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CONFINED SPACE ENTRY

1 INTRODUCTION

- 1.1 This procedure details the requirements for controlling access to Confined Spaces performed by QASF workers at QASF workshop.
- 1.2 Working in Confined Spaces is a normal occurrence during projects carried out by QASF.
- 1.3 This procedure is designed to help eliminate any risk involved to personnel, equipment and materials during confined space work.
- 1.4 Work in confined spaces at QASF workshop can include;
- Inside bulk Silos
 - Inside vessels from approx. 1.0m diameter upwards
 - Inside tanks
 - Working on frame internals

2 REVISIONS

Rev.	Date	Nature of Changes	Approved By
0	23.9.24	Issued for use	HQA

3 GENERAL

- 3.1 All steps must be taken to ensure confined space work does not also include working at height. All vessels, tanks and frames should be at the lowest possible level and secured in position.
- 3.2 The requirements for scaffolding or other access aids shall be decided on and implemented prior to working in the confined space.
- 3.3 At NO time shall confined space work be allowed if there is any risk of toxic contamination, gases or chemicals of any kind inside the vessel. The vessel shall be fully emptied and cleaned to the satisfaction of the Project Manager, Workshop foreman and associated team leader.
- 3.4 Work performed in confined spaces will include;
- Welding
 - Grinding
 - Oxy Acetylene Cutting
 - Shot Blasting
 - Painting
 - Inspection



4 CONFINED SPACES CONSIDERED NORMAL

- 4.1 Bulk Storage Silos: - this is the most common type of confined space work at QASF workshop and is only considered as Confined Space, when all Silo shell courses and top and bottom heads have been or are in the process of being fully fitted up.
- 4.2 Storage tanks: - these are considered as normal confined spaces when the shell courses, base and roof have been assembled.
- 4.3 Chemical Tote Tanks: - are considered as a confined space when the shell sides and at least the bottom or top has been assembled.
- 4.4 Vessels: - such as small storage tanks or air receivers will be considered as confined space when the shell and heads have been assembled.
- 4.5 Tank/Silo and other frames: - these are considered as confined space when the worker is at a position where they cannot quickly move to a safe area.
- 4.6 Shot Blasting Reclaim Booth: - this area, when in operation, is accessible by authorized persons only and is considered a confined space when both doors are closed (for normal shot blasting operations).

5 CONFINED SPACES CONSIDERED UNUSUAL

- 5.1 Large transportable water tanks with internal compartments
- 5.2 Repairs to used tanks, vessel and Silos which have been previously subject to normal operation.

6 HAZARD CONTROL – NORMAL CONFINED SPACES

- 6.1 All normal confined space entry points are visible at normal eye level and can therefore be continually checked.
- 6.2 The person performing work in a confined space will have the authority to refuse entry if they are not fully satisfied that all necessary safety precautions are in place.
- 6.3 It is the Team Leader's responsibility to ensure the following steps and observations are in place before allowing entry;
 - ✓ There are no hazardous contents inside the space
 - ✓ Access to the entry point is clear
 - ✓ Scaffolding or other necessary aids are in place
 - ✓ One or more fans are in place to provide adequate air circulation
 - ✓ Adequate lighting is provided



- ✓ Necessary PPE is in place
- ✓ Persons working inside are entitled to work breaks at an interval which suits their current work type and load. At most, a person should not be contained in a confined space for more than 1 hour.

6.4 If painting operations being performed then the necessary breathing masks and filters shall be used.

6.5 It is the Team Leader and the Teams responsibility to watch over persons in confined spaces.

7 HAZARD CONTROL – UNUSUAL CONFINED SPACES

7.1 Where a vessel has been in operation then the following steps will be considered mandatory before allowing entry;

- ✓ The working contents of the vessel must be ascertained
- ✓ The vessel shall be washed out as many times as necessary to remove old and loose contents
- ✓ All manholes and vents shall be removed
- ✓ The vessel shall sit with all openings open for a minimum of 12 hours
- ✓ If deemed necessary, checks for traces of toxic gases or chemicals shall be performed. Oxygen level checks may be performed.

7.2 Where large tank or containers with internal compartments are in use then the following checks and observations shall apply;

- ✓ It will be the decision of the management to implement a T-card style entry system dependent on the tank/container size and configuration.
- ✓ Radio communications shall be in place as necessary (inside – Team Leader – Office)
- ✓ Fans shall be placed at strategic points to maximize air flow and recirculation
- ✓ Adequate lighting is provided
- ✓ Necessary PPE is in place
- ✓ Tag/rescue/escape lines may be used as deemed necessary
- ✓ Persons working inside are entitled to work breaks at an interval which suits their current work type and load. At most, a person should not be contained in a confined space for more than 1 hour.??
- ✓ An attendant may be appointed to monitor the entry points

8 EMERGENCY RESPONSE - ALL CONFINED SPACES

8.1 The situations below are examples of worst-case scenarios whilst work is being performed in confined spaces.



- 8.2 The minimum requirement for any emergency whilst confined space work is in progress is:
- ✓ PROTECT YOURSELF
 - ✓ ATTEMPT TO MAKE THE IMMEDIATE AND ESCAPE AREA SAFE
 - ✓ ASSIST THE EXIT OF ANY PERSONNEL WORKING IN A CONFINED SPACE
 - ✓ PROCEED TO MUSTER STATION
- 8.3 Workshop Electrical power failure
- 8.3.1 Persons working in a confined space shall drop equipment and materials in an orderly fashion and proceed to the confined space entry point and exit the vessel or tank.
- 8.3.2 The Team Leader and Team shall perform a check in confined spaces to ensure no persons have been left inside. An audible and visual check shall be performed. Each Team Leader is fully aware of the size of his team.
- 8.3.3 Ensure all power tools and equipment have been de-energized.
- 8.3.4 When the full team has been accounted for, await further instructions from management.
- 8.4 Smoke or other external air contamination
- 8.4.1 If any smoke, paint or gas contamination is suspected in the normal workshop air environment then the Team Leader or Team shall inform all persons working in the confined space to exit immediately and await further instructions.
- 8.4.2 No persons shall be granted access to confined spaces until the Team Leaders are satisfied that the workshop air quality has normalized.
- 8.5 No response from persons in confined space
- 8.5.1 If persons in confined spaces do not respond to verbal communication alerts, then the person initiating the alert shall immediately shout for assistance whilst trying to assess visually why the person in the confined space is not responding. At NO point shall the person initiating the alert enter the confined space until the Team Leader or another person is there to assist.
- 8.5.2 The Team Leader or Team Member shall cut off all electrical and gas supply to the confined space. Fans shall remain in operation.
- 8.5.3 All normal senses shall be used to ascertain if the person in the confined space has become unresponsive due to possible gas leak/build up or electrical shock.
- 8.5.4 The Team Leader or member shall inform the workshop foreman or any other member of management of the situation.



- 8.5.5 When at least two persons are present at the confined space entry point and it is safe to do so, one person can enter the confined space to assist the unresponsive party.
- 8.5.6 The rescue person shall continually communicate verbally with the person outside and update on the situation as it develops.
- 8.5.7 All steps shall be taken to assess the unresponsive party's condition and decide whether to remove him from the confined space or call for other outside assistance.
- 8.5.8 If any operational methods are suspected in causing a situation as above then the management shall perform a full Risk Analysis and mitigate any risks for future work of the same type.
- 8.6 Workshop fire
 - 8.6.1 On hearing the general workshop alarm or visually witnessing any type of fire, the Team Leader or member shall inform all persons in confined spaces and assist their exit and equipment isolation.
 - 8.6.2 They shall proceed to the muster point and await further instructions.
- 8.7 The above situations arising whilst work being performed in the shot blasting booth.
 - 8.7.1 If the person in the shot blasting booth becomes unresponsive then the Team leader or member shall immediately call for assistance and proceed to shut down the reclaim system and open both doors fully.
 - 8.7.2 If a fire or other emergency alarm has been raised then the Team Leader, member or reclaim operator shall immediately shut off the reclaim system and flash the main lights 3 times whilst instructing others to open both doors and recover the inside party.

9 EMERGENCY RESPONSE – UNUSUAL CONFINED SPACES

- 9.1 Loss of communications – No response
 - 9.1.1 If the party in the confined space does not respond to radio or verbal communication then the person initiating the alert shall immediately shout for assistance whilst trying to get a response from the confined space party. At NO point shall the person initiating the alert enter the confined space.
 - 9.1.2 The Team Leader or Team Member shall cut off all electrical and gas supply to the confined space. Fans shall remain in operation.
 - 9.1.3 All normal senses shall be used to ascertain if the person in the confined space has become irresponsive due to possible gas leak/build up or electrical shock.
 - 9.1.4 The Team Leader or member shall inform the workshop foreman or any other member of management of the situation.



- 9.1.5 When at least two persons are present at the confined space entry point and it is safe to do so, one person can enter the confined space to assist the unresponsive party.
- 9.1.6 If a gas leak or other condition affecting air quality is suspected then the person entering the confined space shall be a trained SCBA rescue person.
- 9.1.7 A tag/rescue line shall be attached to the person entering the confined space. This shall be used by the outside crew to check for movement of the rescue party.
- 9.1.8 The rescue person shall continually communicate verbally or by radio with the person outside and update on the situation as it develops.
- 9.1.9 All steps shall be taken to assess the unresponsive party's condition and decide whether to remove him from the confined space or call for other outside assistance.
- 9.1.10 Electrical lighting can be restored if safe to do so.
- 9.1.11 If any operational methods are suspected in causing a situation as above then the management shall perform a full Risk Analysis and mitigate any risks for future work of the same type.
- 9.2 Fire or other outside emergency
 - 9.2.1 The person in the confined space shall be notified by voice or radio to make safe his location and exit the confined space. Alternatively, another team member can proceed into the confined space to assist the internal party to the exit point.

10 FORMS

None