

Request for Proposals

Proposals must be received by 25th January 2018, 5.00 pm, CST

TITLE: *‘Value of Operator Competency’*

BACKGROUND & BENEFIT:

In September 2010 the Victorian Department of Health (now the Department of Health and Human Services), in collaboration with the Victorian Water Industry Association (VicWater) issued the “Victorian Framework for Water Treatment Operator Competencies – Best Practice Guidelines” (the Victorian Guidelines). The Victorian Guidelines define the minimum training, competency and certification standards that operators must attain and maintain in order to operate drinking water treatment facilities.

The implementation of the Victorian Guidelines in 2010 was an important first step towards the establishment of a National Certification Framework (the Certification Framework) for drinking water operators. The Victorian Guidelines and National Certification Framework both have a direct link to the risk management framework for protection of public health contained within the Australian Drinking Water Guidelines (ADWG). Specifically, they address “Employee Awareness and Training”, one of the twelve elements of the ADWG risk management framework.

Following on from the above has been the development of a competency framework for Wastewater/Recycled Water operators in Qld. Additionally, a national competency framework for combined water, wastewater and recycled water operators, aligned with the ADWG and the Australian Guidelines for Water Recycling (AGWR), is currently under development by the Water Industry Skills Taskforce (WIST). This framework will bring together the three treatment streams under one banner and facilitate cross-skilled operators being certified in more than one competency stream. Additionally, this will rationalise ongoing refresher training and professional development requirements, regardless of whether an operator is certified for one, two or three competency streams.

Despite these considerable efforts, there are still a relatively low number of operators that have been certified nationally by the Water Industry Operators Association (WIOA). At the time of this RFF only 105 operators were certified nationally under drinking water, with 7 certified for wastewater, as adherence to the Certification Framework by a utility is voluntary – this represents < 2% of operators nationally. There is also a major challenge for water businesses in Australia to address underlying inconsistencies in the training, demonstrated competence of water industry operators, and the existing variations in standards of practices. This has been highlighted by regulators and the water industry as a potential public health and environmental risk.

Addressing the risks that arise from the lack of a consistent approach to training and competence management has been hampered by the lack of a solid evidence base that demonstrates the benefits that arise from having trained and competent operators, especially financial, risk reduction, or societal benefits.

In scope: Water, wastewater and recycled (including stormwater) water operators

Out of Scope: The wider range of personnel that work within a water utility who make decisions that may impact on performance of the systems being managed

OBJECTIVES:

The objectives of this project are to:

- Develop into a succinct report the available independent evidence that demonstrates the benefits from having a trained and competent operator workforce
- Present the report and its findings at a stakeholder workshop

RESEARCH APPROACH:

The approach will be required to address the following elements to provide independent evidence of the benefits of operators achieving minimum levels of competency :

Review of water quality incidents: Building on the considerable work done by Prof Hrudey, *'Ensuring Safe Drinking Water: Learning from Frontline Experience with Contamination'* review water quality incidents to provide qualitative evidence that the level of operator training and/or competency either contributed to the cause of an incident, assisted with the intervention to prevent/minimise an incident from occurring or aided in the recovery after an incident had occurred. The review should focus on the human component of the incidents and the aftermath of the issue including where significant regulatory changes were made. The review should identify and categorise the risks associated with failing to appropriately manage operator competency to the required level

Compare training and competency with other industries: It is recognised that other industries, particularly those related to public and operator health, have more stringent training and competency frameworks than currently exist within the water industry. For the following example industries, the review should identify and describe the basis for regulatory and governance arrangements, and what risks having minimum agreed competencies mitigate against (i.e. auditing of competency levels).

- Public Health i.e. Nursing
- Aviation
- Plumbing
- Any other relevant industry, as agreed in consultation with the Project Advisory Committee

The review should also include how they manage the training and competence of their respective operational workforces, undertake succession planning, and the adoption of new technologies, how they manage ongoing currency and maintenance of skills and knowledge, and associate this within an engineering / decision management system (i.e. levels of authority to make decisions). This review is from a governance perspective, then downwards through the organisation.

The review will include at least one case study review (must include a case study of Seqwater operator competency management system against findings and recommendations from other industries).

Compare governance training and competency with international water industry: Review how other countries manage the training and competence of their water industry operator workforce and what their measures of effectiveness are. Determine what risks they identify are

mitigated by mandating a trained and competent workforce. (Project Advisory Committee (PAC) can provide some of this information)

Future water industry: Increasing levels of automation may decrease the amount of human involvement. There is a perception that automation may decrease the need for highly trained and competent operators. Alternatively, technology and improved industry systems that mitigate risk may require more highly trained operators, particularly when managing problems. Review of other industries with highly automated processes should provide an understanding of the training and competency levels required by water operators in more technologically-sophisticated industries. The review should consider how other industries adopt the use of new technology and ensure operator competency.

An additional element the review may wish to cover is identifying novel training techniques within other industries that would be of benefit to the water industry. This could include management of sufficiently qualified trainers and the role of technology (i.e. use of visual intelligence, remote training).

DELIVERABLES:

The key deliverable for this project will be a final report that outlines and addresses the objectives listed above. The report should include industry guidance that would help inform good practice in developing operator competency.

Knowledge Transfer - To meet the objective of the project of engagement with stakeholders to promote a nationally-endorsed approach to operator training and competency, a key deliverable will be a knowledge transfer package that uses effective means to deliver research findings to different stakeholders.

The knowledge transfer package will need to plan for and deliver:

- Raising the general awareness of the topic and research findings to the water industry, possibly by an article in AWA Source/Current
- State-based engagement with regulatory stakeholders, noting that each state has its own interest and appetite for this issue
- Paper for water industry senior executives, summarising research findings
- Presentation of research findings at key water industry events – e.g. WIOA conference, WaterRA Research Symposium

Project budgets are expected to factor in time spent on preparing and transferring knowledge gained of the research.

In addition, the proposal should include details on other expected deliverables such as:

- Project kick-off meeting (e.g. discuss communications plan, decide meeting frequency, communication type and frequency) (mandatory)
- Web update for waterra.com.au (e.g. specifying project title, short synopsis, collaborating entities, any content for upload e.g. photographs, diagrams) (mandatory)
- Progress report (e.g. periodic report covering a 3-4 month period of work) (mandatory)
- Milestone Report (when key achievement in the project has been reached) (mandatory)

- Draft Report submitted to WaterRA for Peer Review (mandatory)
- Peer Review (mandatory)
- Submission of abstract to conference to meet Knowledge transfer needs (mandatory)
- Final Report addressing comments from peer review process submitted to WaterRA (mandatory)
- Workshop or other technical transfer activity held and outcomes (minutes, slides) provided to WaterRA for website and or further distribution (mandatory)
- Multimedia presentation (e.g. video lecture etc.) (desirable)
- Fact Sheet (1100 words for public distribution on the topic) (desirable)

FUNDING:

WaterRA will allocate up to **\$54,500** towards this RFP topic. While co-funding is not a prerequisite for a successful application, leverage of WaterRA funds is strongly encouraged via cash or in-kind contributions.

DURATION:

The project duration is expected to be up to 1 year.

APPLICATION PROCEDURE & DEADLINE:

Applications are due electronically to WaterRA by 5.00pm CST (Adelaide) on 25th January 2018. Applications should be sent to: ian.overton@waterra.com.au and the subject line in the email should be marked 'RFP Response: Value of Operator Competency – insert project leader name'.

Applicants must use the WaterRA templates available from waterra.com.au/research/policies-procedures-forms/.

ELIGIBILITY TO SUBMIT PROPOSALS:

All WaterRA Members and non-member agencies are eligible to submit project proposals.

INDUSTRY PARTICIPATION:

Industry collaboration is mandatory.

SELECTION CRITERIA:

WaterRA will assemble a selection team from the WaterRA Project Review Team (PRT) and PAC, and proposals will be assessed against criteria available from waterra.com.au/research/policies-procedures-forms/.

PROJECT ADVISORY COMMITTEE:

WaterRA will establish a Project Advisory Committee, comprising industry representatives, that will provide comment on all project reports, publications and other materials.