procedures as listed in SM066 on each vessel completed every six months, after conducting joint risk assessment by chief officer and second engineer.

The permit is valid during the normal working day and the duration of the Entry Permit should not exceed **12** hours.

1. Multiple tank entries are not permitted in one entry permit. If any of the below is marked as “NO”, it is essential that permission is obtained from the company.
2. All previously issued permits will get cancelled upon berthing and fresh permits will be issued after taking permissions from terminal.
3. Provided the conditions for issuing the original entry permit have not changed (and permit cancelled), ventilation should not be stopped while the above mentioned re-entry gas testing is carried out. If ventilation stops, or any of the criteria for entering the space are not maintained for any reason, the space should be evacuated immediately, and the original permit cancelled.
4. Once the tank has been confirmed as safe for entry with an entry permit issued, and before anybody enters to carry out work, an initial entry should be made to ensure the space is safe for work. This initial entry should be carried out by one or two crew members, depending on the size, nature and layout of the space. Each should carry an Emergency Escape Breathing Device (EEBD) and a personal gas monitor. They should check the tank atmosphere thoroughly, paying particular attention to the work locations and areas inaccessible for testing from the deck. The results of this local atmosphere test should be recorded in form SM003 Section 2B.
5. Tests for specific toxic contaminants, such as benzene and hydrogen sulphide, should be undertaken depending on the nature of the previous contents of the space.
6. The maximum allowable limit of the below toxic gaseous are as follows:

CO - PPM (Less than 25ppm)

H2S - PPM (Less than 5ppm)

Benzene - PPM (Less than 1ppm)

1. Responsible Officer is to carry out pre-entry atmosphere checks on the enclosed space before person entry to ensure the below gas is at the allowable reading:
2. Oxygen content is 20.8% by volume
3. Hydrocarbon vapour concentration is not more than 1% LEL
4. Toxic gas reading not exceeding more than 50% of the occupational exposure limit (OEL)

CO - PPM (Less than 12ppm)

H2S - PPM (Less than 2ppm)

Benzene - PPM (Less than 0.5ppm)

1. In some cases it may be difficult to test the atmosphere throughout the enclosed space without entering the space (e.g. the bottom landing of a stairway) and this should be taken into account when assessing the risk to personnel entering the space. The use of flexible hoses or fixed sampling lines, which reach remote areas within the enclosed space, may allow for safe testing without having to enter the space.
2. For entry into pump room, the company record book ‘Pump Room Entry Log’ is to be used.
3. This permit relates to entry into any enclosed space as described in Chapter 10 of the ISGOTT and SMS Volume IV, Chapter 5 – Work Permit System.
4. A single permit is to be issued and used for each individual space.
5. Repetitive check on gas atmosphere is to be carried out at maximum interval of **30 minutes**.
6. This permit is rendered invalid should ventilation of the enclosed spaces stop.