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| **CAL-HS-PD-2250** |
| **Entry Into Confined Spaces** |
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| **Procedure** |
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# PURPOSE

1. The purpose of this procedure is to prevent injury when working in a confined space. It also aims to reduce the likelihood of infection or loss from the disturbance of bird or bat droppings.
2. The procedure should alert employees and others to the hazards associated with the process and the control measures necessary to control those which present significant risk.
3. All aspects of the Confined Spaces Regulations 1997 and the associated Approved Code of Practice, L.101 Safe working in confined spaces, will be complied with.
4. Appropriate sections of the Welfare Regulations, The Work at Height Regulations the “Management” regulations, COSHH, PUWER and other relevant legislation will be observed.
5. **No entry into a confined space will be made unless the work cannot be done in any other way.**

# DEFINITION

1. A Confined Space is defined as: -
2. Any place regardless of its volume, including any chamber, tank, vat, silo, pit, trench, pipe, sewer, flue, well, vessel, cell, duct, manhole, drain or other similar space, in which by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk of:

* Serious injury from fire or explosion, including scalding from steam.
* Loss of consciousness from an increase in body temperature.
* Losses of consciousness or asphyxiation from gas, fume, vapour or lack of oxygen.
* Drowning from rising fluid levels.
* Asphyxiation from, or entrapment in, a free flowing solid.

# COMPETENT PERSON

1. The Company will appoint a person to act as Confined Space Supervisor (CSS).
2. The CSS will be so trained, informed and experienced, as to be able to assume the total responsibility for all operations in identified confined spaces.
3. The CSS will control all entry into confined spaces, ensuring that all persons entering are fully commensurate with this procedure.
4. The CSS will ensure that the generic risk assessment attached to this procedure is relevant to the particular entry being undertaken, or that another risk assessment is prepared and recorded.
5. Where there is to be multiple person entry, the CSS will ensure a register of those entering and leaving the space is accurately maintained.
6. The CSS will ensure that all necessary PPE, including RPE, personal suspension, fall arrest and rescue/emergency equipment, is immediately available.
7. The CSS will ensure that all persons have been fully trained in any of the equipment and necessary for the particular entry being planned.
8. The CSS will ensure, where necessary, that air quality is tested before entry and that ventilation and air quality are maintained during the period of entry. Calibrated multi-gas meters are recommended.
9. The CSS will ensure that the emergency plan is drawn up, recorded, implemented and tested.

# ISOLATIONS

1. The CSS will ensure all necessary isolations have been completed and proved.
2. Isolations should, where possible, be physical disconnections from the hazard source or sources. Purging of confined spaces may be necessary after disconnection.
3. Where disconnection from the hazards source is not an option, “Double Block and Bleed” isolations will be used. (Two valves closed, two spades inserted, or a combination of the two, with the space between vented.) The shutting of a single valve is not to be regarded as positive isolation.
4. The ‘Lock, Tag and Try’ principle will be applied to all isolations.
5. The CSS will personally retain or control all isolation lock keys.
6. All isolations will be tagged with a label giving the reason and contact name.

# PERMITS TO WORK AND ACCESS PERMITS

1. The CSS will specify the nature and level of any permit system which will be implemented.
2. Where used, permits will not be issued for periods exceeding one shift.
3. Where used, permits will be issued only at the start of a shift and after the CSS has satisfied himself that all criteria have been met. They will not be issued in advance of the operation.
4. A full risk assessment and method of entry/ egress and work methods will be required specific to the workscope.

# ACCESS

1. Entry into a confined space must be controlled.
2. The access to and egress from a confined space of all persons must be recorded.
3. Entry of unauthorised persons into a confined space must be physically prevented. When the entry is unmanned, effective and robust physical barriers should be in place. These barriers should, where practicable, be kept locked and the keys retained by the CSS.
4. Notices will be erected warning of the controlled entry. The preferred notice is given in the Appendix ‘B’.
5. The entrance must be of sufficient size to allow the entry of persons wearing any necessary emergency or escape equipment.

# COMMUNICATION

1. Adequate communication systems between persons within the confined space and with persons outside, including warning of emergency, shall be maintained.
2. The procedure for informing the emergency services in the event of an emergency will be documented and exercised.

# ELECTRICITY

1. The maximum voltage for any supply within a confined space will be 110 volt, from a centre tap transformer, giving a maximum potential to earth of 55 volts.
2. Where the containment is of a conducting material (e.g. steel and copper vessels, etc.), or in wet conditions, the lighting voltages will be <25 volts.
3. All portable appliances to be used within a confined space will have passed a recorded PAT type test within the previous 3 months.
4. Only double insulated tools will be used in a confined space.
5. All connectors will be “Splashproof” to BS 4343
6. Where the containment is of a conducting material, it must be suitably earthed.

# VENTILATION

1. All potential sources of fume, vapour, gases, wastes, water, steam and free flowing solids must be identified and disconnected, isolated or otherwise controlled.
2. Where an atmospheric contaminant is suspected, the atmosphere in the confined space should be tested using a suitable calibrated meter or test kit.
3. Testing should be continued as necessary during the period of entry.
4. Maintain adequate ventilation where necessary. The preferred option is to blow an adequate supply of fresh air into the bottom of the confined space.
5. Where local exhaust ventilation is provided, ensure that the extract is discharged to a place where dispersion and dilution is adequate and safe.
6. All mechanical ventilation equipment must be fitted with an audible or visible device to warn of failure of the equipment.
7. No internal combustion engines should be run in proximity to confined space accesses, ventilation suctions, etc. Exhaust fumes will include carbon monoxide and carbon dioxide and will rise as hot exhaust fumes and fall as they cool.

# MATERIALS AND SUBSTANCES

1. Ensure that any residues remaining in a confined space do not present a fire, explosion, fume or other hazard. Disturbing sludge o accretions may release trapped gases or vapours.
2. Specify the amount and nature of all substances to be used within the confined space. Record the COSHH assessment.
3. Identify and specify all process produced substances. Record the COSHH assessment.
4. Where gases are to be used;

* Cylinders will be kept outside the confined space at a point where leakage cannot enter the space.
* Hoses and connectors will be maintained in good condition and a recorded check will be made before first use and weekly thereafter.
* All equipment will be physically checked daily before connection.
* Hoses will be disconnected from cylinders when not in use and at the end of every shift.
* No worm type hose clips are permitted, only crimped clips are approved.
* If flammable substances are to be used;
* Quantities will be kept to a minimum.
* Stock will be stored in a sealed container.
* Stock not required for immediate use will be stored outside the space in an area where potential leakage cannot enter the confined space.
* All flammable waste will be stored in sealed fire-resistant containers and removed at regular intervals, but at least at the end of each shift.

# BIOLOGICAL HAZARDS

1. Assessment should be made and recorded on the possibility of biological hazards, such as Weils Disease, Tetanus or Legionella.

# CHEMICAL HAZARDS

1. Assessment should be made and recorded on the possibility of chemical hazards, ether introduced, or process produced, such as combustion residues, processed material residues, cleaning agents, etc.

# ACCESS

1. Where sudden ingress is possible (Live sewers, rain, free flowing solid, etc.)
2. Breathing apparatus will be worn. Subject to Scottish Water standing instructions in the Aberdeen area, B.A. may be mandatory.
3. Rescue harness will be worn.
4. Rescue tripods/winches to be deployed for vertical shafts.
5. All training to be demonstrably current.
6. All emergency systems tested and drills conducted.

# PERSONNEL

1. All personnel will be screened for physical and mental suitability before final selection.
2. All personnel will be fully informed, instructed and trained in all aspects of the operations to be undertaken.
3. Work periods may have to be limited to allow for elevated temperatures, or other physical limitations.
4. All personnel will “sign-off” to the risk assessment.
5. All persons entering the confined space will wear one-piece coveralls.

# FIRE

1. Suitable fire extinguishers will be provided at the entry to the confined space and at the workface when hot work is to be undertaken.
2. The potential for asphyxiation will be taken into account when considering the size and type of the extinguisher provided.
3. Where hot work is to be undertaken, all personnel will be provided with flame retardant coveralls.
4. No smoking to be allowed inside, or within 5 – 10 m of, a confined space.

# EMERGENCY PROCEDURES

1. Reliance on external assistance, such as “Fire Service Rescue”, is not a permitted option, although such aid may ultimately be required.
2. Emergency procedures will include the following: -

* The name of the CSS or CSSs.
* The means of communication, including emergencies.
* The position and nature of any lock-off and isolation.
* Any “Earthing” arrangements and continuity tests.
* The provision of “Intrinsically Safe” electrical equipment.
* The need for “Permits”
* The means of recording entry and exit.
* The level and specification of PPE.
* The level and specification of recovery harnesses and equipment.
* The need for breathing apparatus.
* Methods of monitoring those in a confined space.
* Means of testing the atmosphere in a confined space.
* Emergency recovery procedures.
* Emergency access.
* First aid training levels, including the need for resuscitation and defibrillation
* First aid equipment levels and locations.
* Emergency shower and wash-down equipment.
* Firefighting equipment and training.
* Nature and frequency of drills.

1. Emergency procedures will be communicated to all those taking part in the entry.
2. Emergency procedure drills will be carried out as directed by the CSS and should, where possible, include the use of a full size and weight dummy.

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