WorkSafe
Travail sécuritaire NB

HAZARD ALERT

WATER BOILS AFTER PUMP LOSES PRIME

Water was being pumped through a long hose that extended up a hill. Two workers noticed the pump had stopped discharging water, so they increased the throttle. When this did not fix the problem, they shut off the pump. One of the workers then started to unhook the quick connect coupling when the water pressure forced the hose off the pump. Hot, stagnant water splashed from the pump and burned him.

It is very important to ensure pumps remain primed. If a pump does not keep its prime, water can stagnate inside. Friction will cause the water temperature in the pump cavity to increase and cause water pressure to build. Below are some of the causes and solutions to pumps losing their prime:

- Engine speed too low - adjust engine speed
- Suction strainer partially plugged - clean suction strainer
- Impeller worn - adjust clearance by adding shims or replace impeller
- Volute insert worn or damaged - adjust clearance or replace volute insert

Overheated pumps can cause severe damage to equipment, as well as serious injury and burns

Recommended Preventive Action

- Familiarity and proper training are required to safely operate the machine.
- Operate the pump within its working capacities and pump only liquids for which the pump is designed to handle.
- Do not block or restrict flow from the inlet line or discharge line. Operating a pump with a closed suction or discharge valve is a principal cause of overheating.
- Remove kinks from the discharge line before starting the pump.
- Allow the pump to cool to the touch before loosening the plug and before loosening or removing the inlet or discharge hose fittings.
- If the pump casing overheats:
  - Stop the pump immediately.
  - Allow the equipment to cool completely.
  - Vent the pump slowly and cautiously.
  - Refer to the manufacturer's instruction manual before restarting the unit.
  - Remove hoses carefully. Heated water could be in the hose.

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