

Addressing skills gaps in water – VET for water operators in regional NSW

Purpose

This briefing note summarises current challenges and opportunities for the attention of NSW Ministers responsible for Water, Skills and Regional NSW respectively. The note will also be shared with national and interstate industry bodies for further discussion.

Background

Regional Water Infrastructure in NSW at a glance

Regional water infrastructure in NSW has the following attributes ‘at a glance’:

Table 1 - Features of the regional NSW urban water industry

• 92 Local Water Utilities (LWU's)	• 1.85 million population served in 890,000 homes and businesses
• 350 water supply schemes	• 300 sewerage schemes
• 49 recycled water schemes	
• 312 GL per annum of water supplied	• 160 GL of sewage treated
• \$28 Billion total replacement cost of assets	• \$1.5 Billion in annual revenue
• 2000 water operators	• 300 to 400 engineers, technicians and managers

The data indicates extensive critical infrastructure operated by a relatively small cohort of water industry staff. The importance of accredited training to support the provision of essential water and sewerage services in regional NSW shouldn't be underestimated.

Issues in Vocational Education and Training (VET) in regional water

Current issues:

- The National Water Training Package (NWP) for accredited water industry training has been updated in 2020 (Release 3.0)¹. TAFE NSW is presently the only Registered Training Organisation (RTO) in NSW able to deliver the NWP.
- Although the NWP has been in place since 2015, there is no minimum standard or licencing requirement for water operators in NSW. Currently a person requires a licence to maintain an air-conditioning unit in NSW, but there is no licence required for an operator responsible for dosing chemicals into drinking water.
- TAFE NSW advise that it is unlikely to make the Certificate II Water Industry Operations qualification available for new enrolments in 2021. This will remove an important career pathway for water industry trainees.
- TAFE NSW also advise that delivering **all** the units and specialisations of the NWP Certificate III in Water Industry Operations is not financially viable. As a result, it is unlikely that water treatment process training and water networks training will fulfil NSW water industry training requirements. Accredited training will not be available either for specialist water industry qualifications in Liquid Trade Waste regulation, Civil construction, or Catchment & Dams specialisations.
- TAFE NSW do not intend to offer the higher levels of accredited training in Certificate IV or Diploma of Water Industry Operations for the same reason as not being

¹ Training package details available at: <https://training.gov.au/Training/Details/NWP>

financially viable. A new, consolidated Certificate IV is being finalised for endorsement, but TAFE NSW do not intend to offer this qualification without additional funding.

- The NSW Department of Planning, Industry and Environment (DPIE) were key trainers of water and sewerage treatment operators, delivering accredited training through auspicing arrangements with TAFE NSW. DPIE advise that: *‘For the 2020 calendar year the courses will not be offered as a Nationally Accredited course (i.e. no Certificate III or IV courses). This is due to changes introduced in 2019 relating to third party agreements with registered training organisations.’*^{2,3}
- Water industry trainers are not continuing with delivering accredited training due in a large part to the increased complexity and costs of compliance with ASQA requirements.
- There have been difficulties all along with the ability to deliver training to essential water and sewerage workers in remote and regional areas, including the logistics of taking operators off the frontline while maintaining 24/7 operations, time and cost for accommodation and travel to another regional centre, or to Sydney.

Water industry training is now at a critical point in regional NSW due to national changes introduced in 2019 relating to third party training agreements with Registered Training Organisations, in this case affecting TAFE NSW as the only RTO in NSW with water industry training in its scope.

A lack of accredited water industry training will increase risk over time to essential water and sewerage services supporting our communities as experienced operators leave the water industry.

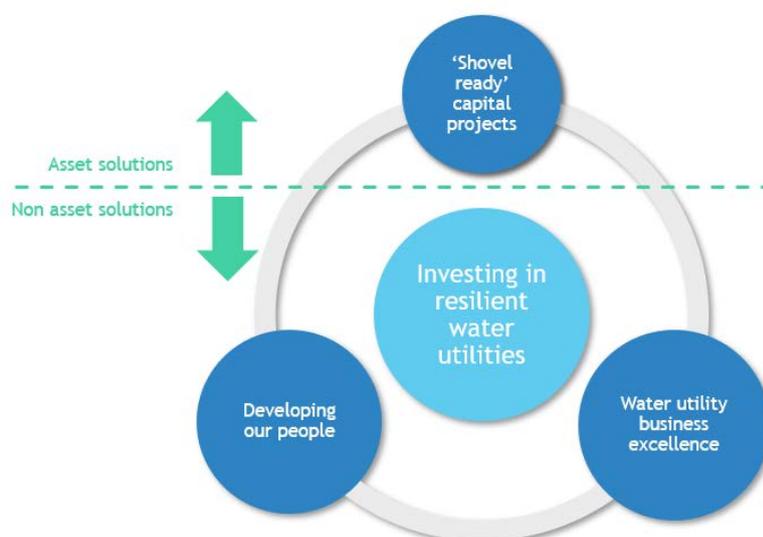
Stakeholder feedback

A wide cross section of water utilities and water utility alliances around regional NSW have expressed concern with the lack of availability of accredited training including:

- Central NSW Joint Organisation
- Orana Water Utility Alliance
- Namoi Unlimited Joint Organisation
- Riverina Water County Council
- Tweed Shire Council
- Shoalhaven Water
- Kempsey Shire Council
- Port Macquarie Hastings Council
- MidCoast Council

The need for a strategic approach

Investing in resilient water and sewerage services requires more than just capital investment in assets. Complex infrastructure also requires investment in non-asset solutions, including developing well trained operators and engineers, and more sophisticated technology.



² DPIE Water training website, available at: <https://www.industry.nsw.gov.au/water/water-utilities/training-courses>

³ ASQA third party arrangements: <https://www.asqa.gov.au/resources/fact-sheets/third-party-arrangements-0>

The challenges with developing our people are not limited to NSW. Peak national bodies such as Water Services Association of Australia (WSAA)⁴ and Australian Water Association (AWA)⁵ have made recommendations covering water operator training to the National COVID-19 Coordination Commission in collaboration with NSW Water Directorate and Queensland Water Directorate.

Research on operator training by Water Research Australia (WaterRA)⁶ has also raised concerns with a lack of a minimum standard for frontline water operator training, and a lack of awareness of minimum competency standards, as has the Water Industry Operators Association (WIOA). In particular:

A study by Wu, et al. (2009) demonstrated just how significant the role human error plays in water quality safety incidents. This study reviewed 62 Hrudehy and Hrudehy (2004) cases and reported that 78% of the errors that occurred were human related. A lack of training and competency provision resides as a vulnerability within an organisation's system, waiting for the right circumstances to present and test frontline operator competency. The literature review demonstrated that, when competency is tested and found to be deficient, human errors occur and compromise the management of water quality safety risks. Walkerton, North Battleford, Flint and Havelock North are high profile examples of overseas incidents where this has been the case....

Targeted investment in training will build more resilient water supplies for our regional communities. The impacts of ongoing water quality incidents could be significant if this issue is not addressed.

Where to from here?

Unless TAFE NSW widens its scope to include all the NWP units, specialisations and qualifications, another RTO will need to be involved in water industry training in NSW, potentially from interstate. Presently training delivered by interstate providers will not be eligible for NSW government funding assistance through the NSW *Smart and Skilled* program

State and Commonwealth funding needs to be sought to make water industry training financially viable and ensure the provision of essential water and sewerage services into the future. NSW Water Directorate and NSW Public Sector Industry Training and Assessment Body (ITAB) will conduct a training needs survey in 2020 to more clearly determine the gaps and demand for water industry training.

A minimum standard is required to clarify the demand for training. Unless training is adequately funded it will be increasingly difficult to attract suitably experienced and accredited trainers. NSW Water Directorate is also in ongoing contact with WSAA, AWA, WaterRA, WIOA, Qldwater Directorate and Vicwater to confirm interstate water industry training issues.

Recommendations

On behalf of Local Water Utilities across regional NSW, the Water Directorate asks that:

1. TAFE NSW be directed to make the full scope of the National Water Training Package for Water Industry Operations available – Certificates II, III, IV and Diploma, especially the supporting electives, on the basis that water supply and sewerage are an essential service for all NSW communities.
2. If recommendation 1 cannot be delivered, the NSW Government allows interstate providers to obtain contracts to deliver water operator training under the *Smart and Skilled* program due to the inability of TAFE NSW to commit to the full scope of the National Water Training Package for NSW.

⁴ WSAA submission (June 2020): <https://www.wsaa.asn.au/publication/urban-waters-contribution-covid-19-recovery>

⁵ AWA submission (June 2020): https://watersource.awa.asn.au/wp-content/uploads/2020/03/Recommendations_for_Employment_and_Economic_Activities_Water.pdf

⁶ WaterRA (October 2019): https://www.waterra.com.au/r9103/media/system/attrib/file/2101/Project%201111%20Final%20Report_HR.pdf

3. The NSW Government develop a minimum standard for water operator training in NSW. This should be based on the national Water Industry Operator Certification Taskforce (WIOCT) operator certification scheme⁷ delivered by WIOA.
4. The NSW Government implements a program to reduce the costs and bureaucracy to delivering water industry training in regional NSW, such as:
 - a. Addressing the time and cost for water industry trainers to maintain accreditation under ASQA requirements
 - b. Addressing the cost for RTO's to develop and maintain training resources could be offset by funding centrally stored resources available for use by multiple RTO's and trainers. The Water Directorate is willing to be the facilitator and custodian of these resources on behalf of the regional water industry.
 - c. Offset travel and accommodation costs for trainers and trainees to regional and remote areas of NSW,
 - d. Piloting training and assessment through virtual technology, and/or
 - e. Subsidising training through grants directly to eligible regional/remote water utilities.

Contact for further discussion

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Water Directorate has published a blog with further background and links to other sources at:
<https://www.waterdirectorate.asn.au/Blog/Skillsgapsinwater.aspx>

⁷ WIOA operator certification scheme: <https://wioa.org.au/certification/>