

TOWARDS A NATIONAL WATER OPERATORS CERTIFICATION SCHEME



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*6th Annual WIOA NSW Water Industry Engineers & Operators
Conference
Tamworth Regional Entertainment & Conference Centre,
27 to 29 March, 2012*

TOWARDS A NATIONAL WATER OPERATORS CERTIFICATION SCHEME

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I would like to introduce the proposed framework for the national certification of water operators. I have been fortunate enough to become involved in the project called “*The Certification Framework for Operators of Drinking Water Treatment Systems*”. The certification framework provides an assurance to regulators, communities and consumers that certified operators who treat drinking water are competent to perform the tasks required to ensure it is safe and are capable in identifying and responding to water quality risks and incidents.

It was explained to me like this – you need to have a 4 year trained licensed electrician to come into your workplace or home to fix a power point but there is no requirement for someone who operates a water plant that could impact a whole communities drinking water and their health.

This framework introduces a minimum competency standard for operators across all states and territories by aligning skills, knowledge and competency requirements to VET standards. It also ensures there is a requirement for on-going maintenance and development of skills and knowledge.

This project has been funded by the National Water Commission and is being carried out by Government Skills Australia. The final report is due to the Water Commission on 30 March and is still being finalised. Accordingly, I will do my best to give you what I expect the framework to look like.

In addition, there has been extensive consultation with public health regulators, private and public water enterprises, peak bodies like WIOA, and RTO’s alike. The materials have been posted online for comment and 2 rounds of consultation workshops took place nationally. Some of you may have attended one of these consultation workshops.

The purpose of the certification framework is to provide a set of nationally consistent criteria that defines and recognizes the minimum level of competency and capability required of operators who treat drinking water for safe human consumption.

1.0 SCOPE OF THE PROJECT

It is at this point I should mention the scope of this project. A large amount of debate and discussion went into determining what or wasn’t included. In addition the project was limited by the scope provided by the National Water Commission. The National Water Commission will decide how the system will ultimately look and be implemented.

This Framework applies only to the operators of treatment processes; or where no treatment process exists, to those that monitor, sample and/or test raw water in compliance with public health regulatory requirements. It does not apply to professionals or para-professionals (such as engineers or chemists), non-operational supervisors, administrative workers, managers or senior executives.

It is recognised that the competency and capability of operators is just one component that ultimately ensures that drinking water is safe.

Issues such as the condition and management of a catchment (raw water source) and the investment in infrastructure, such as treatment facilities, secondary disinfection stations and the reticulation network itself, are of equal importance.

The standards identified are a minimum. Through negotiation with employers, regulators or other relevant stakeholders, competency and capability standards that exceed these minimum requirements may be appropriate. Drinking Water Suppliers are encouraged to exceed the standards identified in the Certification Framework wherever possible.

Regulatory arrangements will require registered or licensed providers to participate in this framework as a component of any obligation to manage risk to public health.

This framework applies to only one component of the total water sector – the water treatment process. It does not cover catchment, reticulation or wastewater treatment. The Certification Framework is likely to be expanded to other components upon successful implementation in the drinking water treatment sector.

2.0 TREATMENT SYSTEMS COVERED

The Water Treatment System is inclusive of a Water Treatment Facility and downstream chemical dosing and disinfection but nothing upstream – at this stage. It includes any process that changes the physical, chemical or biological properties of water from any source in order to make it safe for human consumption.

Treatment processes include, but are not limited to:

- Disinfection
- Coagulation and Flocculation
- Sedimentation and Clarification
- Dissolved Air Flotation
- Granular Filtration
- Membrane Filtration
- Reverse Osmosis
- Adsorption
- Ion Exchange
- Fluoridation
- Softening/Hardening
- Chemical Dosing

3.0 CATEGORIES FOR CERTIFICATION

The Certification Framework requires facilities to be rated into categories. Again these categories were debated and may differ in the final report. However, I think systems will be rated into;

- Untreated supply,
- Treated Supply - Single Barrier (Disinfection Only),
- Multiple Barriers - Low Complexity and
- Multiple Barriers - High Complexity.

Accordingly, the following will apply to the operators in these settings:

Untreated Supply: Certified Operators will require basic competencies and capabilities to sample, test and report drinking water quality in accordance with regulatory arrangements.

Treated Supply - Single Barrier (Disinfection Only): Certified Operators will require basic competencies and capabilities to sample, test and report drinking water quality and to perform disinfection activities in accordance with organisational procedures.

Multiple Barrier - Low Complexity: Certified Operators will require basic competencies to test, sample and report drinking water quality and will have sufficient training, skills and knowledge to competently operate all the unit processes within their individual water treatment plants.

Multiple barrier - High Complexity: Certified Operators will require competencies to apply chemistry and to select water treatment requirements as well as performing tasks related to treatment of water that may require specialisation, optimisation and high level interaction/management of components of the drinking water system.

4.0 SYSTEM COMPLEXITY RATING

Factors that will impact upon the competency requirement of the operator include, but are not limited to:

- Size of the facility
- Automation
- Number of connections
- Volume of Flow
- Emergency Response Requirements
- Microbial Risks
- Chemical Risks
- Physical Risks, just to name a few

The information required to undertake this rating will be determined through negotiation with state and territory regulators. The rating will utilise the risk management process described in the Australian Drinking water guidelines.

The System Complexity Rating shall be performed by the Drinking Water Supplier and reported to the state/territory health regulator using the agreed methodology.

It is the responsibility of the Drinking Water Supplier to ensure that the rating is current. Where a change in conditions occurs that would be reasonably expected to affect the resultant score, the rating must be resubmitted using the process agreed with the relevant state or territory regulator.

5.0 ABOUT CERTIFICATION

So finally, what about the Operator. The Certification Framework focuses on the worker that interacts with the treatment processes within scope, or where no treatment exists, the worker that performs sampling, testing and reporting in accordance with public health regulatory requirements.

Certification is based on the requirement of a drinking water operator to:

- Achieve the necessary competencies specified in the water training package
- Demonstrate industry experience for the relevant treatment processes and
- Continue to develop knowledge and skills as well as maintain currency of industry experience.

5.1 Operator in Training

An *Operator in training* is an operator who is gaining experience and performing routine tasks, usually under the supervision of a competent operator, and is undertaking training to attain of relevant competencies from the water training package as required by the Certification Framework.

The Operator in Training is not certified, but the Drinking Water Supplier is to ensure that opportunities are afforded to the person to develop all necessary competencies. At this stage they would be given a three period to achieve certification.

5.2 Certified Operator

A *Certified Operator* has operational responsibility for water treatment processes or facilities. Duties performed will range from basic sampling, testing and reporting, through to chemical dosing, control and optimisation of treatment processes.

The Certified Operator may have responsibility for more than one treatment system at any one time, so long as it is reasonable to expect that drinking water quality and safety will be assured at all plants and the certification covers all treatment processes under the responsibility of that person.

Competency is attained through the completion of fit for purpose units of competency contained within the National Water Industry Training Package. Fit for purpose units of competency will be selected based on their alignment to the treatment processes and/or associated monitoring, sampling and recording tasks.

5.3 Training and Competency

Although this Framework specifies the minimum competency requirement, employers are encouraged to provide qualifications to their Responsible Persons and Operators. The full qualification includes Core Units covering Environmental & OHS issues which are relevant to water treatment but not mandatory under this framework. There are many benefits to organisations to have staff undertake these core units.

Additionally, due to the complexity of many modern water treatment plants it is likely that the additional training required to achieve a qualification will be minimal. There is a wide range of relevant units which provide for a competent operator. The report suggests clusters of units aligned to processes. I suggest you have a look at the final report when it is available if you are interested in this.

Certification will also require ‘demonstrated competency’ to a judgment of proficiency by demonstrating a capability to reliably perform under conditions that are, challenging or non-routine.

Capability is attained through direct exposure to workplace conditions. It can only be

attained through participating in the operational setting unique to the water treatment system.

5.4 Experience

The length of time required for certification is still under debate. However, as a guide they are looking at 12 months for untreated processes to 3 years for a multiple barrier with high complexity.

6.0 THE CERTIFICATION PROCESS

6.1 The Application Process

Applications for certification are to be made by the Drinking Water Supplier endorsing the suitability of the Operator. Application will be made using the instruments provided by the Certifying Body that are yet to be determined.

The criteria set by the Certifying Body will include:

- Evidence in the form of Statements of Attainment demonstrating that the applicant has been trained and is competent to operate all the unit processes at their treatment plant
- A statement of service from the Drinking Water Supplier
- Relevant Job Descriptions
- Notification of engagement in critical tasks reviews or projects.
- Endorsement that performance is consistent and demonstrates proficiency

It is recommended the certification will be valid for 3 years

6.2 Maintenance of Certified Status

Maintenance of Certification is achieved by ensuring that the competencies and capabilities identified during initial certification remain current.

There are two methods proposed for maintaining certified status.

It can be achieved through on-going engagement within the water industry, participation in refresher and professional development activities and by responding to changes in conditions, responsibilities, technology or treatment processes.

Importantly, this framework recognises that each workplace is unique and will influence the method by which Certified Operators and their managers will use the framework to ensure competence is maintained. These factors include the size of the workforce, the nature of the work being performed by the certified person, the geographic location and access to technology.

To maintain certification Operators must:

- Be employed in a treatment operations role
- Advise the certifying body of any change such as; Cessation of employment, Transfer to another treatment system or any change to treatment processes that would impact upon the Complexity Rating of the system.
- Ensure that the competencies held remain directly relevant to the water treatment

processes that are used within the system.

Alternatively, the Drinking Water Supplier may elect their staff to undertake an audit within three (3) months of the expiry of their certification.

The Certification Audit shall be performed by an operationally competent person, approved or nominated by the certifying body using an appropriate audit methodology/tool.

The Certification Audit will provide evidence that the competence of the Certified Operator is current and relevant to the tasks performed at a particular treatment facility. Where the audit is unable to confirm the competence of the Operator, certification shall be extended for three (3) months. During this time the Drinking Water Supplier shall plan and assist the certified person to address any shortfall or gap identified during the audit.

Where the three month extension expires, the Certifying Body would receive advice on a case-by-case basis. Where appropriate, the certification status of Operator may be amended to 'Inactive'.

7.0 CONCLUSION

So in summary, certification is all about operators being trained and competent in the processes of the plant they work in. The regulator and water organisations will determine the rating of the plant. Certification will require the operator to achieve certain units of competency "fit for purpose" and a length of time on the job. Certification will be valid for 3 years and to maintain certification organisations will either carry out audits or provide professional development. The final report is due out next week and a copy of the report will be available on the GSA website.