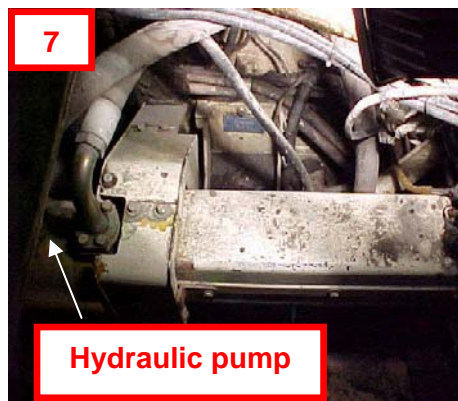
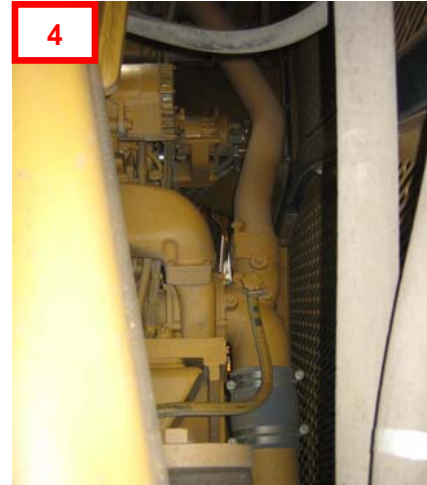
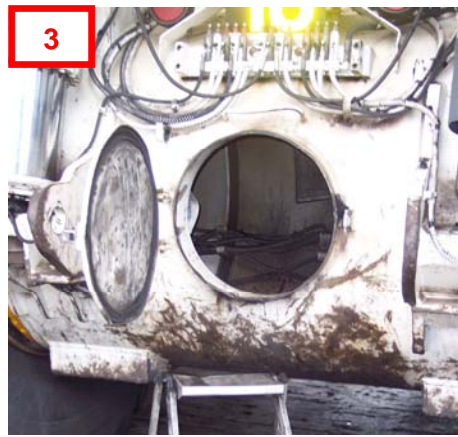


Risks to be mitigated



Hydraulic pump

15. Confined Spaces (V1.2 2008)

Objective	To minimise the risks related to people working in confined spaces to ALARP, including consideration in design for foreseeable human error.
General outcome	<p>The intended design outcome should eliminate the exposure to hazards that are encountered by personnel entering into confined spaces to access machine parts, accessories or components.</p> <p>The intended design outcome should address the following hazards:</p> <ul style="list-style-type: none"> • Oxygen deficiency due to lack of natural ventilation within space. • Excessive heat due to lack of natural ventilation and proximity to engine, pumps or exhaust components. • Ergonomic hazards resulting from restricted worker movement to perform work or access/egress. • Fire or chemical hazards resulting from the routing of hosing or piping within confined space. • Burns from contact with hydraulic hoses or piping within confined space. • Engulfment from materials or inundation by gas or liquids. • Entrapment due to lack of alternate route of egress in an emergency. • Rescue difficulties associated with difficult or minimal access.
Risks to be mitigated	<ol style="list-style-type: none"> 1. Risk of entrapment and rescue difficulties 2. Risk of oxygen deficiency due to inundation by gas 3. Risk of oxygen deficiency due to lack of natural ventilation 4. Risk of excessive heat 5. Risk of restricted work space 6. Risk of fire 7. Risk of burns from contact with hydraulic hoses or piping
Examples of industry attempts to mitigate risks	<ol style="list-style-type: none"> a. Moving an A/C unit eliminating the need to access the confined space to access the A/C unit b. Elimination of confined spaces c. Shifting the task to a work area that is not a confined space d. Failsafe isolation to energy sources and harmful chemicals and gasses when entering confined spaces e. Elimination of tasks in confined spaces f. Automatic gas and chemical detection and alarms in confined spaces g. Design of confined spaces so that the work space is ergonomically suitable

Industry attempts to mitigate risks

