Informasi Teknik

No. : 319-2024

22 Maret 2024

Kepada : Seluruh Pemakai Jasa BKI & Surveyor BKI

Perihal : Penerapan IACS PR 37 Rev.3

Ringkasan :

Informasi teknik ini bertujuan untuk menyebarkan informasi terkait IACS PR 37 Rev.3 2023 tentang Procedural Requirement for Confined Space Safe Entry yang harus diterapkan per 1 Januari 2024 oleh pihak yang berkepentingan khususnya galangan kapal, pemilik kapal (termasuk operator) dan surveyor ketika hendak memasuki ruang tertutup selain persyaratan yang telah diatur dalam Rules for Classification and Surveys (Pt.1, Vol.I).

Informasi :

1. Sehubungan dengan terbitnya IACS PR 37 Rev.3 2023 tentang Procedural Requirement for Confined Space Safe Entry yang berlaku efektif per 1 Januari 2024 dimana persyaratan dalam IACS PR 37 tersebut masih dalam proses adopsi ke dalam Peraturan Klasifikasi BKI maka untuk itu kami menginformasikan kepada semua pihak yang berkepentingan khususnya Surveyor, Galangan Kapal dan Pemilik Kapal (termasuk Operator) untuk memperhatikan dan mematuhi persyaratan dalam IACS PR 37 Rev.3 selain persyaratan dalam Rules for Classification and Surveys (Pt.1 Vol.I), Annex A, A1 ketika hendak memasuki ruang tertutup.
2. Persyaratan dalam IACS PR 37 Rev.3 akan diadopsi di dalam BKI Rules for Classification and Surveys (Pt.1, Vol.I) edisi Juli 2024.
3. Persyaratan IACS PR 37 Rev.3 dapat dilihat dalam lampiran.

Informasi lebih lanjut

Pertanyaan sehubungan dengan Informasi Teknik ini dapat ditujukan ke:

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LAMPIRAN IACS PR 37 Rev.3 Aug 2023

1 Objective

This procedural requirement contains the minimum requirements that Societies shall prescribe to help keep surveyors safe when conducting confined space entry.
Societies are free to take measures beyond those required in this document but shall as a minimum prescribe the requirements contained in this document and that they meet any relevant occupational safety and health legislative requirements in place at locations where work is conducted.

IACS recommendation 72, and IMO Res. A.1050(27) can be referred to for further guidance on confined space safe entry practice.

When in any doubt about the safety associated with the confined space, the attending surveyor has the right to refuse entry.

2 Definitions

2.1 Confined Space

Confined Space means a space that has any of the following characteristics:

- Limited openings for entry and exit
- Unfavourable natural ventilation
- Not intended for continuous worker occupancy

It may include, but is not limited to: boilers, pressure vessels, cargo spaces (cargo holds, or cargo tanks), enclosed cargo space access trunks, ballast tanks, double bottoms, double hull spaces, fuel oil tanks, lube oil tanks, sewage-tanks, pump-rooms, compressor rooms, cofferdams, void spaces, duct keels, inter-barrier spaces, engine crankcases, excavationsand pits.

2.2 Confined Space Entry (CSE)

Confined Space Entry is the process of entering, working in and exiting a confined space.

2.3 Competent Person

Competent person means a person with sufficient theoretical knowledge and practical experience to make an informed assessment of the likelihood of oxygen deficient/enriched or a dangerous atmosphere being present or subsequently arising in the space. Competent person must be trained and qualified in the hazards of Confined Spaces and in use of atmospheric monitoring devices. The Competent Person role may be performed by a Marine Chemist.

2.4 Responsible Person

Responsible Person means a person authorised to permit entry to a confined space and having sufficient knowledge of the procedure to be followed and other activities that are beingundertaken that could impact on the safety of those in a confined space.

2.5 Attendant

Attendant is a person who is suitably trained and responsible for maintaining a watch over those entering the confined space, for maintaining communications with those

inside the space and for initiating the emergency procedures in the event of an incident occurring.

2.6 Marine Chemist

A Marine Chemist is a person holding a valid and suitably recognised qualification as amarine chemist or equivalent.

2.7 Adjacent Space & Connected Space

~~An adjacent space is any space bordering the confined space in any directions, including allpoints of contact, corners, diagonals, decks, tank tops and bulkheads.~~

2.7.1 ***Adjacent space*** means a space that shares a common boundary with a compartment that contains a hazardous atmosphere. Such a space has no opening or connections into the hazardous compartment whatsoever and is a contiguous barrier. Such a space may only contain a hazardous atmosphere in the event of the failure of that barrier.

2.7.2 ***Connected space*** means a space that is connected, by either permanent or intermittent means to a source space that may contain a hazardous atmosphere. A space separated by a door shall be considered 'connected' as it is impossible to tell from outside the space whether it is open or not. A connected space shall be seen as containing a hazardous atmosphere until testing proves otherwise as that atmosphere could be trapped.

2.8 ~~Toxic Product~~ Hazardous Atmosphere:

~~A Toxic Product means any chemical liquid, gas or solid material, which can give toxic vapourand which is assigned with suffix "T" in column "k" of table given in Chapter 17 of IBC Code, or assigned with suffix "T" or "F+T" in column "f" of table given in Chapter 19 of IGC Code, or classified as a Toxic Substance (Class/Division 6.1) within the part 2 of IMDG Code, or any other product which has a toxic symbol in the data sheet or is hazard classified as a toxic.~~

A hazardous atmosphere in a confined spaces is an environment that may expose personnel to the risk of death, incapacitation, injury, acute illness, toxicity or an inability to self-rescue. This type of atmosphere can arise due to all or any combination of following conditions:

- Lack of natural air movement
- Oxygen-deficient environment
- Flammable environment including oxygen enrichment
- Toxic environment, and/or
- Any other hazardous atmospheric condition.

2.9 Surveyor

For the purpose of this Procedural Requirement a surveyor is any person employed by the classification society conducting activities within a confined space on behalf of this classification society.

2.10 Permit to Enter/Permit to Work

A Permit to Enter or Permit to Work is a documented authorisation that has been signed and dated, including time of issue by the Responsible Person, which states that the space has been tested by a Competent Person and that the space is safe for entry;

what precautions, equipment etc. are required, validity of the permit, and what works are to be done. The validity of the permit is not to exceed 8 hours.

3 Requirements

The requirements are categorised in three groups.

3.1 Training

3.1.1 All surveyors who are expected to enter and work in confined spaces shall be trained in Occupational Safety and Health requirements for such activities. This training shall include:

3.1.1.1 Recognising a confined space

3.1.1.2 Role of the Competent Person, Responsible Person, Attendant and Marine Chemist

3.1.1.3 How to recognise the hazards and manage the risks associated with Confined Space Entries

3.1.1.4 Permit to Work (PTW) systems/control procedures at the workplace

3.1.1.5 Requirements for atmosphere testing and the interpretation of their results

3.1.1.6 Use of personal multi gas meters

3.1.1.7 Access, exit and safe working requirements

3.1.1.8 Emergency arrangements

3.1.2 Competency in the areas covered by the training identified in 3.1.1 shall be periodically assessed, either as part of activity monitoring or some other suitable means. The maximum period between these assessments of competency is 3 years.Appropriate refresher training shall be provided as determined necessary from the competency assessment. The delivery mechanism for this refresher training is forthe individual societies to determine.

3.2 Confined Space Entry Procedures

Societies shall have documented procedures that cover the following points:

3.2.1 Include in their procedures the minimum requirements for Surveyor's entry into a confined space, as follows:

3.2.1.1 Safe entry procedures (such as entry permit, "safe for workers" certificate, "safe forhot work" certificate, etc.) are in place, current and are being followed.

3.2.1.2 The Responsible and Competent Persons are identified.

3.2.1.3 The access and exit arrangements (including Permanent Means of Access) to and within the confined space are considered safe. Where available, multiple entry andexit ways shall be opened.

3.2.1.4 Communications arrangements are adequate

3.2.1.5 The confined space is adequately clean to allow safe working

3.2.1.6 The confined space lighting is adequate for entry/exit and to allow safe working ina confined space.

3.2.1.7 The atmosphere has been demonstrated as being safe (Safe limits for entry are[1] atmospheric oxygen the range of 20.6% to 22% by volume[1], combustible gases ~~less than 5%~~ not more than 1% of lower ~~explosive~~ flammable limit, toxic ~~within acceptable limits~~ vapours and gases not more than 50% of the occupational exposure limits).

3.2.1.8 Adequate ventilation arrangements are in place and functioning throughout theperiod the surveyors are inside the confined space.

3.2.1.9 Isolation of the confined space, as applicable, from other tanks, cargo spaces,pipes, etc. and of machinery in the space, is confirmed.

3.2.1.10 Extreme temperature effects are adequately considered.

3.2.1.11 Electrical equipment in the confined space is suitable and in acceptable condition.

3.2.1.12 A dedicated Attendant is provided by the vessel's management or the management of the facility where the surveyor's activities are carried out for the complete duration of the time spent working in the confined space and the Attendant has suitable means of initiating emergency response.

3.2.1.13 Adequate emergency response arrangements are in place and ensure that appropriate rescue equipment is made available at the entrance of the confined space. Understanding that rescue in a confined space can be time critical, if a confined space is such that rescue will be extremely difficult using available equipment, surveyors shall refuse entry until the risk can be mitigated to an acceptable level.

3.2.2 No surveyor shall be the first to enter a confined space, and they shall be accompanied at all times where the size of the space permits.

3.2.3 Surveyors shall not enter the confined space if they are required to wear breathing apparatus.

3.2.4 Surveyors shall not enter the confined space if the surrounding noise can adversely impact effective communication.

3.2.5 Surveyors shall not enter a confined space if other work, such as welding, blasting is being carried out.

3.2.6 Surveyors shall not enter cargo spaces that have cargoes that are oxygen depleting, self heating, or emitting toxic gases.

3.2.7 Surveyors shall not enter compartments that have been fumigated, or adjacent / connected compartments to those that have been fumigated, unless certified gas free by a marine chemist.

3.2.8 Special attention needs to be given to tanks that carry ballast water which has been treated with chemicals.

3.2.9 On ships fitted with ballast water treatment system using ozone generators, surveyors

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[1] OSHA Standard # 1926.1202 stipulates, the minimum safe level of oxygen for humans in a confined space is 19.5% while maximum is 23.5% by volume and the alarms for Personal multi-gas meters shall be set within this range. The oxygen limits specified in para 3.2.1.7 (20.6% to 22%) are safe limits for "ENTRY" inside a confined space by a surveyor. Though the personnel multi-gas meters are set at 19.5% and 23.5% the surveyor can refuse entry inside the confined space if he/she notes that the measured entry oxygen value indicated on the entry permit form is outside the range of 20.6% to 22% for enhancing the safety.

shall ensure following prior entry into ballast tanks:

- Ozone levels inside the tank must be checked (not to exceed 0.1 ppm (0.2 mg/m³)).
- Confirm that the amount of residual water inside the ballast tank is no more than the normal stripping level.

Surveys of tanks by means of rafts or boats on such ships shall be permitted if an exchange of ballast water has been carried out and the ballast tank contains untreated water only.

3.2.~~5~~10 Surveyors shall not enter the confined space if a toxic product is contained hazardous atmosphere is present or suspected in an adjacent space, and/or connected space, until the following is carried out:

3.2.~~5~~10.1 A risk assessment is completed by the vessel's Management Company and the risk is mitigated.

3.2.~~5~~10.2 All identified controls are confirmed in place prior to tank confined space entry.

3.2.10.3 The atmosphere in space connected to the space being entered, if any, is checked and deemed to be safe.

3.2.~~6~~11 Surveyors shall not be part of a rescue team.

3.2.~~7~~12 Surveyors shall immediately leave a confined space, by the nearest safe exit, if any alarms sound, or any physical impairment or distress is experienced by the surveyor.

3.2.13 Surveyors shall keep in mind and check the structural integrity of access and exit arrangements (including Permanent Means of Access) inside confined spaces, especially in ballast tanks and cargo holds. The surveyor shall refuse entry into any spaces with suspect/deficient access ladders etc. until the structural integrity has been found satisfactory.

3.2.14 The vessel's management or the management of the facility shall have established procedures for confined space entry.

3.2.~~8~~15 If any of minimum requirements addressed in 3.2.1 through 3.2.14 are not complied with or in any other situation where the surveyor has a valid concern over the safety of the confined space, he/she shall refuse ~~to~~ entry into the confined space.

3.2.~~9~~16 The points addressed in 3.2.1 through 3.2.14 above shall be considered as part of survey planning and reviewed as changes occur during any Confined Space Entry.

3.3 Equipment for Surveyors Entering a Confined Space

3.3.1 The following minimum set of Personal Protective Equipment shall be madeavailable by the society to surveyors for conducting a Confined Space Entry:

3.3.1.1 Protective clothing

3.3.1.2 Safety shoes/boots

3.3.1.3 Hard hat

3.3.1.4 Work gloves

3.3.1.5 Protective glasses and/or goggles

3.3.1.6 Ear defenders and/or ear plugs

3.3.1.7 An individual multi gas meter[2], in good working order, serviced and calibrated as per the manufacturer's instructions.

3.3.1.8 A flashlight, appropriate to the nature of the confined space to be entered, and in good working order.

3.3.2 The surveyors must always use the necessary personal protective equipment according to the specific conditions and the survey being carried out.