CONFINED SPACE ENTRY - SAMPLE CONTROL MEASURES

To assess the risks and identify the necessary safety precautions, the University’s hazard management process should be followed. This process includes the links to the risk assessment template or you can access RMSS.

Examples of hazards associated with confined space entry are provided below for consideration. Please note that they are informative only. Schools/Branches will need to tailor appropriate control measures based on the hazards, nature and location of the activity.

A risk assessment which includes controls must be completed for each confined space entry together with a written authority i.e. a confined space entry permit (an example is provided in Appendix B.)

<table>
<thead>
<tr>
<th>Examples of hazards</th>
<th>Associated Risk</th>
<th>Examples of control measures. (One or more measures may be appropriate under each heading and should be considered)</th>
</tr>
</thead>
</table>
| Confined space entry (general) | Loss of consciousness, injury or death due to the immediate effects of airborne contaminants | Elimination of the need to enter the space  
- Redesign the space to eliminate the need for entry  
- Install fixed or temporary cleaning devices (e.g. spray balls using high-pressure hoses) inserted through an access hatch to clean the inside of a tank  
- Use remote cameras or a mirror attached to a probe for internal inspection of vessels  
- Use remotely operated rotating flail devices, vibrators or air purgers to clear blockages in silos; or  
- Use a hook, long-handled clasp or magnet on a string to retrieve an object dropped into space. |
|                      | Fire, explosion from ignition of flammable contaminants | If elimination is not possible |
|                      | Difficulty rescuing and treating an injured or unconscious person | Substitution  
- Use a non-toxic substance instead of a toxic substance  
- Apply paints, solvents or surface coatings with brushes rather than aerosols  
- Replace flammable substances with non-flammable substances |
|                      | Asphyxiation from atmospheric oxygen deficiency or immersion in stored material (e.g. grain, sand, flour or fertiliser) | Isolation and engineering (i.e. modify the workplace)  
- Block service lines such as electrical cables, water pipes, air lines  
- Guard or secure moving machinery parts such as agitators, fans or blenders  
- Enclose machinery to reduce noise  
- Thoroughly ventilate the space to ensure a safe oxygen level  
- Purge contaminants from the space |
| Confined space entry (general) (continued) | Administration  
- Risk assessment/Job Safety Analysis (JSA)  
- Competency based training  
- Written authority – confined space entry permit  
- Signs and barriers  
- Records management  
Personal Protective Equipment (PPE)  
- Hard hats, glasses, gloves, chemical suits, boots  
- Respiratory protective equipment | Atmospheric testing  
- Ongoing testing and monitoring to ensure the atmosphere is maintained at a safe level with the frequency based on the likelihood of a change of conditions. |

(continued)
### Confined Space Entry - Sample Control Measures

<table>
<thead>
<tr>
<th>Other considerations</th>
<th>Failing from a height</th>
<th>Hydrogen sulphide gas</th>
<th>Poisoning</th>
<th>Physical injury</th>
<th>Physical exhaustion</th>
<th>Noise</th>
<th>Physiological and psychological</th>
<th>Welding</th>
<th>Flammable atmosphere</th>
<th>Electrical</th>
<th>Unguarded plant and machinery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safe entry and exit</td>
<td>□ Erect barriers</td>
<td>□ Ventilate space</td>
<td>□ Tag out services, lock valves etc as applicable as per HSW Handbook (<a href="http://www.adelaide.edu.au/hr/hsw/handbook/plant/">http://www.adelaide.edu.au/hr/hsw/handbook/plant/</a>)</td>
<td>□ Assess and monitor persons (e.g. at agreed intervals)</td>
<td>□ Assess and monitor persons (e.g. at agreed intervals)</td>
<td>□ Substitute noisy machinery with quieter machinery</td>
<td>□ Assess and monitor persons (e.g. at agreed intervals)</td>
<td>□ Provide hot work permit</td>
<td>□ Eliminate all ignition sources in the vicinity (e.g. open flames and hot surfaces, spark-producing equipment)</td>
<td>□ Provide RCD protection</td>
<td>□ Isolate power supply prior to entry and tag out</td>
</tr>
<tr>
<td></td>
<td>□ Provide safety harnesses and lifting devices</td>
<td>□ Monitor atmosphere</td>
<td>□ to prevent the introduction of contaminants or conditions through piping, ducts, vents, drains, conveyors, service pipes and fire protection equipment</td>
<td>□ Assess competency of persons (e.g. at agreed intervals)</td>
<td>□ Rest breaks (e.g. at agreed intervals)</td>
<td>□ Use sound dampeners or silencers, noise barriers and isolation</td>
<td>□ Determine appropriate communication methods</td>
<td>□ Control hot surfaces</td>
<td>□ Provide fire extinguishers</td>
<td>□ Electric shock, burns, scalds, physical injury</td>
<td>□ Ensure all equipment has been tested and tagged</td>
</tr>
<tr>
<td></td>
<td>□ Assess competency of person in the use of PPE</td>
<td>□ Assess competency of person in the use of monitoring equipment</td>
<td>□ to prevent the activation or energising of machinery</td>
<td>□ Assign standby person</td>
<td>□ Job rotation</td>
<td>□ Provide hearing protection and train persons in its use</td>
<td>□ Job rotation</td>
<td>□ Pods and other isolation</td>
<td>□ Provide fume extraction equipment</td>
<td>□ To prevent the inadvertent use of electrical equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Implement entry and exit procedures to indicate when workers are in the space</td>
<td>□ Assess competency of persons to wear respiratory protective devices</td>
<td>□ to prevent the inadvertent use of electrical equipment</td>
<td>□ Implement entry and exit procedures to indicate when workers are in the space</td>
<td>□ Job rotation</td>
<td>□ Train personnel in the use of monitoring equipment</td>
<td>□ Determine appropriate communication methods</td>
<td>□ Confined space isolation</td>
<td>□ Provide fire extinguishers</td>
<td>□ To prevent the inadvertent use of electrical equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Erect signs and barricades to prevent entry of persons not involved in the work</td>
<td>□ Assign standby person</td>
<td>□ Isolating open flames and hot surfaces, spark-producing equipment</td>
<td>□ Implement entry and exit procedures to indicate when workers are in the space</td>
<td>□ Job rotation</td>
<td>□ Train personnel in the use of monitoring equipment</td>
<td>□ Determine appropriate communication methods</td>
<td>□ Confined space isolation</td>
<td>□ Provide fire extinguishers</td>
<td>□ To prevent the inadvertent use of electrical equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Establish a communication system between people inside and outside of the confined space to summon help in an emergency</td>
<td>□ Select communications equipment</td>
<td>□ Isolating open flames and hot surfaces, spark-producing equipment</td>
<td>□ Isolate power supply prior to entry and tag out</td>
<td>□ Job rotation</td>
<td>□ Train personnel in the use of monitoring equipment</td>
<td>□ Determine appropriate communication methods</td>
<td>□ Confined space isolation</td>
<td>□ Provide fire extinguishers</td>
<td>□ To prevent the inadvertent use of electrical equipment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Ensure you have the appropriate equipment for the task</td>
<td>□ Select communications equipment</td>
<td>□ Isolating open flames and hot surfaces, spark-producing equipment</td>
<td>□ Isolate power supply prior to entry and tag out</td>
<td>□ Job rotation</td>
<td>□ Train personnel in the use of monitoring equipment</td>
<td>□ Determine appropriate communication methods</td>
<td>□ Confined space isolation</td>
<td>□ Provide fire extinguishers</td>
<td>□ To prevent the inadvertent use of electrical equipment</td>
<td></td>
</tr>
</tbody>
</table>

**Warning:** This process is uncontrolled when printed. The current version of this document is available on the HSW Website.