

INDUCTION TRAINING

# THE 5Cs WATER HYGIENE TRAINING

METERED HYDRANT STANDPIPE



Unitywater

# Clean, safe drinking water

- ▶ Unitywater supplies clean, safe drinking water to over 730 000 customers
- ▶ Our customers trust the quality of the drinking water they consume
- ▶ The 5Cs program provides a barrier to prevent contamination and protect public health

Next time you are about to start a job ....  
**Think and ask about water hygiene!**



- ✓ Clean pipes
- ✓ Clearance
- ✓ Chlorination
- ✓ Cleanliness
- ✓ Clothing



Unitywater

[www.unitywater.com](http://www.unitywater.com)

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# 1. INTRODUCTION:

## 1.1 AIM OF THE 5Cs - WATER HYGIENE TRAINING PROGRAM

The aim of this training program is to provide guidance for Unitywater customers to store and maintain hired standpipes.

The program provides a standard set of hygienic operating practices aimed at preventing the introduction of contamination into the drinking water supply.

The assessment ensures all standpipe users have demonstrated that they have the relevant knowledge on hygienic work practices to prevent contamination of the water supply during routine standpipe access.

Please note that only trained and inducted persons can take and use potable water from the Unitywater supply region using a metered hydrant standpipe.



## 1.2 BACKGROUND

### **Our commitment**

Customers trust the water supply as they would trust any purchased food or beverage product. Drinking water is a food grade product. It is our responsibility to maintain this trust.

### **Unitywater's Drinking Water Management System**

Unitywater supplies drinking water to customers under a Drinking Water Quality Management Plan (DWQMP) approved by the Queensland Water Supply Regulator. The DWQMP is a risk-based document which details potential risks to the supply of safe drinking water, and control measures aimed at mitigating these risks.

In addition, Unitywater has obtained certification to the food safety management standard ISO 22000. This standard will help identify and manage the hazards in food production, so that a product is safe to consume. This standard is transferrable to the provision of drinking water. Certification to ISO 22000 standard will support and enhance the DWQMP, and provide assurance to our customers.

### **Customer training**

An important component of the ISO 22000 standard is the implementation of a training and awareness program, which educates standpipe customers on their obligations under the management system.

Every time a standpipe customer accesses the drinking water network there is a risk that contamination may be introduced into the drinking water supply. This training program acts as a control measure to address that risk. Standpipe customers are required to be aware of the importance and relevance of their individual activities in contributing to safe drinking water.

### **Clean safe drinking water is everyone's responsibility**

Every standpipe customer who accesses the potable water network has a responsibility to ensure that their activities do not introduce contamination into the water supply.

The ultimate aim is to protect public health and keep our communities healthy.



Food Safety Management ISO 22000:  
2005 Reg no 50000079 FSMS2013

## 1.3 SUMMARY TABLE

The following table provides a summary of this training program

### What can cause illness, harm or injury?

1

Bacterial, viral, protozoan, worms or fungi contamination of the drinking water through poor work practices. Contamination with sewage is a high risk. Chemicals and fuels are also potential contaminants.

### Which is the best control?

2

Apply the 5Cs (prevention)  
Disinfect equipment such as tools, fittings and standpipes

### Are they effective?

3

Change the site or practice to make control measures effective, for example you might disinfect tools before you put them away – so your truck is clean and the tools are clean too.

### Have you communicated the hazards to your crew and organized appropriate controls before work starts?

4

Plan your approach and allocate who is doing which control measure

### What sort of changed conditions could increase the risk of water supply contamination?

5

Have you recently been working with a potential contaminant?  
Has someone else used your vehicle and left it in an unhygienic state?

### Are work practices unsafe?

6

Unsafe water can kill people or make them very sick. If in doubt, don't proceed if you think it's unsafe.

## 2. PROBLEM:

Illness and health impacts

### Question:

What can cause illness or harm to people in our communities?

### Answer:

Bacterial, viral, protozoan, worms or fungi contamination of the drinking water.

Water borne pathogens pose a great risk to human health. Examples of common pathogens include: bacteria, viruses, protozoans, worms or fungi. These pathogens are present in soil and sewage. The highest risk comes from sewage as it contains human pathogens. However, pathogens can also be found in soil, animal droppings, rotten food, rubbish and numerous other sources. Note that chemicals and fuels are also contaminants, which may impact public health.

A small amount of contaminant can cause large scale illness via our distribution systems. Just one pathogen can make someone sick. The odds of someone getting sick increase as they swallow more pathogens but even one virus can make a person sick. There are thousands of pathogens in a glass of sewage and millions in a fresh dropping.

Hygienic work practices  
help protect public health

## 3. CAUSE:

Unhygienic work practices

### How we work can have impacts on the health of our communities

Unhygienic work practices greatly increase the risk of contaminants entering the water supply. As discussed in section 2, the greatest risk is posed by sewage, as it contains human pathogens. If you have been working in live sewage, and then access the drinking water network with a dirty standpipe, this can pose a high risk to public health.

## 4. BEFORE YOU START WORK

Conduct a *Risk Assessment*

- Before you commence, conduct a risk assessment. Consider the risk of drinking water supply contamination.
- Think about contamination hazards and ask yourself, what can I do to avoid contaminating the drinking water supply (hint: refer section 5 – plan and implement hygienic work practices (5Cs).
- The general risk assessment contains a section for hazards and control measures to protect public health.

## 5. REMEDY:

Plan and implement hygienic work practices (5Cs)



Hygienic work practices act as a barrier to stop as many pathogens as possible from getting into the water.

So, during your risk assessment you identified that there is a risk of contamination. Now, plan out your task to include controls (barriers) to mitigate the risk.

Each of the 5Cs below represents a barrier. When practised together, a multi-barrier approach is the best method for preventing contamination entering the water supply.

### CLEAN PIPES

- Standpipes have the potential to become contaminated when stored or handled incorrectly.
- Care must be taken to ensure pipes are stored safely and securely away from contaminants, and are inspected and disinfected before and after use.
- If the standpipe is not clean, clean out traces of dirt and grime and disinfect with chlorine solution.

### CLEARANCE

- A backflow device prevents water accidentally siphoning out of the tank back into the supply pipe if the pressure drops unexpectedly.
- The backflow device must be certified by a plumber licensed for backflow certification before Unitywater will allow potable water to be collected from the Unitywater Service area.
- An air gap is the preferred method for backflow prevention device for water trucks.
- Customers must ensure that vessels comply with AS/NZS 3500.1:2003 or other relevant Standard for backflow prevention specified by or acceptable to Unitywater and a current backflow prevention certificate. The vessel must display a current permit approval sticker supplied by Unitywater, on the rear driver's side of the vessel.

### CHLORINE

- Chlorine kills bacteria and other pathogens. Chlorine is used to disinfect water, metered hydrant standpipes, other fittings, tools, boots and anything else that may come in contact with an internal surface of a water main.
- Chlorine solution in a spray bottle can be used to effectively disinfect surfaces without requiring large volumes of water. Refer to the relevant Material Safety Data Sheet (MSDS) and use glasses and gloves.
- To make chlorine solution, put 1 chlorine tablet in 1 litre of water.

### CLEANLINESS

- Refers both to personal hygiene (i.e. hand washing), clean tools and equipment (e.g. standpipes and other tools), working in a clean manner on-site (i.e. laying fittings on clean plastic sheeting instead of directly on the ground) and keeping your vehicle clean.
- Keep your tools and equipment clean.
- Tools must be thoroughly disinfected with chlorine prior to use.

### CLEAN CLOTHING

- Before commencing work, ensure clothing is reasonably clean and free of contaminants.

## 6. INCIDENTS

### Incidents may include:

- › When people are exposed to contaminants in the drinking water from a standpipe
- › When people are sprayed with contaminated water
- › Complaints from the public
- › Environmental damage
- › Incorrect or unsafe standpipe use which results in injury or hazard

### A water quality issue could result in the following:

- › Government regulator being notified
- › Investigation undertaken
- › Information released to the public

It is in your best interest to do things correctly.

## 7. CONTROL MEASURES

### Unitywater Control Measures

- › Registered agreements with standpipe customers
- › Monitoring potable water quality
- › A training program for standpipe operators
- › Random audits on standpipe customers

### Metered Hydrant Standpipe customer control measures

- › Backflow prevention devices on all vessels, with current backflow certificate
- › Trained, competent operators
- › Risk assessment before commencing work
- › Documented hygienic work practices

## 8. REQUIREMENTS

- › Hold a Current agreement with Unitywater
- › Hold a current standpipe operator training ticket
- › Minimise contamination risk

## 9. RECOMMENDATIONS

### Keep a Water Hygiene Kit onsite or in your vehicle:

#### Your water hygiene kit should include

- › chlorine tablets
- › spray bottle
- › gloves
- › a bucket
- › sponge
- › plastic sheeting

### Replenish the items when your stocks are low!



An incident form template is included in this document





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Unitywater has certification to:  
OH&S ISO 4801:2001 Reg No 4260  
Environmental ISO 14001: 2004 Reg No 4259  
Quality Systems ISO 9001: 2008 Reg No 4258  
Food Safety Management ISO 22000: 2005 Reg no 50000079 FSMS2013

