

HAZARD EVALUATION AND CONTROL

Description of Plant: Submersible Trash Pump

Model No: P212

Assessed By: Evan Miller

Company : Flextool (Aust) Pty Ltd

Date: 14/04/97

Issue: A

Hazard Description	Hazard Y/N	Plant & / or Situation	Likelihood	Severity	Risk Control
A - ENTANGLEMENT 1. Can anyone's hair, clothing, gloves necktie, jewellery, cleaning brushes, rags, or other materials become entangled with moving parts of the plant, or materials in motion?	Y	Entanglement with impeller while rotating	5	C	* Do not operate the pump with the body removed. * Keep hands and feet clear of rotating and moving parts as they will cause injury if contacted.
B - CRUSHING 1. Can anyone be crushed due to:-					
a. Material falling off the plant?	N				
b. Uncontrolled or unexpected movement of the plant or its load?	N				
c. Lack of capacity for the plant to be slowed, stopped or immobilised?	N				
d. The plant tipping or rolling over?	N				
e. Parts of the plant collapsing?	N				
f. Coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair?	N				
g. Being thrown off or under the plant?	N				
h. Being trapped between the plant and material or fixed structures?	N				

* Refer to Flextool operating instructions.

- Likelihood of Occurrence**
1. Expected to Happen
 2. Common
 3. Sometimes
 4. Rarely
 5. Highly Unlikely

- Severity of Result**
- A. Fatality
 - B. Permanent Disability
 - C. Lost Time Injury
 - D. Medical Treatment
 - E. First Aid Injury

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C. CUTTING, STABBING & PUNCTURING? 1. Can anyone be cut, stabbed or punctured due to:					
a. Coming in contact with sharp or flying objects?	Y	Contact with worn/damaged flexible shaft, impeller	3	E	* Handle impellers with care when the pump body is removed. Pumps that have been subject to extensive use with abrasive materials may have impellers that are severely worn leaving sharp, thin or brittle sections. * Use gloves when handling and inspecting the flexible shaft outer casing. Excessive wear of the rubber cover can expose the wire braided reinforcement, allowing it to project and cause injury.
b. Coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair of the plant?	Y	Contact with impeller while rotating	5	C	* Do not operate the pump with the body removed. * Keep hands and feet clear of rotating and moving parts as they will cause injury if contacted.
c. The plant, parts of the plant or work pieces disintegrating?	N				
d. Work pieces being ejected?	N				
e. The mobility of the plant?	N				
f. Uncontrolled or unexpected movement of the plant?	N				
g. Other factors not mentioned?	N				
D. SHEARING 1. Can anyone's body parts be sheared between two parts of the plant, or material handled by the plant?					

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E. FRICTION 1. Can anyone be burnt due to contact with moving parts or surfaces of the plant, or between a part of the plant and a work piece or structure?	N				
F. STRIKING 1. Can anyone be struck by moving objects due to :					
a. Uncontrolled or unexpected movement of the plant?	N				
b. The plant, parts of the plant or work pieces disintegrating?	N				
c. Work pieces being ejected?	Y	Ejection of water/material	5	C	* Do not operate the pump without a discharge hose fitted. * Ensure that the pump hose is securely fastened to the pump outlet via an appropriately sized coupling and adaptor.
d. Mobility of the plant?	N				
e. Other factors not mentioned?	N				
G. HIGH PRESSURE SUBSTANCES 1. Can anyone come into contact with substances under high pressure, due to plant failure or misuse of the plant?	Y	Ejection of water/material	5	C	* Do not operate the pump without a discharge hose fitted. * Ensure that the pump hose is securely fastened to the pump outlet via an appropriately sized coupling and adaptor.
H. ELECTRICAL 1. Can anyone be injured by electrical shock or burnt due to:					
a. The plant contacting live electrical conductors?	N				
b. The plant working in close proximity to electrical conductors?	N				

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c. Overload of electrical circuits?	N				
d. Damaged or poorly maintained electrical leads and cables?	N				
e. Damaged electrical switches?	N				
f. Water near electrical equipment?	Y	Water contact with live conductors	5	A	* The risk of serious or lethal injury from electrical shock may arise from the combination of electricity and moisture.
g. Lack of isolation procedures?	N				
h. Other factors not mentioned?	N				
I. EXPLOSION 1. Can anyone be injured by explosion of gases, vapours, liquids, dusts or other substances, triggered by the operation of the plant or by material handled by the plant?	Y	Operation with flammable liquids	5	B	* Do not use the pump for handling flammable liquids.
J. SLIPPING, TRIPPING & FALLING 1. Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to:					
a. Uneven or slippery work surfaces?	Y	Slip/Trip/Fall	3	E	* Slip/Trip/Fall is a major cause of serious injury or death. Beware of excess hose, the flexible shaft and water left on the walking or work surface. * Do not allow waste water to accumulate under foot. * Exercise care when working in the vicinity of unprotected holes or excavations.
b. Poor housekeeping, eg, swarf in the vicinity of the plant; spillage not cleaned up?	Y	Slip/Trip/Fall	3	E	* Slip/Trip/Fall is a major cause of serious injury or death. Beware of excess hose, the flexible shaft and water left on the walking or work surface. * Do not allow waste water to accumulate under foot. * Exercise care when working in the vicinity of unprotected holes or excavations.

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c. Obstacles being placed in the vicinity of the plant, other factors not mentioned?	N				
2. Can anyone fall from a height due to:					
a. Lack of proper work platform?	N				
b. Lack of proper stairs or ladders?	N				
c. Lack of guardrails or other suitable edge protection?	N				
d. Unprotected holes, penetrations or gaps?	Y	Slip/Trip/Fall	3	E	* Slip/Trip/Fall is a major cause of serious injury or death. Beware of excess hose, the flexible shaft and water left on the walking or work surface. * Do not allow waste water to accumulate under foot. * Exercise care when working in the vicinity of unprotected holes or excavations.
e. Poor floor or walking surfaces, such as the lack of a slip-resistant surface?	N				
f. Steep walking surfaces?	N				
g. Collapse of the supporting structure?	N				
h. Other factors not mentioned?	N				
K. ERGONOMIC					
1. Can anyone be injured due to:					
a. Poorly designated seating?	N				
b. Repetitive body movement?	N				
c. Constrained body posture or the need for excessive effort?	N				

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d. Inadequate or poorly placed lighting?	N				
e. Lack of consideration given to human error or human behaviour?	N				
f. Mismatch of the plant with human traits and natural limitations?	N				
g. Other factors not mentioned?	N				
L. SUFFOCATION					
1. Can anyone be suffocated due to lack of oxygen, or atmospheric contamination?	N				
M. HIGH TEMPERATURE OR FIRE					
1. Can anyone come into contact with objects at high temperature?	N				
N. TEMPERATURE (THERMAL COMFORT)					
1. Can anyone suffer ill health due to exposure to high or low temperatures?	N				
O. OTHER HAZARDS					
1. Can anyone be injured or suffer ill health from exposure to:					
a. Chemicals?	N				
b. Toxic gases or vapours?	N				
c. Fumes?	N				
d. Dust?	N				
e. Noise?	N				
f. Vibration?	N				

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g. Radiation	N				
h. Other factors not mentioned?	N				

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