



## CONFINED SPACE ENTRY PROCEDURES & RESCUE PLAN

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### Disk Filters

#### Work to be performed or location of confined space

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	Atmospheric Conditions	Details	P			Control Measures	P		
9	Oxygen (O2) Deficiency / Enrichment	decaying material in the bottom of the tank	2	2	B	Min. 3000 cfm fan in push mode continuous, O2 (Oxygen) gas detector - continuous monitoring. Ensure sludge is cleaned from tank.	1	2	A
2	Hydrogen Sulphide (H2S)	dacaying material in the bottom of the tank	2	2	B	Min. 3000 cfm fan in push mode continuous, H2S (Hydrogen sulfide) gas detector - continuous monitoring, ensure sludge is cleaned out of tank	1	2	A
1	Carbon Monoxide (CO)	Gas and diesel vehicles driving by the tank	2	2	B	Min. 3000 cfm fan in push mode continuous, CO (Carbon monoxide) gas detector - continuous monitoring, Place air intake away from source of CO	1	2	A
			Initial				Final		
	Hazards / Exposure	Details	P			Control Measures	P		
27	Restricted Access / Egress	must employ a ladder to enter the tank	2	2	B	Caution when climbing ladder(s) - maintain 3-point contact. Stay hooked up to rescue winch	1	2	A
35	Engulfment or Immersion Hazards	Risk of flooding from filter influent and filter effluent	2	2	B	Lock out procedures attached. The analysis of valves as a control measure should assume that all valves leak. However, there is no expectation that a properly installed and maintained valve will fail catastrophically if no work is being performed on it. It is recognized that systems will often permit some leakage; a means of pumping out the fluid will be undertaken. Any potential leakage from the upstream gate will be visually checked every 20 minutes by the standby person, each tanks contain a 4" gravity drain that will be left in the open position while the tank is occupied. The water level in the upstream channel will be continuously monitored with a local audio/visual high level float set to 2.5 m while space is occupied. If the water level rises above 2.5 m the alarm will sounds and a light will flash (leaving 500 mm of free board). The confined space will be evacuated and the issue will be addressed prior to re-entry. • The water level in the downstream channel will be continuously monitored with a local audio/visual high level float set to 100 mm while space is occupied, if the water level rises above 100 mm the alarm will sounds and light will flash (leaving 840 mm of free board) and the confined space will be evacuated and the issue will be addressed prior to re-entry.	1	2	A
		climbing							

37	Falling Hazard	over railing and into open tank with machinery inside	2	2	B	Fall protection plan attached, ensure staff performing the entry/work do not have an existing fear of heights.	1	2	A
50	Overhead / Falling Object Hazards	tools and materials could be kicked into the open tank	2	2	B	Kick-boards, Keep work area clear of obstructions. Hardhat must be worn by person entering tank. Worker must stay attached to life line at all times	1	2	A
32	Mechanical / Moving Part Hazards	rotating assembly inside tank	2	2	B	Lockout procedures attached	1	2	A
23	Heat / Cold Stress Exposure	Out door temperature	2	2	B	Take breaks in a cool environment, Take breaks in a warm environment	1	2	A

**Area Preparation:**

1. Drain and clean both filters that will remain in service during the work as per Cloth Cleaning procedure prior to Lockout and Isolation.
2. Isolate and Lockout.
3. Keep area around tank clear of tools and equipment.
4. Drain and clean filter to be worked on and space as per Cloth Cleaning procedure, ensure bottom of tank is clear of sludge.
5. Install and test Float Switch High Level Alarm to alarm at 2.5 meters from bottom of upstream channel.
6. Install float operated pump in the downstream chamber
7. Install and test Float Switch High Level Alarm to alarm at 0.1 meters from bottom of downstream channel.

**Confined Space Entry Procedures - Supplementary Instructions:**

1. Follow moderate hazard confined space entry procedure and lock out procedure

**Confined Space Entry Rescue Plan:**

1. Follow confined space emergency procedure