Recommended Procedures for CONFINED SPACES WORK (Servicing of below-ground pits)

Reference guidelines -

The University's Confined Space Safety Procedures can be found at http://info.anu.edu.au/policies/_DHR/Procedures/Confined_Spaces.asp and attached.

Potential Hazards -

A *confined space* is an enclosed, or partly enclosed, space which:

a) is not intended, or designed, primarily as a place of work,

b) may have a restricted means for entry and exit, and,

c) may –

- not have a safe level of oxygen,
- contain harmful levels of airborne contaminants (or the potential for such to be released by the nature of the work being undertaken within the space),
- have unfavourable natural ventilation,
- facilitate engulfment.

Risk Reduction and Controls -

The University's Confined Space Safety Procedures must be adhered to.

Persons entering a confined space must have appropriate training.

These procedures are in addition to those stated in the other confined space documentation.

Initial inspection –

When a sealed or partially-sealed confined space has not been accessed within two weeks, or there is a strong indication that a hazardous atmosphere (toxic gas or explosive atmosphere) may be present, then the following precautions must be followed –

Ensure there is safe access to and from the area.

Remove all sources of ignition (eg. mobile phone, pagers, naked lights, non-intrinsically safe equipment (if possible). Keep these at least 5m away.

Wear a full-face respirator fitted with a multi-gas absorption cartridge.

Wear suitable hand and other clothing (cotton overalls or tyvex suit) for the task and other potential hazards. Avoid clothing that could generate a static spark.

Carefully open and move slightly the access panel.

Monitor the atmosphere with a multi-gas confined space entry gas detector/monitor.

If nothing is detected, continue to monitor the gases at various depths within the confined space.

If a gas/condition is detected –

- Toxic gas (eg. hydrogen sulphide) then (if possible) reseal the access panel and back away.
- Explosive gas (eg. methane) then if there is little risk of creating a spark (or other source of ignition) reseal the access panel and back away.
- If a combination of detectors respond - reseal the access panel and back away.

(The maximum time you should be conducting this step is 2 minutes. If you detect the gas/smell within the respirator – leave immediately)

Opening the below-ground pit/confined space –

Where a toxic or explosive gas has been detected or confirmed.

When possible or practical -

- No ignition sources should be present within 10 m of the access opening or vent location.
- The public must be kept at least 20 m from the access point and vent location.
- Avoid opening outdoor pits during still weather conditions – it reduces the natural dilution available. Additionally, if the wind can blow the contaminants towards a building's entrance or air-intake, measures must be taken to prevent the contaminate entering the building. (ie. shut down building ventilation system)
- Self-Contained Breathing Apparatus (SCBA) must be worn. These can be hired from ACT Fire Brigade (John O'Connor, ACT Fire Brigade, (02) 6207-8661, john.oconnor@act.gov.au) but must only be worn by trained users.
- Wear suitable hand and other clothing (cotton overalls or tyvex suit) for the task and other potential hazards. Avoid clothing that could generate a static spark.
- Wet down the access area to reduce the risk of static discharges. Alternatively or in addition - earthing straps may be required between tools and the access panel and access hole.

Venting a confined space –

- If natural ventilation is poor, a mechanical (means of venting the space must be used (eg. a fan). The most efficient means of venting a space is to blow air into the space using a length of duct located towards the low point of the space.

- Regularly monitor the atmosphere.

Entering a confined space –

At this point an Entry Permit and full risk assessment is required. Follow the requirements of the Confined Space Entry Procedures and your training.

- When the contaminant concentrations are reduced below the occupational exposure limit or Lower Explosive Limit (LEL) then the space may be entered. A multi-gas detector suitable for confined space must be worn while within the space.

  Entry when the concentrations are above the occupational exposure limit may be allowed following the confined space access protocols and use of SCBA.

  No entry when gases are within the explosive range should be allowed.