

Competency benchmark for local water utility operators in NSW

Revised competency benchmark with
implementation actions



Acknowledgement of Country



Department of Climate Change, Energy, the Environment and Water acknowledges the traditional custodians of the land and pays respect to Elders past, present and future.

We recognise Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to place and their rich contribution to society.

Artist and designer Nikita Ridgeway from Aboriginal design agency – Boss Lady Creative Designs, created the People and Community symbol.

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Contents

1. Summary	2	4.4 Fundamental operations training	29
1.1 Background	2	4.5 Advanced training	30
1.2 Industry consultation and feedback	2	4.6 Implementation – what we will do first	31
1.3 The competency benchmark	3	4.6.1 Establish a regulatory expectation for LWU operators to complete online induction modules, WHS training, and fundamentals training	31
1.4 Implementing the competency benchmark	5	4.6.2 Implement online induction module training	31
2. Summary of feedback	6	4.6.3 Establish advisory committee to develop governance framework	31
2.1 Who we heard from	6	4.7 What we will continue working on	31
2.2 What we heard: a snapshot	7	4.7.1 Aligning subsidised training programs to the benchmark	31
2.3 What we heard: key themes	8	4.7.2 Aligning RTO delivery to the benchmark	31
2.4 What we heard: in detail	10	4.7.3 Continuing the development and implementation of the competency benchmark	32
2.4.1 Theme 1: Training content and delivery	10	5. Further information	33
2.4.2 Theme 2: Enablers of implementation	13	6. Appendices	34
2.4.3 Theme 3: Financial and operational considerations	15	6.1 Appendix 1: Advanced water treatment plant operator skill set	34
2.4.4 Theme 4: Workforce development and career progression	17	6.2 Appendix 2: Advanced wastewater and/or recycled water operator skill set	35
2.4.5 Theme 5: Industry collaboration and integration	20	6.3 Appendix 3: Advanced networks operator skill set	35
2.4.6 Theme 6: Further development and governance	21		
3. Response to feedback	22		
3.1 Specific feedback on UOCs	25		
4. The updated competency benchmark	27		
4.1 Overall competency benchmark	27		
4.2 Online induction modules	27		
4.3 Safety training required by WHS legislation	28		

1. Summary

1.1 Background

The NSW Government is committed to strengthening the skills, training, and workforce of the local water utility (LWU) sector to ensure the effective management of public health, environmental, and work health and safety (WHS) risks. The NSW Department of Climate Change, Energy, the Environment and Water (the department) recognises the vital role water operators play in safeguarding communities and ecosystems. The department collaborated with the LWU sector to develop a competency benchmark.

The competency benchmark aims to address significant challenges in the water sector, including inconsistent training standards, limited access to quality training, and a lack of clear guidance on the skills required for critical operational roles. Establishing a standardised training and competency framework enables the benchmark to ensure water operators receive high-quality, relevant training and gain the competencies needed to effectively manage risks.

The department initially worked with the LWU sector to develop a draft competency benchmark. The department released a [consultation paper](#) for public exhibition in 2024 to gather insights and refine the approach. Stakeholders, including LWUs, training providers, industry representatives, and community members, were invited to share feedback. This consultation was an opportunity for the department to hear directly from those most affected by, and involved in, water operations.

The consultation process highlighted the dedication and expertise within the sector, as well as the shared aspiration to build a resilient, well-trained workforce. Submissions reflected a wide range of perspectives, from practical implementation challenges to the broader benefits of professionalising the water operator role. This report summarises the feedback received to capture the key themes, ideas, and concerns expressed during the consultation period. It then presents a revised competency benchmark and implementation actions.

1.2 Industry consultation and feedback

There was strong support from across the water industry for the proposed competency benchmark for operators. People told us that a standardised approach to training and skills development was long overdue and would help create a more consistent and reliable workforce, improving safety and operational efficiency.

Respondents to a survey showed strong support for the competency benchmark – 98% said they generally support it – while 92% support the department setting an expectation that all LWUs should address the competency benchmark.

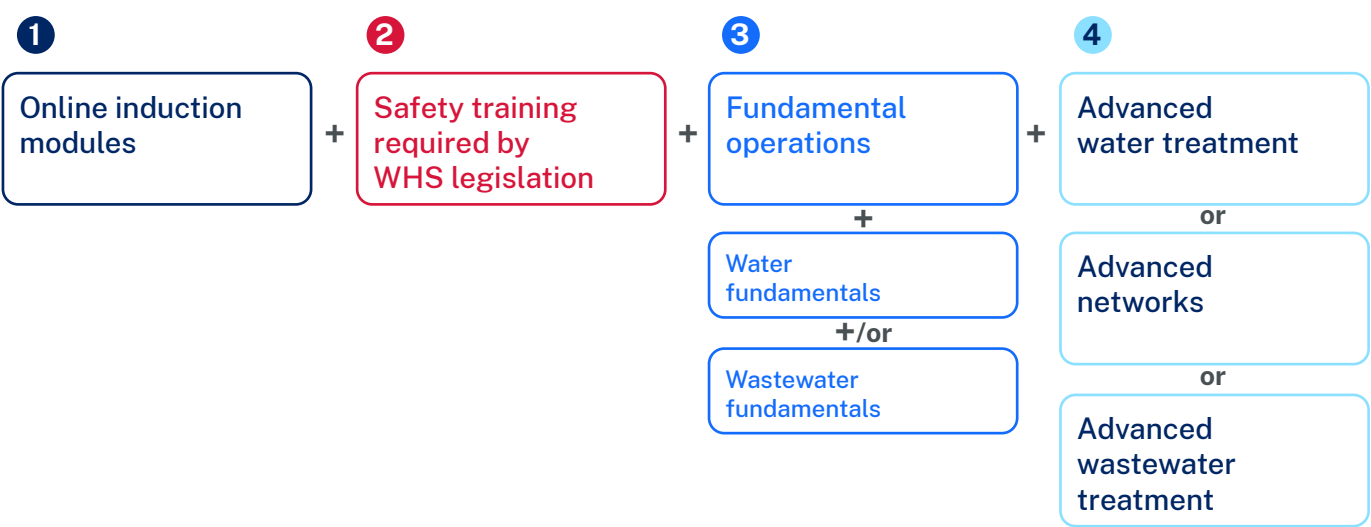
The consultation raised many issues that require consideration before effectively implementing the competency benchmark. We grouped these into six key themes.

- 1 Training content and training delivery**, including the need for consistency across training providers, and the need for hands-on practical training.
- 2 Enablers of implementation**, including increasing availability and scope of Registered Training Organisation (RTO) delivery and the need for experienced supervisors and mentors.
- 3 Financial and operational considerations**, including the cost of training and difficulty of training small operational teams.
- 4 Workforce development and career progression**, including difficulty retaining skilled staff and the lack of recognition of competent operators.
- 5 Industry collaboration and integration**, including the need for consistent national approaches to training, and increased participation of First Nations people.
- 6 Further development and governance**, including ongoing support from the department.

1.3 The competency benchmark

The department incorporated feedback from the consultation to revise the competency benchmark. The benchmark consists of four key training areas, shown in the figure below.

Figure 1 – Key training areas of competency benchmark



1. Online induction modules:

Non-accredited courses the industry develops to help water industry workers and contractors learn their roles and responsibilities. This includes the aqua card, brown card, green card, and work safety card.

Figure 2 – Online induction modules



2. Safety training as required by WHS legislation:

LWUs must identify and complete all relevant units of competency that relate to the WHS risks faced by operators within their specific workplace and job function. In addition to and consistent with these requirements, the benchmark specifies four key units of competency.

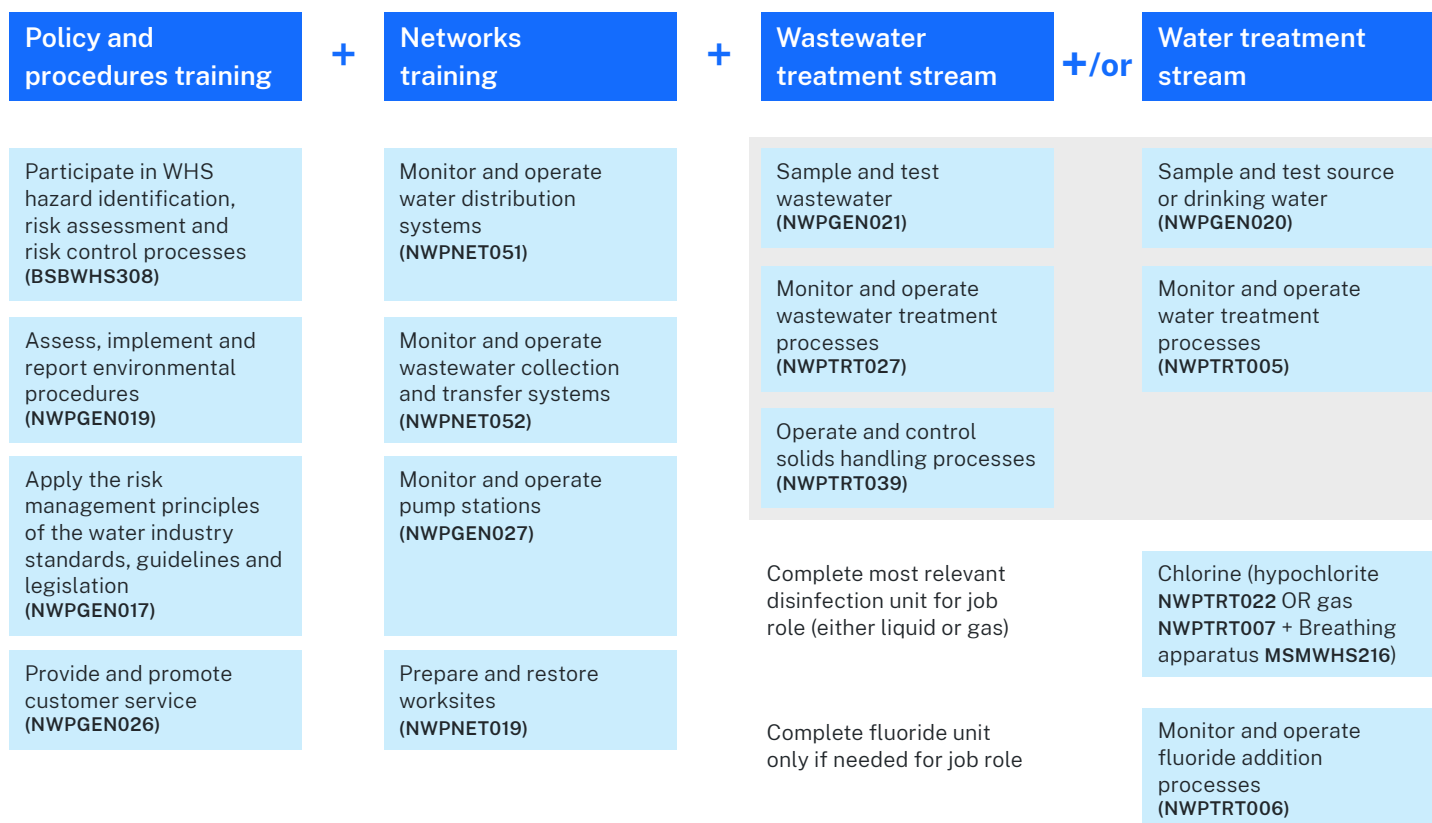
Figure 3—Mandatory work health and safety training



3. Fundamental operations training, including either water or wastewater treatment stream:

Training covering the fundamental competencies all operators require including, policy and procedures, networks, and wastewater treatment and/or water treatment, depending on job function. An operator completing fundamental training is eligible for a Certificate III Water Industry Operations.

Figure 4—Fundamental operations training



4. Advanced training in either water treatment, wastewater treatment, or network operations:

Specialty accredited training for specific job tasks performed in complex water or wastewater treatment plants, or complex water or wastewater networks. Refer to [Appendix 1: Advanced water treatment plant operator skill set](#), [Appendix 2: Advanced wastewater and/or recycled water operator skill set](#), and [Appendix 3: Advanced networks operator skill set](#), for units of competency of each stream.

1.4 Implementing the competency benchmark

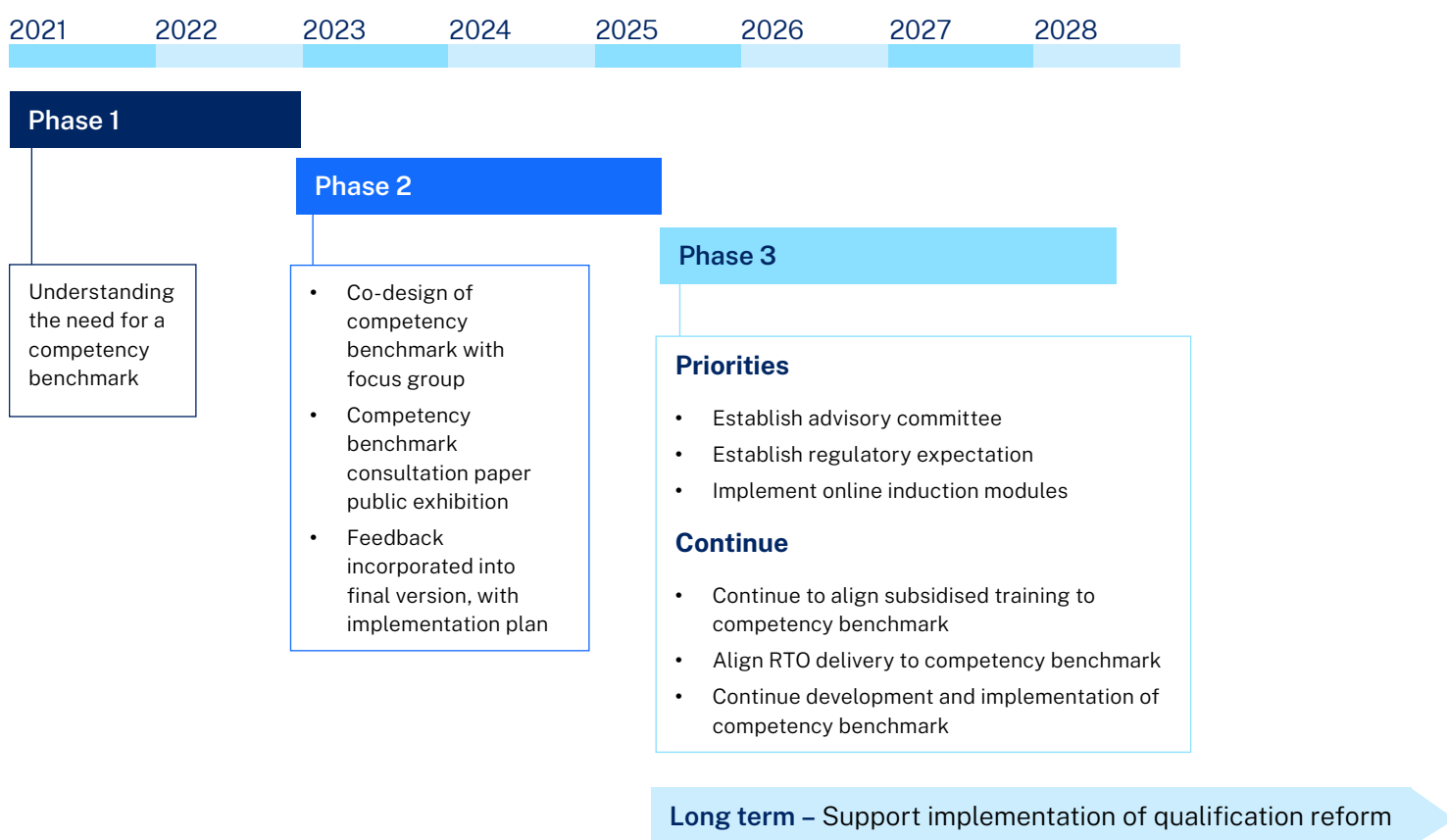
The department will seek to establish and implement the competency benchmark using a staged approach. We will continue to work with the water and training industries to ensure implementation has reasonable timeframes and provides support to the water and training industry.

We will initially seek to establish the competency benchmark as a regulatory expectation and definition of competency for LWU operators. The heart of this expectation will be establishing fundamentals training as the default program for Certificate III Water Industry Operations, including traineeship programs.

We will support the ongoing implementation of the competency benchmark through the following actions.

- Establishing an industry advisory committee to oversee implementation and governance.
- Working to align training subsidies with delivery of competency benchmark training.
- Working to align RTO delivery to the competency benchmark, including increased availability of trainers and assessors, and investigating the role of the department's training delivery.
- Continuing the development and implementation of the competency benchmark, including developing a Recognition of Prior Learning (RPL) pathway and development of advanced training modules consistent with a national approach to operator competency.

Figure 5 — Implementing the competency benchmark



2. Summary of feedback

2.1 Who we heard from

The department engaged with a broad range of individuals and organisations throughout the consultation process. Many stakeholders shared their insights and experiences, offering valuable feedback and diverse suggestions on the proposed competency benchmark for water operators in NSW.

We invited submissions and conducted webinars, meetings, and conferences to engage with:

Figure 6 — Who we heard from



2.2 What we heard: a snapshot

There was strong support from across the water industry for the proposed competency benchmark for operators. People told us that a standardised approach to training and skills development is long overdue and will help create a more consistent and reliable workforce, improving safety and operational efficiency.

Of the 53 people who took part in the formal submission survey, 42 were LWU operators or staff, showing strong engagement with those working directly in the sector. The survey ran from July to September 2024 and gave participants the chance to share their insights through a mix of quantitative and qualitative questions.

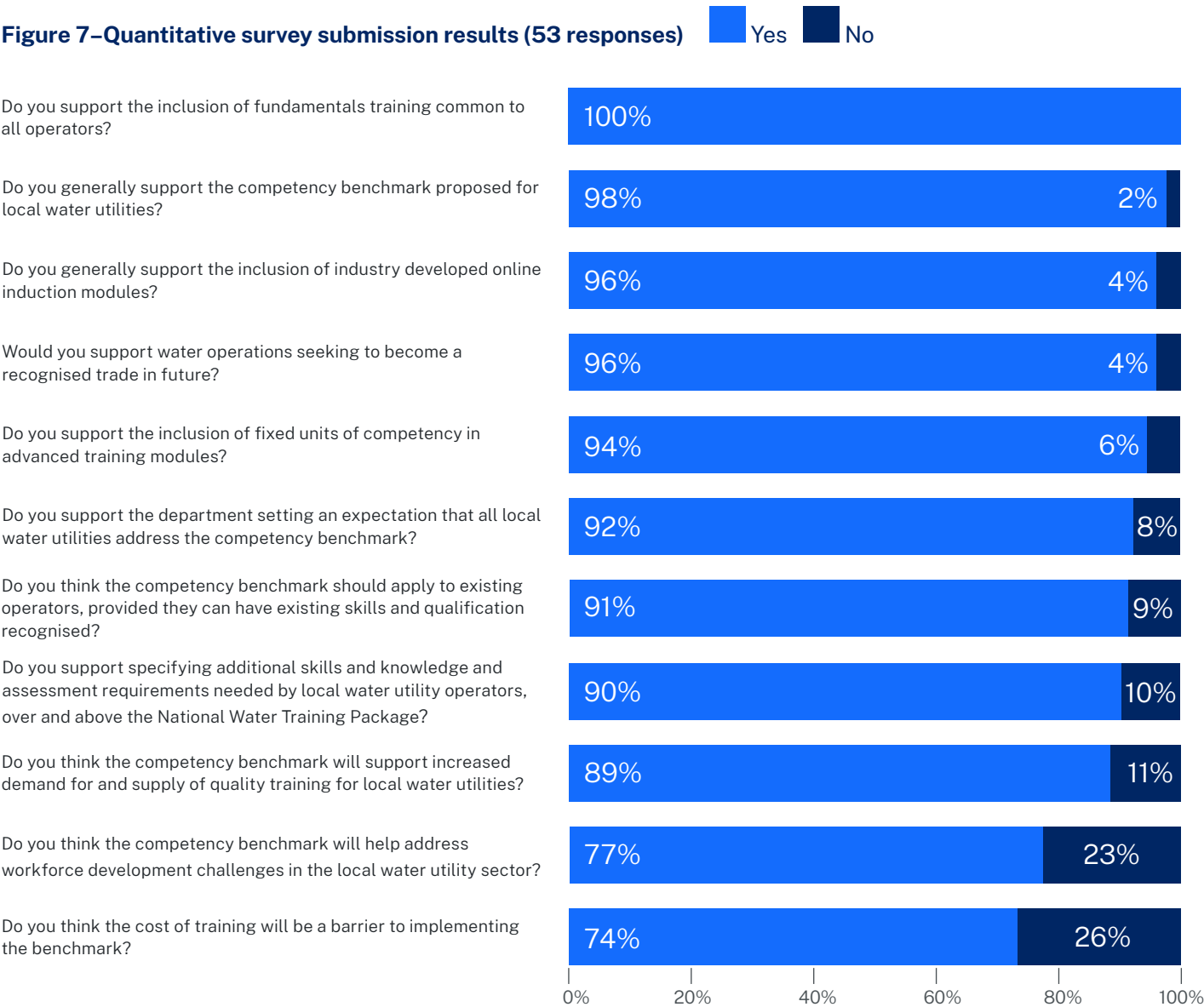
Almost all survey respondents showed strong support for the competency benchmark – 98% answering they

generally support the competency benchmark – while 92% of respondents support the department setting an expectation that all LWUs should address the competency benchmark.

Feedback suggests that successfully establishing and implementing the competency benchmark would help overcome challenges around operator training supply and demand. Increased demand for specific units of competency (UOC) through a standardised training program would drive supply of high-quality training delivery, resulting in improved outcomes for the industry.

We present qualitative responses grouped into six key themes in sections 2.3 and 2.4.

Figure 6 Quantitative survey submission results (53 responses) shows the responses to the quantitative questions, providing a snapshot of the perspectives from those most impacted by the competency benchmark.



2.3 What we heard: key themes

We identified six key themes that emerged from consultation feedback.



Theme 1: **Training content and training delivery**

There was strong support for a standardised, consistent approach to training to ensure a baseline of competence across the sector and to promote skills transfer. However, some LWUs called for flexibility for specific needs.

Many participants raised concerns about inconsistencies between training providers in training materials, training delivery and assessment, and are calling for consistent resources and assessment tools.

There was strong support for face-to-face delivery options, particularly for technical training, and support for independent verification of training quality.



Theme 2: **Enablers of implementation**

Feedback highlighted the critical need for a robust and fair process to support existing operators to transition to a new system. Many operators have years of experience and some recognised training, and feedback emphasised the need to ensure these are acknowledged during the transition to the new competency benchmark.

One key concern related to the limited number of RTOs offering water industry training.

Trainers and RTOs need industry-endorsed training resources and assessment tools to promote high-quality training. The department acknowledges it has an important role to play in training and support for RTOs and LWUs.

Regional and remote LWUs currently face significant challenges accessing training, particularly with operational supervision and mentoring to support operators in training.



Theme 3: **Financial and operational considerations**

We heard about the current financial pressures of operator training. Feedback noted the cost of training – the fees and the expenses related to travel and time away from work – as an important issue that needs addressing. A common theme in the feedback was the need for better targeted funding to support training. Many respondents shared frustrations about current funding arrangements, highlighting them as a barrier to operators receiving the training they need.



Theme 4: **Workforce development and career progression**

Staff shortages came up repeatedly as a major challenge. Many respondents highlighted the difficulties in attracting and retaining skilled and experienced operators, especially in smaller and regional utilities. There were many concerns about operational staff being pulled away from their duties to attend training, which puts further pressure on already understaffed LWUs.

There was a strong call to raise awareness of the critical role water operators play in protecting public health and the environment, emphasising the need to promote these roles as vital and rewarding career opportunities.

Many respondents shared their support for recognising water operators as trade professionals in the future. They spoke about the critical role operators play, and how their work requires a level of skill and knowledge comparable to trades such as plumbing or electrical work.



Theme 5: **Industry collaboration and integration**

There was a strong call for the competency benchmark to be part of a national approach to support operator recognition and skills transfer. This could also improve efficiency and reduce costs through economies of scale. Industry co-regulators support a coordinated approach. The importance of First Nations involvement and the need for culturally appropriate training was also highlighted.



Theme 6: **Further development and governance**

A robust and fair governance framework is essential to the successful implementation of the competency benchmark. There were calls for the department to provide dedicated support through the transition period and offer LWUs assistance to meet new expectations.

While the primary focus is on operators, respondents highlighted the need for other job roles to have a similar competency-based framework. Finally, achieving long-term sustainability of the competency benchmark and the LWU workforce generally, requires continuous improvement and robust data systems.



2.4 What we heard: in detail

2.4.1 Theme 1: Training content and delivery



Table 1 — Theme 1 feedback

Sub theme	Feedback received
1a Suitability of standardised units of competency (UOC) in fundamental and advanced training programs	Overwhelmingly, feedback indicates that to establish and ensure a baseline of competence across the sector, all operators should undertake the proposed UOCs for fundamental training, regardless of their specific job functions. When asked specific questions about UOC selection, 100% of survey respondents supported the inclusion of fundamentals training common to all operators, while 94% of survey respondents supported the inclusion of fixed UOCs in advanced training modules. However, while supporting the idea of cross-skilling, especially for emergency response and covering on-call requirements, some LWUs, particularly those serving larger populations and with more specialist staff, called for flexibility in UOCs to address specific training needs. Suggestions follow. • Training not related to core responsibilities of specific roles can be seen as unnecessary. Treatment plant operators and networks operators may require different skill sets and therefore different training. • Some larger LWUs structure their reticulation teams into specialised streams, for example, construction, maintenance, pump stations, and CCTV and jet rodding. Operators may not require some of the fundamental and advanced modules in their roles. • A strong focus on fatal risks was emphasised, with recommendations that safety training should align with the Water Services Association of Australia (WSAA) Fatal Risk Guidelines. • 96% of survey participants showed support for inclusion of industry-developed online induction modules (including work health and safety awareness).
1b Types of training delivery	Respondents broadly noted that most operational staff find face-to-face training delivery methods more effective than online or remote delivery methods. A positive delivery environment is considered essential for successful learning. To ensure operators get the most out of training and maintain a balance with operational duties, we heard the following. • A strong preference for mixed delivery options, such as blended learning and block delivery methods. Many respondents noted online training, without hands-on practical experience, is not suitable for operational roles. • A preference for RTOs to deliver training directly at LWU facilities to minimise time and travel costs. • Suggestions of LWUs with suitably qualified staff to deliver and assess training on-site with RTO oversight for accreditation. • Support for intensive, skill set-based training that optimises time to competency. • Suggestions to explore the use of emerging technologies, such as artificial intelligence (AI) adaptive learning, to enhance training delivery. • Preference for on-the-job training, where trainers assess competencies directly at work sites, for example, water treatment plants. Practical, workplace-based assessments are viewed as essential for verifying competency in real-world scenarios, rather than relying on theoretical assessments.

Sub theme	Feedback received
1c Training resources and assessment tools	A clear and well-defined training curriculum, specifying delivery methods and assessment criteria, is essential to the success of the competency benchmark. We note 90% of survey respondents supported the competency benchmark specifying additional skills and knowledge assessment requirements over and above the National Water Package (NWP). We heard the following. • There is a need to resource RTOs with high-quality, well-written training resources in varied formats such as videos, guides, and work instructions. • The water industry should develop and endorse the resources to ensure the content aligns with specific water industry context and requirements. • The volume of learning for each UOC should be clearly outlined. • RTOs must meet high standards, with specific quality assurance processes, to protect against poor training delivery. • Concerns about the current training being too simplistic, with some RTOs adopting a “tick and flick” approach that doesn’t adequately assess competency. • Feedback called for more rigorous, knowledge-based assessments where operators must demonstrate a true understanding to be deemed competent. Objections were made about assessments being overly easy, with multiple-choice open-book tests and operators being “spoon-fed” answers, leading to a lack of genuine competency verification. • A need for clarification on pass requirements, for example, satisfactory/unsatisfactory, or another scoring system. • Suggestions to support advanced operators to apply learning through projects related to basic hydraulics, calculations, chemistry, and microbiology. This would emphasise ensuring safe drinking water and wastewater treatment. • Strong support for external, qualified industry experts to conduct on-site competency assessments and ensure operators are truly competent in their roles. • Training the department provides is highly regarded and integrating this training into the competency benchmark is critical.



Sub theme	Feedback received
1d Independent verification in training quality	The competency benchmark proposes a verification process, independent of the RTO delivering the training, to assess whether the candidate can demonstrate skills and knowledge and apply the learning to the workplace. Respondents from LWUs supported independent verification of assessment, noting: • independent, third-party verification should be used to confirm competency, ensuring transparency and objective assessments • independent verification of competency is considered crucial for ensuring impartial assessments and maintaining the integrity of the training process • independent assessors with practical experience in water and wastewater operations should verify competency, rather than relying on workplace supervisors • a regulatory body could oversee training delivery, conduct regular audits of RTOs, and ensure adherence to training standards. However, respondents from RTOs raised some concerns with this approach, suggesting it should be unnecessary. RTOs noted the following. • RTO delivery is already subject to quality requirements through the national training regulator Australian Skills Quality Authority (ASQA), including assessment requirements. • Independent verification of assessment would increase time for students to complete training and potentially place additional stress on them as they would undergo two sets of assessment. • A similar outcome could be achieved by all RTOs using standard assessment tools and participating in industry validation of assessment.



2.4.2 Theme 2: Enablers of implementation



Table 2 — Theme 2 feedback

Sub theme	Feedback received
2a Support and transition for existing operators – Recognition of Prior Learning (RPL)	We note 91% of survey respondents agreed the competency benchmark should apply to existing operators to ensure recognition of existing skills and qualifications. Developing clear RPL assessment processes, including guidelines on evidence gathering, is considered crucial for fair recognition of current operators. Suggestions included the following. • The competency benchmark should account for practical skills, recognising an operator's demonstrated knowledge and experience. • Support for using RPL to fast-track experienced operators, particularly those with 5+ years of industry experience, offering a clear pathway to professional recognition. • The importance of upskilling existing operators, with feedback emphasising the need to communicate this effectively and encourage experienced, existing operators to mentor new staff. • Support should be available not only for existing operators, but also for those who are not currently employed by an LWU but have relevant experience/qualifications. • Operators with additional qualifications in plumbing or civil construction should have those skills recognised, with pay rates adjusted accordingly. • Concerns about willingness of existing operators to meet new benchmark requirements, suggesting that incentives could boost motivation and increase the uptake of training.
2b Support for trainers and RTOs	We note 89% of survey respondents agreed that the competency benchmark would support increased demand for, and supply of, quality training for LWUs. It is acknowledged that successful implementation requires support for trainers and RTOs. We heard the following. • The limited availability of qualified trainers with water industry knowledge and experience, particularly in regional areas, is a significant challenge. Without experienced trainers, feedback suggests that training quality is compromised, and operators may not gain the real-world skills needed for their roles. • Calls for trainers to have direct, practical industry experience to be effective. There is feedback urging RTOs to ensure trainers have substantial on-the-job experience in the water industry. • LWUs have reported challenges in RTOs offering quality courses, with some prioritising low-cost delivery over quality, which negatively affects training outcomes. This is likely linked to insufficient subsidy funding, which does not support high-quality training delivery. We heard calls for more incentives to enable RTOs to deliver high-quality, specialised training programs. • Some participants suggested that RTOs should not be required to exceed current national qualification requirements, as this could impose financial or logistical burdens, particularly on smaller LWUs or in remote regions.

Sub theme	Feedback received
2c Department training and support	Support from the department is critical to ensure the successful implementation of the competency benchmark. This includes integrating the department's training into the accredited training requirements of the competency benchmark. This could be achieved by working with RTOs to deliver high-quality, specialised, and accredited training. Suggestions follow. • Calls for the department to provide training support, such as assistance from regional engineers or inspection officers. This could help bridge the gap where trainers are scarce, and provide tailored support for local needs. • The department should focus on supporting RTOs with qualified trainers to enable high-quality accredited training and maintain a competitive market. • The need to consider department-provided ongoing delivery of non-accredited training, and how it fits within the competency benchmark.
2d Regional considerations	It has been widely noted that LWUs in regional and remote areas, particularly those with small teams, face significant challenges accessing high-quality training. We heard the following. • Regional LWUs often have difficulties finding local RTOs that provide the support and training necessary for staff to successfully complete courses. • The need for LWUs to provide access to their sites for RTOs to deliver training and assessment directly within the workplace. • Employ an experienced operator to travel across regional areas and offer hands-on support to operators in training. • Coordinating small, remote LWUs to collaborate with neighbouring utilities to form larger cohorts for training is essential to achieve economies of scale and make training more accessible and economical. Small groups in remote utilities often cannot support the full cost of a course or meet the minimum number of participants required. • The need for regional training centres to provide face-to-face learning is considered vital. This would improve accessibility for operators in remote areas, and reduce travel requirements and time away from work and family. • Regional training centres could also support school-based traineeships and facilitate programs similar to Queensland's Vocational Education and Training in Schools (VETiS) to help attract new entrants to the industry. (The VETiS program will transition to "Career Ready" in 2026.)

Sub theme	Feedback received
2e Mentoring and coaching support	Respondents recognised that developing competent workers requires more than formal training. Mentoring and coaching programs are seen as key for passing on valuable skills, knowledge, and practical expertise, and bridging the gap between different learning styles across generations. We heard this. • There is a need for operators to have access to highly competent industry experts who can provide support, especially for technical aspects of training, and help operators gain confidence and experience across different plant operations. • Direct access to experienced professionals is seen as important for ensuring operators receive up-to-date knowledge aligned with current best practices. • A strong desire for mentoring and coaching programs where experienced operators support newer or younger workers, particularly those with limited industry experience. • Suggestion for an operator share scheme, enabling organisations to share expertise and provide a broader range of hands-on training opportunities.

2.4.3 Theme 3: Financial and operational considerations



Table 3 — Theme 3 feedback

Sub theme	Feedback received
3a Financial barriers to training	Many respondents – 74% – agreed the cost of training would be a barrier to implementing the competency benchmark. The importance of long-term, sustained and consistent funding to make training affordable and accessible was highlighted. Respondents' feedback included this. • Critical need for government-funded training programs, grants, and subsidies to support operators and utilities and consider the unique pressures smaller and regional LWUs face. • Existing funding programs, such as Smart and Skilled, are insufficient to meet current and future training needs. • Reference to Queensland's approach to training subsidies as a successful model, including the option for LWUs to fill the gap in costs above available funding. There are calls for NSW to adopt similar practices to better support utilities with limited revenue. • Importance of maintaining funding for entry-level qualifications (Certificate II) to support new workforce entrants and school-based traineeship programs. • Concern that extra training requirements of the competency benchmark could place additional financial strain on LWUs, including an expectation of increased pay for operators, which may jeopardise their ability to provide affordable water services.

Sub theme	Feedback received
3b Travel to training and associated costs	Respondents identified long distances to training locations and associated cost of travel and accommodation as significant issues for many LWUs. They noted: • it can be especially difficult for small, rural, and regional LWUs to access training due to long-distance travel to training locations, which are often in cities or major regional centres • local training options are often of poor quality or unavailable • funding to cover associated costs such as travel and accommodation could be included in funding models • funding for regional training facilities would reduce travel for regional operators and increase opportunities for LWUs • RTOs should be required to offer face-to-face training locally to reduce travel distances and make training more accessible, especially in regional and remote areas.
3c Operational challenges during staff training	Respondents noted that operators' time away from their plants to attend training can significantly impact staffing levels and create difficulties in maintaining essential operations. Feedback included: • staff participation in training was identified as a barrier for LWUs of all sizes due to limited staff resources • direct operational support and backfilling positions could help alleviate this challenge • implementing an operator exchange program for smaller LWUs could cover resource gaps and provide more opportunities for training and assessment • some LWUs may be hesitant to prioritise training unless it becomes a mandatory industry requirement.



2.4.4 Theme 4: Workforce development and career progression



Table 4 – Theme 4 feedback

Sub theme	Feedback received
4a Attracting and retaining operators	Many respondents highlighted difficulty attracting and retaining operators, which may pose a risk to water safety, public, and environmental health. We heard this. • Many operators leave LWUs before completing the required training – within 3-5 years – which could make it difficult for an LWU to meet the competency benchmark. • Smaller LWUs often lack the resources to support new staff through training. A significant part of building competency is gained through on-the-job training, requiring new operators to be ready to perform tasks while receiving ongoing training. This highlights the importance of senior staff and the need for effective retention strategies. • Difficulties in regional and remote areas to find operators who meet basic requirements, such as holding a heavy vehicle licence. This has led some LWUs to lower recruitment standards and train staff on the job, increasing costs and complexity. • High staff turnover and competition from industries such as mining place additional pressures on small LWUs already struggling to maintain adequate staffing levels. • Concerns that introducing more regulatory expectations without addressing underlying workforce challenges could exacerbate the difficulties for small LWUs attempting to maintain essential services. • Explore strategies to attract a more diverse workforce, particularly increasing female participation in operational roles. Recommendation to assess the impact of trade qualifications on diversity and retention, especially for women. • Past experiences shape current workforce perspectives and may not align with future needs, emphasising the importance of tailoring workforce attraction and retention strategies to the unique challenges faced by LWUs in different locations. • The need for entry-level pathways into the water industry beyond traineeships, such as hiring operators at an entry-level rate with expectations for training advancement. • Respondents noted that while the competency benchmark's focus on Certificate III levels is important, it should not overlook the value of Certificate II in developing future operators and increasing sector visibility among younger people.

Sub theme	Feedback received
4b Raising awareness of the water industry and operator roles	There are opportunities to increase awareness of the water industry as a career of choice that could promote the critical role of operators and improve attraction rates. We note 77% of survey respondents felt that the competency benchmark would help address workforce development challenges in the LWU sector. We heard this. • Lack of national recognition of operator shortages affects state planning and funding of training. • Education about the significance of qualified and competent operators is essential to ensuring public health and service reliability. • A need to promote beyond the LWU sector, with particular focus on raising awareness within local governments and the broader community about the critical role of operators in the water industry. • The national campaign by WSAA and other stakeholders aimed at attracting and retaining talent was noted for its success. It should continue to be adapted to changing market conditions. • Collaboration within the sector on key national initiatives, such as skilled migration, can enhance the attractiveness of the labour market. • Water and wastewater operators are not adequately represented in the National Skills Priority List or Australian and New Zealand Standard Classification of Occupation ANZSCO codes. This probably limits visibility and affects funding and advocacy opportunities. • Partnering more effectively with schools through initiatives such as the Department of Education's School-Based Traineeships and Apprenticeships program could help build a more sustainable workforce.
4c Operator remuneration and incentives	Respondents consistently noted that water operators across the state are underpaid, identifying that improving pay and offering incentives were crucial for attracting and retaining staff. We heard this. • Strong support for industry-wide salary benchmarking would ensure fair and competitive compensation for operators. • Better training for operators does not automatically lead to higher pay under the Local Government Award skill descriptors. It was suggested reviewing operator pay and training requirements to ensure they are better reflected in the Local Government State Award, while maintaining sustainable customer charges. • Adjust the pay rates of operators with relevant trade qualifications related to water industry roles to better reflect their skills and responsibilities. • Local Government (State) Award should reflect attraction and retention allowances.

Sub theme	Feedback received
4d Acknowledgment of low trainee wages	The low wages offered for traineeships are a key issue and deter older individuals and those looking to make a career change. Feedback indicated the following. • Traineeships can be beneficial for younger individuals straight out of school, however, retaining them after completing their traineeship can be challenging, as many seek higher-paying opportunities elsewhere. • Older staff tend to stay in the industry longer, highlighting the need for career pathways catering to younger and older individuals. • Lengthy training processes coupled with low pay make it difficult to attract and retain trainees. Respondents suggested that training be completed more quickly, preferably in person, with minimal travel required.
4e Advocacy for a Water Operations Trade qualification	The idea of establishing a trade qualification for water operators was well supported – 96% of survey respondents – as it could help improve retention and recognition in the industry. Feedback highlighted that operators often require skills beyond a Certificate III but are not recognised or compensated appropriately, which contributes to poor attraction and retention. A trade qualification could elevate the profile of water operations and provide better career pathways, potentially increasing pay rates and retention. Although most respondents advocated for a trade qualification, we note the following. • Concerns about state-based licensure, registration, and regulation. Feedback suggested possibly implementing the <i>Mutual Recognition Act 1992</i> to counter complications relating to provision of cross-border recruitment and service. • Recognition that non-traditional professionals, such as degree-qualified individuals passionate about public health and the environment, are becoming increasingly interested in the water industry. This should be considered when designing trade qualifications.
4f Ongoing professional development	The importance of continuing professional development (CPD) was highlighted. Suggestions included these. • Provision for CPD to ensure operators remain current with industry standards and practices. • Operators' qualifications should be refreshed periodically to maintain relevance and ensure that skills and knowledge stay up to date with industry advancements.

2.4.5 Theme 5: Industry collaboration and integration



Table 5 — Theme 5 feedback

Sub theme	Feedback received
5a Inclusive national collaboration and integration	There is a strong call for the competency benchmark to be part of a coordinated, national approach to promote consistency in training and operator recognition across the Australian water industry. The acceptance of the initiative across industries and the promotion of national recognition for qualifications is considered crucial to its effectiveness. We heard this. • A desire for overarching principles that encourage national standardisation while allowing for the improvement of competency levels. Encourage collaboration across states and territories. • Harmonising training resources across state and territory borders could improve efficiency and reduce costs through economies of scale. • Support to align competency benchmark and professional development schemes with the Water Industry Operator Registration Scheme. • Support to integrate the competency benchmark with Local Government Capability Frameworks, such as the LGNSW framework, is beneficial for ensuring consistency and coherence across the sector. • A coordinated approach is recommended across NSW Government, including NSW Health, NSW Environment Protection Authority, and all NSW water utilities including Sydney Water. • The Queensland Water Regional Alliance Program (QWRAP) is cited as a successful model of collaboration between government bodies and LWUs. Feedback suggests it could be replicated in NSW and other states to improve water and wastewater management. The Queensland Government's commitment to funding QWRAP is recognised as a significant step in supporting essential water services. • Recognition of the Australian Water Association (AWA) engaging with stakeholders to address gaps in water services in regional and remote areas, with a focus on fostering national collaboration on training and resources. • The importance of First Nations involvement in water management and the need for culturally sensitive training. Emphasise creating opportunities for First Nations operators, particularly in regional and remote areas, to enter and thrive in the workforce.
5b Border communities and alignment with <i>Mutual Recognition Act 1992</i>	LWUs near state borders face challenges with workforce mobility, especially when operators move between states. Feedback suggests the benchmark should align with national water industry initiatives to facilitate the free movement of operators. We heard this. • The <i>Mutual Recognition Act 1992</i> should be considered when registering operators across state borders, particularly in relation to the RPL process. • Integrate RPL and mutual recognition processes for interstate training frameworks to avoid delays and administrative complexity for operators in border communities.

2.4.6 Theme 6: Further development and governance



Table 6 — Theme 6 feedback

Sub theme	Feedback received
6b Micro credentials and non-accredited training	Respondents recognised the importance of non-accredited training and micro-credentials to supplement accredited training as the backbone of the competency benchmark. We heard this. • Emphasise the important role of non-accredited training, especially for specialised areas such as chemical safety, which are not well covered by accredited training programs. • Suggestions that the RPL process should recognise non-accredited programs, if contents can be mapped to UOCs. • Supplementing the competency benchmark with non-accredited training is beneficial to offering high-quality, industry-specific training while still meeting competency requirements.
6c Governance and continuous improvement	Respondents highlighted the importance of a robust and fair governance structure. Ongoing development of the competency benchmark supports successful implementation and long-term sustainability. We heard this. • While the primary focus on operators is considered essential due to current capability gaps, there is feedback advocating the development of similar competency benchmarks for other key roles. This includes trade waste officers, engineers, and scientists and would ensure consistent industry standards. • Implementing new training expectations should be gradual, include a reasonable transition period, and recognise that a one-size-fits-all approach does not work for all operators or LWUs. • A need for dedicated support during the implementation period from the department and RTOs. • Recognition that the water industry faces challenges in keeping up with technological advancements and best practices. The competency benchmark should remain relevant and undergo periodical refreshment to incorporate technological and industry changes. • There is a need for detailed planning with data-driven refinements and continuous improvement to ensure economic sustainability and successful implementation.

3. Response to feedback

Our response to the six themes of feedback addresses the challenges and opportunities for improvements to the competency benchmark and its successful implementation. We aim to ensure the competency benchmark is practical and supportive of a skilled and sustainable workforce in the LWU sector.

The department acknowledges and appreciates the many differing viewpoints provided during the feedback process, which is dependent on location, especially level of remoteness, size, and capacity of individual LWUs. We have carefully considered all feedback to ensure implementation of the competency benchmark meets the needs of the LWU industry of NSW as a whole.



The table below presents direct and supporting actions.

Table 7 — Response to feedback

Actions directly relating to competency benchmark	Supporting actions relating to workforce development
Theme 1: Training and content delivery	
- Fundamental training program will remain consistent with draft, including specified UOCs. - Some flexibility may be considered for LWUs with unique needs, for example where a utility is only responsible for provision of water or wastewater services, not both. LWUs will need to demonstrate they still meet competency objectives overseen by an advisory committee. - The advanced training program will continue further development to set clear expectations of required UOCs. Training will include flexibility for LWUs with unique needs. LWUs will need to demonstrate they still meet competency objectives overseen by an advisory committee. - Ensure compatibility with Water Industry Operator Registration Framework. This requires training plans to reflect all relevant process units within each facility. - Continue to develop four induction modules specific to NSW and ensure WHS module emphasises fatal risks. - Work with RTOs to ensure training delivery models meet the needs of the industry, especially where there is a preference for face-to-face delivery. - Work with water and training industries to develop and implement standardised training content and assessment tools for key UOCs to ensure consistency and quality, no matter which RTO is delivering the training. - Investigate options for independent verification of assessment during implementation of the competency benchmark.	Support the broader water industry to advocate for reform of the National Water Training Package.
Theme 2: Enablers of implementation	
- We will work with industry to support RTOs and trainers in high-quality training delivery and assessment to ensure a consistent standard. - We will work with industry to develop a robust and achievable RPL process to ensure existing operators' competency is current and recognised. - The department will continue to deliver training while seeking opportunities to partner with RTOs to deliver some UOCs within the fundamental program.	- The department will encourage collaboration with neighbouring LWUs to form larger cohorts for traineeship intakes and training delivery. - Support investigation of regional training centres. - Support the industry with workforce planning tools, including staff benchmarking processes. - Support mentoring and coaching programs and opportunities for CPD.

Actions directly relating to competency benchmark	Supporting actions relating to workforce development
Theme 3: Financial and operational considerations	
- Continue to investigate suitable funding options, including training subsidies to ensure training content and delivery is suitable and affordable in the long term. - Advocate for increased choice of RTOs for subsidised training, and greater flexibility for interstate RTOs to be eligible for NSW training subsidies. - Consider impacts of costs on LWUs, including travel and accommodation.	Investigate options to support LWUs with backfill operational staff while operators are training.
Theme 4: Workforce development and career progression	
Investigate options to support supervisors with targeted training.	- Continue to support industry with water careers resources, advocating for increased diversity. - Collaborate with industry to promote water as career of choice. - Support industry to advocate for more accurate representation in ANZSCO codes. - Continue to work with NSW Department of Education to promote traineeships, including through regional industry educations partnerships (REIP). - Investigate the need for industry-wide salary benchmarking with peak industry bodies. - Continue long-term action of building the case for water operations to be considered a trade.
Theme 5: Industry collaboration and integration	
Continue to work with co-regulators to ensure a consistent approach to operator competency.	- Continue to collaborate with industry for national approach, including working with BuildSkills. - Consider <i>Mutual Recognition Act 1992</i> if water operations have future licensing requirements. - Learn from successes of other states.

Actions directly relating to competency benchmark	Supporting actions relating to workforce development
Theme 6: Governance and continuous improvement	
- Establish advisory committee for implementation to ensure suitable transition phase, support for LWUs and RTOs, and a fair and industry-led system. - Ensure the voice of the water industry drives implementation of the competency benchmark. - Commit to continuous improvement to ensure competency benchmark remains current and relevant, keeping up with new technological and treatment advancements. - Establish robust feedback mechanisms. - Investigate options for record keeping and data systems, such as skills passports.	- Support micro-credentials and non-accredited training options where appropriate to complement rather than replace accredited training. - Investigate developing similar competency benchmarks in the longer term for other key roles such as trade waste officers, engineers, and scientists.

3.1 Specific feedback on UOCs

The competency benchmark, particularly the fundamentals training, must strike a balance between being comprehensive and being deliverable. There are many skills we could include in the fundamentals training, but we have selected the minimum number of UOCs that cover most skills for most LWU operators. Advanced training will have more flexibility to include elective units and cover other “catch-up” skills where an operator has not previously completed training.

Some respondents gave specific feedback on the appropriateness of the UOCs specified in the competency benchmark. After consulting with a range of industry experts to review this feedback, we made some minor changes to the UOCs.

Details of the feedback follow, including considerations and any proposed changes.



Table 8 — Feedback on specific units of competency

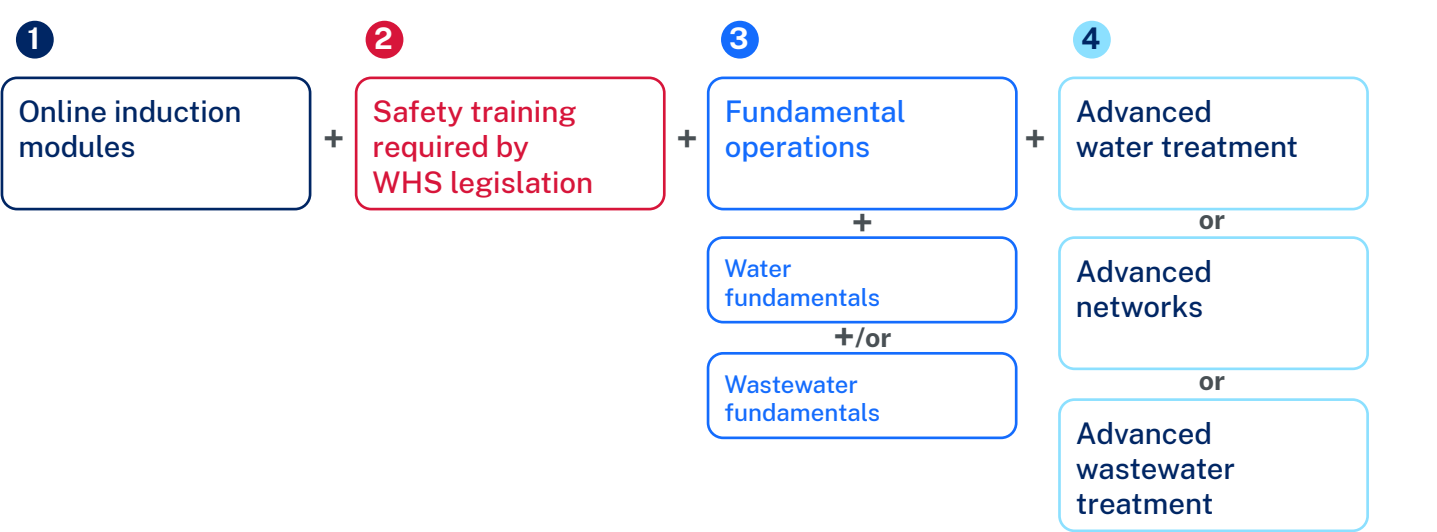
Suggestion	Consideration	Outcome
NWPGEN023 Use maps, plans, drawings, and details. Currently in advanced networks. Suggested should be in fundamental. NWPNET029 Locate, identify, and protect utilities. Currently in advanced networks. Suggested should be in fundamental.	Both UOCs commonly delivered in Certificate II. Considered important for competent operators.	Included in recommended list for Certificate II trainees. Remain in advanced networks if not previously completed. This will ensure network operators complete the UOCs while keeping the number of UOCs in fundamental training manageable and distinct from Certificate II.
NWPNET061 Maintain and repair network assets for drinking water. Currently in advanced networks. Suggested should be in fundamental. NWPNET038 Install metering equipment. Currently not included. Suggested should be in fundamental. Covers some aspects of metallic pipe repairs and safety equipment required.	NWPNET061 and NWPNET018 Disinfect network assets better suited to advanced networks. NWPNET051 Monitor and operate water distribution systems covered in fundamental. NWPNET038 considered too general. Metallic pipes safety covered better in NWPNET064. Control electrical risk on network pipes covered in WHS training.	NWPNET061 to remain in advanced networks. Noted that metering not well covered. Add NWPNET038 Install metering equipment to advanced networks.
RIICCM210E Install trench support. Currently in advanced networks. Suggested should be in fundamental. NWPNET062 Operate and maintain network assets using high-pressure water jetting (HPWJ). Currently not included. Suggested should be in fundamental.	RIICCM210E focuses on building trenches, a task usually signed off by supervisors. NWPNET019 Prepare and restore worksites is included in fundamental. RIIWH202E Enter and work in confined spaces and RIIWH204E Work safely at heights included in WHS units and has some coverage. MSMSS00019 (skill set) <i>Operate drain cleaning system</i>, and MSMSS00021 (skill set) <i>Operate a hydro excavation system</i> in advanced networks are considered more suitable than NWPNET062.	RIICCM210E to remain in advanced networks. MSMSS00019 (skill set) and MSMSS00021 (skill set) to remain in advanced. Both skill sets provide much greater instruction and practical assessments for HPWJ and hydro excavation activities. NWPNET062 not included. Considered learnings are covered in skill sets.

4. The updated competency benchmark

4.1 Overall competency benchmark

There are no significant changes to the overall approach to the competency benchmark. The benchmark will retain four key areas of training: online induction modules, mandatory WHS training, fundamentals training, and advanced training. Figure 5 Key training areas of competency benchmark shows the overview of these program elements.

Figure 8 – Key training areas of competency benchmark



4.2 Online induction modules

We designed online induction modules included in the competency benchmark for operators to complete in their first days and weeks on the job. These modules provide awareness of the key risks operators yet to complete accredited safety training will face and manage. [Figure 2](#) shows the four online modules.

Induction modules include the following.

- **Aqua card:** Online training course for operators working in, on, or near drinking water infrastructure. Provides a simple overview of contaminants, the risks they pose, how they enter a drinking water system, and the responsibilities of those working on drinking water infrastructure to reduce that risk. It includes practical guidance on operating within worksites including good housekeeping and disinfection practices.

- **Brown card:** Online training course for operators working in, on, or near sewerage and recycled water assets. Provides an overview of the importance of, and requirements for, maintaining public health, minimising environmental harm, and general workplace health and safety. It includes topics such as regulations and standards, risks and safety, managing health risks, and specific work tasks.
- **Green card:** Online training course for operators working in, on, or near water, sewerage, and recycled water assets. It provides an overview of the importance of, and requirements for, minimising environmental harm. Topics include environmental legislation and contaminants, incident awareness and preparedness, environmentally relevant activities, recycled water, and biosolids.
- **Work safety card:** Online training course for operators working in, on, or near water, sewerage, and recycled water assets. It provides an overview of the common WHS risks operators face in performing the job functions, including highlighting fatal risks and life saving rules. The training covers identification, and management and reporting of risks. This training is not comprehensive and does not meet legislative requirements for employers. But it does provide an effective introduction to WHS risks and management before accredited WHS training is completed.

The NSW Water Directorate makes online induction modules available to all LWUs. They are not restricted to operators, and LWUs are also encouraged to use these modules to provide awareness to any people exposed to these risks. This includes other LWU and council staff, contractors, and maintenance providers. The modules can also act as refresher training.

4.3 Safety training required by WHS legislation

LWUs are responsible for understanding and responding to all relevant Work Health and Safety requirements under NSW legislation, under guidance from SafeWork NSW.

The department expects LWUs to identify and ensure completion of appropriate training. This should be completed in parallel with water operations technical training. Appendix D of the [Competency benchmark for local water utility operators in NSW consultation paper](#) provides a list of WHS units of competency for LWUs to consider for individual training plans.

The department has included four units of competency in the benchmark that are likely to be relevant for most operators in most LWUs. However, this does not replace the need for LWUs to identify and provide training consistent with WHS legislation.

The four units of competency included in the benchmark are:

- Store and handle dangerous goods and hazardous substances (TLID0021)
- Work safely at heights (RIIWHS204E)
- Enter and work in confined spaces (RIIWHS202E)
- Control electrical risk on network pipes (NWPNET064).



4.4 Fundamental operations training

Fundamentals training covers the core awareness and operational skills all operators need. It describes the required training to produce an “all-rounder” operator capable of working across water, wastewater, and network roles. It includes basic principles of network and treatment plant operations, and equips operators to work independently on simple networks, simple water systems, and simple wastewater treatment plants such as oxidation ponds and trickling filters.

Fundamentals training applies to all operator job functions under the competency benchmark. Operators would typically complete this training within two years of starting work. The fundamentals training would typically describe the training program for water industry operator trainees and new industry entrants. Operators would need further training to achieve competency for advanced treatment and advanced network job functions.



Fundamentals training comprises four elements.

- **Policy and procedures:** Four units of competency covering WHS, environmental and public health risk management, and customer service for public water utilities. These units could be delivered and assessed in a classroom, through online learning, or a combination of both.
- **Networks fundamentals:** Four units of competency covering monitoring and operation of water, wastewater, and recycled water networks, including pump stations. These units incorporate significant practical training and would need to be delivered and assessed on site.
- **Wastewater treatment fundamentals:** Three units of competency covering introduction and awareness of wastewater treatment processes, overview of digestion and disinfection, and solids handling. These units would typically be delivered in a classroom environment and assessed on site.
- **Water treatment fundamentals:** Three to five units of competency covering introduction and awareness of water treatment processes, basic chemical dosing, disinfection, and management of critical control points. Some of these units would typically be delivered in a classroom environment and assessed on site. RTOs with expertise in chlorine handling would typically deliver chlorine training. Fluoride operator training is included separately for operators with this job function and must be delivered by a NSW Health-approved training provider.

Operators should choose either the water or wastewater fundamentals training pathway depending on job function. Operators whose job functions cover water and wastewater can complete the water *and* wastewater fundamentals units.

Fundamentals training aligns with the National Water Training Package qualification requirement. Operators completing the fundamentals training are eligible to be awarded a Certificate III Water Industry Operations.

Figure 4 describes the fundamental operations training program.

4.5 Advanced training

The advanced training program builds on the fundamentals training program and provides the specific training needed to monitor and operate treatment process units in water and wastewater treatment plants and complete advanced network tasks such as high-pressure jetting.

These training modules apply to operators working in advanced water treatment, advanced wastewater/recycled water treatment, and advanced network operator roles. Operators should complete this training after completing the fundamentals program, typically 2 to 5 years after starting work.

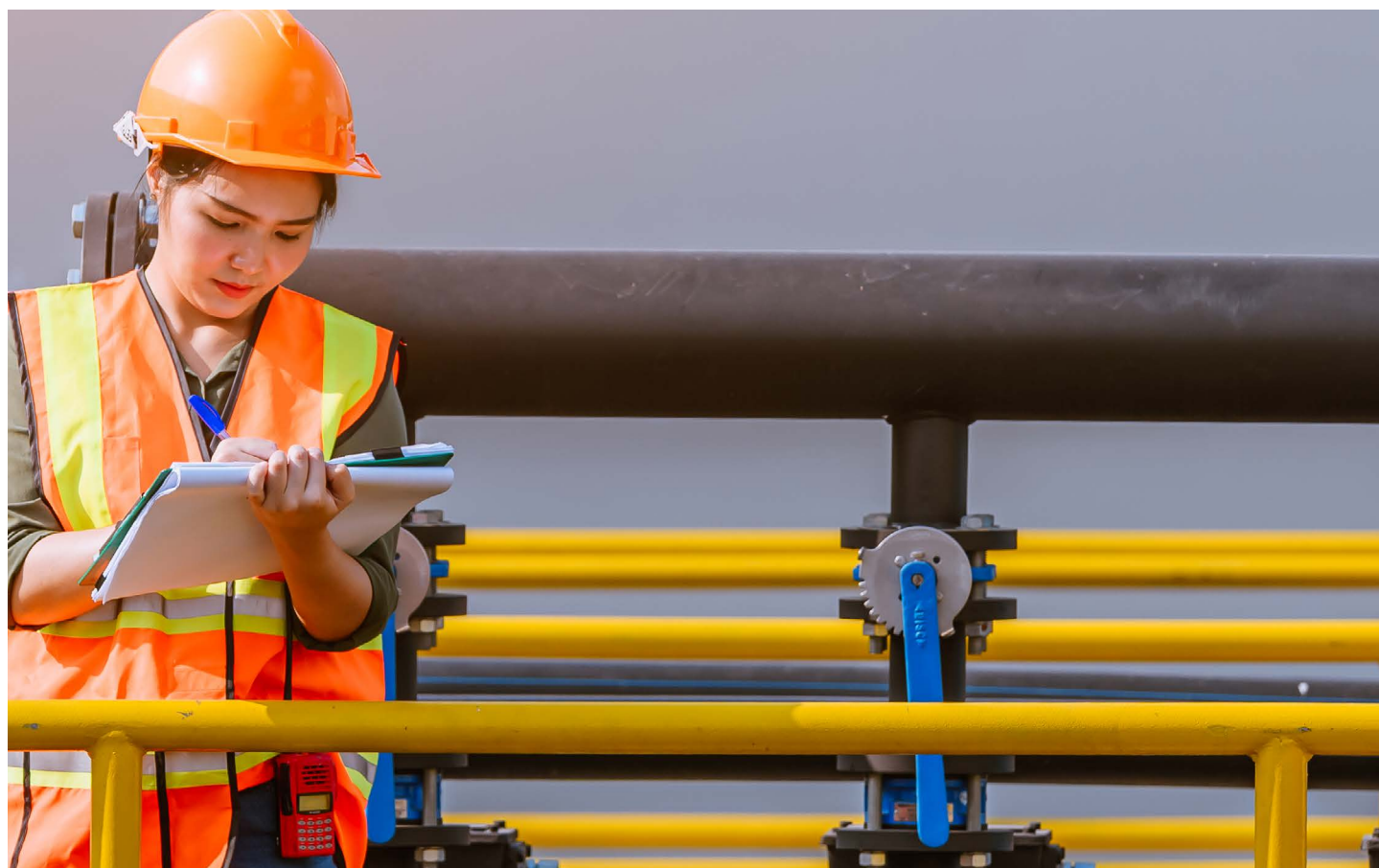
We designed the advanced water and wastewater treatment electives for consistency with the Water Industry Operator Registration Framework. This framework is currently not functioning, and we expect will be subject to review in the coming years. We will further develop advanced training before implementing it under the competency benchmark.

The advanced training program includes three elective streams:

- **advanced water treatment** – units of competency related to the process units found in water treatment plants
- **advanced wastewater/recycled water treatment** – units of competency related to the process units found in wastewater treatment plants, plus a unit on reclaimed water use where relevant to the job function
- **advanced network operations** – units of competency related to advanced inspection, operation, cleaning, maintenance, and repair of water, wastewater, and recycled water networks.

Find units of competency for each of these streams in [Appendix 1: Advanced water treatment plant operator skill set](#), [Appendix 2: Advanced wastewater and/or recycled water operator skill set](#) and [Appendix 3: Advanced networks operator skill set](#).

The department will seek to establish and implement the competency benchmark using a staged approach. This will include direct and supporting actions over the short, medium, and long term. We will continue to work with the water and training industries to ensure reasonable implementation time frames and suitable support.



4.6 Implementation – what we will do **first**

4.6.1 Establish a regulatory expectation for LWU operators to complete online induction modules, WHS training, and fundamentals training

The department will initially seek to establish three of the four elements of the competency benchmark as a regulatory expectation for LWUs. The department will seek to define a competent operator as an operator who has completed online induction modules, relevant WHS training, and fundamentals training. We will further develop full details of this expectation in partnership with the sector throughout 2025 and 2026, including timelines for implementation and impacts on existing workers.

4.6.2 Implement online induction module training

The department will continue to work with the NSW Water Directorate to make all four online induction modules available to LWUs. The department expects these will be available for use by all LWUs from late-2025.

4.6.3 Establish advisory committee to develop governance framework

The department will establish an industry advisory committee to inform the ongoing development and implementation of the competency benchmark. This committee will include representatives from the LWU and training sectors, industry bodies, and NSW government agencies.

4.7 What we will **continue** working on

4.7.1 Aligning subsidised training programs to the benchmark

We can only effectively implement the competency benchmark when LWUs can access the specified training. NSW government training subsidies are a key enabler and incentive for students and training providers. The department will continue to work to align water training subsidies with the competency benchmark. This will include the following.

- **Align all traineeship programs with competency benchmark fundamentals training:** Traineeship programs in LWUs should fully align with fundamentals training. This approach ensures all new operators entering the sector meet the department's regulatory expectations and definition of competency, and receive consistent, relevant, and high-quality training.
- **Align training subsidies to the competency benchmark:** NSW government subsidies should fully support delivery of competency benchmark training. This could include a complete Certificate III course, industry-designed skill sets, or individual units of competency. Over time, we suggest restricting subsidies for LWU students to training aligned with the competency benchmark. This would ensure that all training aligns with the department's regulatory expectations and definition of competency.

4.7.2 Aligning RTO delivery to the benchmark

We can only implement the competency benchmark when RTOs offer comprehensive training programs consistent with the competency benchmark. The department will continue to work with the training sector to support increased and improved RTO delivery. This will include:

- supporting all units of competency from the competency benchmark to be on scope with RTOs, including developing training resources where needed
- increasing the number of expert trainers and assessors
- developing and implementing consistent, industry-validated assessment
- exploring the integration of the department's technical training courses with RTO delivery.

4.7.3 Continuing the development and implementation of the competency benchmark

The department will continue to refine and expand the competency benchmark over the coming years. This will include:

- implementing a governance framework to ensure quality in the delivery of competency benchmark training, including evaluation and review
- developing a Recognition of Prior Learning (RPL) pathway for existing workers
- refining advanced training modules, with consideration of national approach to operator competency
- expanding the competency benchmark to include additional job functions, such as dam safety, trade waste, and water quality management.



5. Further information

- Consultation paper: [Competency benchmark for local water utility operators in NSW](#)
- Definition of LWU sizes: [Local water utility performance | NSW Government Water](#)
- Survey report: [NSW Local Water Utility Workforce Composition Report](#)
- Regulatory and Assurance Framework: [Regulatory and assurance framework | NSW Government Water](#)



6. Appendices

6.1 Appendix 1: Advanced water treatment plant operator skill set

We will further refine the following skill sets during phase 3 of the TWRRP.

Perform laboratory testing
(NWPGEN022)

Operate and control dissolved air flotation processes
(NWPTRT016)

Operate and control activated carbon processes
(NWPTRT017)

Monitor and operate ultraviolet processes
(NWPTRT023)

Use SCADA systems in operations
(MSS402062)

Operate and control sedimentation and clarification processes
(NWPTRT010)

Operate and control granular media filters
(NWPTRT019)

Operate and control coagulation and flocculation processes
(NWPTRT009)

Operate and control iron and manganese removal processes
(NWPTRT008)

Operate and control membrane filters
(NWPTRT020)

6.2 Appendix 2: Advanced wastewater and/or recycled water operator skill set

Perform laboratory testing (NWPGEN022)	Operate and control digestion processes (NWPTRT040)	Monitor and operate ultraviolet processes (NWPTRT023)	
Use SCADA systems in operations (MSS402062)	Operate and control activated sludge processes (NWPTRT036)	Monitor and operate hypochlorite disinfection processes (NWPTRT022)	Complete unit only if needed for job role
Operate and sedimentation and clarification processes (NWPTRT010)	Operate and sedimentation and clarification processes (NWPTRT010)		Operate and control reclaimed water irrigation (NWPTRT028)

6.3 Appendix 3: Advanced networks operator skill set

Maintain and repair network assets for wastewater (NWPNET040)	Use maps, plans, drawings and details (NWPGEN023)	Disinfect network assets (NWPNET018)	Commission and maintain backflow prevention devices (CPCPWT4022) ^{*1}	Perform leak detection (NWPNET036)
Maintain and repair network assets for drinking water (NWPNET061)	Clean networks using air scouring, chemical or swabbing techniques (NWPNET060)	Locate, identify and protect utilities (NWPNET029)	Install trench support (RIICCM210E)	Perform odour and infiltration investigations (NWPNET065)
Install, maintain and repair hydrants (NWPNET047)	Operate a drain cleaning system (MSMSS000019) (skillset)	Identify and respond to water quality problems (NWPNET030)	Operate a hydro excavation system (MSMSS000021) (skillset)	Install metering equipment (NWPNET038)

^{*1} Currently has pre-requisites and licencing requirements

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