

Case Study

Water Industry Worker Program, a Skills Framework for Field Maintenance Staff



Fit-for purpose skills sets for Field Maintenance Staff

This case study describes the process of development of a standardised and **fit-for-purpose skills set** specific to field maintenance and construction staff in the Queensland Water Industry. This is illustrated through presentation of the Queensland Water Skills Partnership, Water Industry Worker (WIW) Program, a key initiative of *qldwater*. This case study shows how **units of competency** from **nationally accredited training packages** have been mapped to the skills and knowledge requirements, to ensure field maintenance and construction staff achieve the required skills and knowledge to safely and competently carry out their role. The following sections describe how this system works, as well as analysing the benefits and identifying any potential opportunities for improvement.

Queensland Skills Partnership and WIW Program

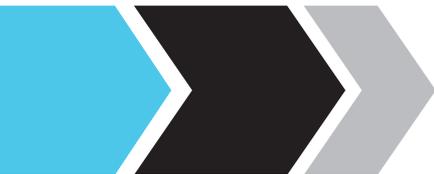
The Queensland Water Directorate (*qldwater*) is a business unit of the Institute of Public Works Engineering Australasia Qld Division (IPWEAQ) and an initiative of Institute of Public Works Engineering Australasia QLD Division Inc, Local Government Association of QLD, Local Government Managers Australia and the Australian Water Association. Hence, *qldwater* has responsibility for the management of the Water Skills Partnership which is a collaborative industry-led skills program for the water industry in Queensland. The Partnership performs a number of functions for the industry, such as securing skills and training funding, producing reports and workforce planning documentation, coordinating industry-wide skills/workforce development projects, piloting training programs and initiatives, information sharing and collaboration opportunities and representation for Queensland on national industry skills committees.

The strategic direction for the Water Skills Partnership is set by an Industry Leaders Group. This group is made up of senior representatives from water and sewerage service providers across the state of Queensland. The membership of the Water Skills Partnership includes small local Councils through to very large Council-owned distribution/ retail entities, as well as three state-owned bulk entities. Membership has steadily increased with each year of operation with a subscriber base of 47 in 2018.

The WIW Program is a major multi-year skills initiative that has been managed through the Water Skills Partnership. The program began in South East Queensland in 2009 with a pilot involving 22 staff members from the field maintenance and construction teams of Ipswich City Council, Logan City Council, Redland City Council, Brisbane City Council, Gold Coast City Council and Scenic Rim, Lockyer and Somerset Councils. This pilot program was seen as the first step of a major multi-year industry initiative. The aims being; design of fit-for-purpose qualification/s accepted by industry, fostering industry demand in delivery of training for said qualification/s, and supporting the training supply market to develop an efficient model that could be replicated across other skills streams.

Key program drivers

The program involved planning and implementation of competency-based training for employees tasked with field-based maintenance and construction. The intention was this approach would have the potential for adoption into other technical steams, para-professional, professional and potentially management roles.



Key Driver 1: Addressing a Key Industry Skills Gap

The WIW pilot program was seen as the first step in designing customised and industry accepted qualifications in a technical skills area which had been identified as having a distinct lack of consistency in knowledge and experience and, in some cases, significant skills gaps. Many staff employed in the field-based maintenance and construction area were acknowledged as being experienced and capable, with skills equivalent to, or exceeding those gained through a recognised trade. However, what was clearly lacking was a structured learning framework, appropriate competency evaluation of experienced staff and/or other formal qualifications.

Key Driver 2: A Platform to Lobby for Priority Skills Funding

Nationally accredited training can be prohibitively expensive for water businesses, particularly smaller regional councils. Through the successful lobbying efforts of *qldwater*, it became possible for the training costs for both Certificate II and Certificate III Water Operations for the WIW Program to be generously funded through Queensland User Choice Traineeship Funding. Training costs for the Certificate IV Water Operations and Diploma Water Operations conducted in 2012, 2013 and 2014 were also funded through either the *qldwater*-coordinated Strategic Investment Funding (SIF) or National Workforce Development Fund (NWDF). The Certificate IV Water Operations and Diploma qualifications were later included in the Queensland Higher Level Skills funding for 2014/2015.

Key Driver 3: Improving the Quality of Training in the Water Industry

The success of the WIW program is highly dependent on the quality of the training provided by the Registered Training Organisations (RTOs) involved. For the first five years of the Program, WIW included a trial of three different RTOs for the provision of the training (Chisholm TAFE, Sunshine Coast TAFE and Wide Bay Institute of TAFE) with others (Simmonds and Bristow and SkillsTech) delivering higher level qualifications from 2013/14. It was hoped early on in the program to trial a number of RTOs in order to determine the best possible training and RPL approach for the industry, however for various reasons there were barriers to achieving this. Even today, access to experienced trainers with appropriate skills, and “consumer choice” in selection of the most suitable RTO both pose challenges to the water sector.

The Program – Water Industry Worker Skills Recognition & Development

The WIW training program is focused on the formal delivery and/or recognition of skills and training of employees within the civil construction and maintenance field in the water industry, with a strong emphasis on on-the-job learning. The following sections outline the key requirements for development of role-specific, fit-for-purpose skills sets for these technical roles.

Unit Mapping to Nationally Accredited Training

Under the WIW Program, participants undertake either a Certificate II or III in Water Operations. Further stages of the program involve moving through to Certificate IV Water Operations and/or Diploma of Water Operations qualifications for supervisory staff.

The WIW Program provides a practical approach to valuing existing skills, with a focus on developing a formalised process for recognition of skills and knowledge gained that was deemed equivalent to, or better than that gained through a recognised trade. In many cases the more experienced field staff had accrued their experience on-the-job and in the absence of a structured learning framework or other formal qualification.

Table C2.1: Example of the Nationally Accredited Units of Competency for the Certificate II – Water Industry Operations, mapped to the skills and knowledge requirements of Field and Maintenance staff.

Unit Descriptor	Unit Code (NWP)
Contribute to Health & Safety of self & others	BSBWHS201
Carry out Measurements & Calculations	CPCCCM1015A
Apply risk management principles of the water industry standards, Guidelines & legislation	NWPGEN001
Apply environmental & licencing procedures of the water industry	NWPGEN003
Use maps, plans, drawings & specifications	NWPGEN011
Prepare & restore worksites	NWPNET002
Locate, identify & protect utilities	NWPNET011
Maintain & repair network assets for drinking water	NWPNET022
Maintain & Repair network assets for Waste Water	NWPNET023
Carry out manual excavation	RIICCM205D
Operate Small plant & equipment	RIISAM204D

The qualifications issued through the WIW program are nationally accredited and recognised. The training is up-to-date with industry practices and technologies. Additionally, the WIW Program offers broader career paths through progression from Certificate II up to Diploma Level, opportunities for promotion and professional development. The training process includes a recognition of prior learning (RPL) component (where relevant) followed by gap training in specified areas where the participant cannot demonstrate competency.

Working with RTOs

A critical aspect of the program was the development of collaborative relationships with RTOs who deliver the National Water Package (NWP). The WIW program initially focussed heavily on recognition of prior learning (RPL) with a significant component of paper based evidence requirements for assessment of competency. Although many employees involved in the program have significant industry experience, replacement of training with an essentially evidence gathering exercise was, in some cases, considered to be a decrease in value of the qualification. Additionally, as the roles in question were practical in nature, onsite observations of practical tasks seen as a crucial element for both RPL and gap training.

Whilst the RPL approach was deemed necessary for the first intakes due to the highly experienced profile of the pilot participants (many with 20+ years' experience), the training has since moved to a more practical approach both for the RPL and the gap training components, with RPL in effect minimised. This onsite and practical focus is seen as essential by supervisors in order to keep the participants interested, promote the acquisition of new skills and also ensure that any RPL component of the program is robust. Ensuring the training process is robust and the qualification outcomes are standardised is therefore essential.

Finding appropriately skilled, qualified and experienced trainers to deliver NWP units of competency is an ongoing problem for the industry. Co-provider models are sometimes a viable option for training delivery. A co-provider model was trialled with Wide Bay TAFE early in the WIW Program. A co-provider model would mean that the water service provider engages their own employee to undertake the training and/ or on-site assessment, whilst the RTO issues the qualification after assessing the evidence.

Outcomes of the Program

In the five-year period between the original WIW Pilot group in 2009, and the program evaluation report in 2014, there were just over 260 enrolments and 242 completions in either Certificate II or III water operations through the program. The majority of these completions have been in the Certificate II Water Operations qualification (156 completions) with another 86 completions for Certificate III. Note that these numbers include several participants who have completed both the Certificate II and III through the program. In 2013 and 2014, pilot programs in both Certificate IV Water Operations and Diploma Water Operations were undertaken with 25 participants having completed the Diploma qualification.

The qualification completion rate for the program (excluding Cert IV and Diploma data) was high at almost 93% (92.6%). This was even higher for the South East Queensland region with an almost 97% completion rate recorded for Certificate II and 93% for Certificate III. This reflects the significant effort that employers put towards supporting the Program.



Figure C2.1: Graduates from the 2011 program intake

Discussion

In 2014, an evaluation of the WIW Program was undertaken. *qldwater* undertook this evaluation in order to attempt to assess the return on investment and thus provide evidence to ensure the future of traineeship funding. In addition, the work seeks to provide a case for other service providers to consider adopting the WIW Program, as well as encourage investment in other future industry skilling initiatives.

Successes of the Program

It is important to highlight the cascade effect of the WIW Program on skills programs and funding in other key frontline roles in the water industry. WIW created the impetus for the establishment of traineeship funding for Cert II operations staff, which provides benefit for other skills streams including water and wastewater treatment.

The experience from this project has led to *qldwater* securing other funding support for industry VET programs, an ongoing relationship with RTOs and national linkages. *qldwater* also went on to produce a business case to support the introduction of certification for drinking water, wastewater and recycled water treatment operators in Queensland, initiatives which have borrowed heavily from WIW.

The Challenges and Barriers

A regional WIW pilot undertaken in 2010 in Mackay, Townsville, Toowoomba and Rockhampton, unfortunately resulted in less positive completion rates than for the South East Queensland intakes. There are numerous possible reasons for this including issues with communication, training delivery methods and time commitments. Further, all participants in the regional pilot were originally enrolled in a Certificate III level qualification which may have been too high an initial start base for some of the participants who had no prior qualifications. Certainly, feedback from the South East Queensland pilot supported a progression approach from Certificate II to Certificate III in particular for employees with limited experience or formal qualifications.

The RTOs involved in the program have also faced their own challenges which include difficulties sourcing trainers with the appropriate skills to be able to provide the training. Program participants certainly commented that the quality of the training is most influenced by the competency and approach of the individual trainer. Over the course of the SEQ WIW program a number of RTOs have been trialled and working out the best possible approach to ensure a rigorous program and the most positive outcomes for the participants has been an ongoing journey. The market has significantly improved, however the lack of certainty around the capacity of RTOs remains a significant risk for employers and participants.

Feedback from Program Participants

The overall feedback from the WIW Program participants surveyed in 2014 was very positive, with the majority stating that they were satisfied with the level of training provided. Many believed the program should become an industry standard, especially for new employees. Additionally, the large majority of participants surveyed stated that they had gained skills from the program that had enabled them to improve their performance in their job. There were some participants who felt that they did not personally gain any significant outcomes from the program (such as learning new skills). However, all participants surveyed stated that they would recommend the program to other employees. This bodes well for the future of the program as it demonstrates that the training has been readily accepted by the employees as beneficial and there is a positive response to the program.

Opportunities for the future

With appropriate interest, *qldwater* may look to support other regional pilots of WIW, drawing on lessons from the original pilot and ensuring that RTOs are able to approach the training in a manner that suits the needs of the regional participants. In particular, a more 'regional hub' style model may work in some areas to ensure that minimum training numbers for face to face training can be met. The most likely participants for this would be the larger regional Councils that have water and sewage treatment and reticulation works undertaken by separate teams. For many other smaller regional water service providers, reticulation/network maintenance is undertaken by the same operators that run the water and wastewater/sewage treatment plants. In such circumstances their training is often more likely to be focussed on the treatment side of operations, though some reticulation/network units may prove valuable to include in the qualifications.

Conclusion

The WIW Program demonstrates a number of key aspects in the successful development and delivery of skills initiatives for water industry staff, namely:

- The importance of industry collaboration (Water Skills Partnership), bringing together a number of water businesses to create a critical mass to build a market need and drive improvement in training delivery.
- Having a structured approach to business case development for accessing priority skills funding.
- Including the RTOs in the WIW program development, to ensure the best outcomes in training delivery.
- A committed steering group, with a willingness to provide management/oversight to the program over the long term.
- A process of program review and continuous improvement, to address any issues and keep up to date with industry trends and technology.

Based on the feedback received by **qldwater**, the WIW program has demonstrated many positive outcomes for the individual participants, organisations and the whole industry. The cross-skilling approach promoted through the program provides employers with additional flexibility with rostering and oncall arrangements. In South East Queensland specifically, there is strong interest in continuing to grow the program with water utilities continuing to engage with RTOs in delivery of training under the program and enrolments ongoing.

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