

TECHNICAL ASSESSMENT AND MENTORING FOR REGIONAL AND REMOTE WATER OPERATORS



Paper Presented by:

Michelle Hill

Author:

Michelle Hill, Manager - Skills,

qldwater – Queensland Water Directorate



*39th Annual WIOA
Queensland Water Industry Operations Conference and Exhibition
Logan Metro Indoor Sports Centre, Logan
3 to 5 June, 2014*

TECHNICAL ASSESSMENT AND MENTORING FOR REGIONAL WATER OPERATORS

Michelle Hill, *Manager - Skills, qldwater* - Queensland Water Directorate

ABSTRACT

In early 2013, *qldwater* secured a grant from Skills Queensland (now the Department of Education, Training and Employment) to undertake a project trial, focussed on technical development and up-skilling for drinking water treatment operators in regional and remote locations. The main focus of the project is to provide workforce development activities such as mentoring, sound planning and upskilling, to improve services to communities, and build regional networks to better support these key roles. The project targets two key regions: Longreach and Central West Queensland and Burnett and Toowoomba regions and surrounds.

The first stage of the project, the initial technical assessment site visits, took place in the Longreach region in September and Burnett region in November. A total of 22 water treatment plants were visited by the technical consultants as part of these visits. A full technical report for each treatment plant, including suggested improvement actions, was provided to each Council involved in the project.

Regional operator training workshops for both Longreach and Burnett region were held in March and April 2014. These training workshops, conducted by the technical consultants in collaboration with *qldwater*, provide practical training aimed at addressing some of the skills/training gaps identified during the technical visits.

The project has also developed a mentoring framework to promote operator information sharing and exchange programs and is exploring options to encourage collaboration on training and workforce planning. Feedback on the project to date has been very positive and communication strategies and a continuity plan will be developed to ensure the outcomes and learnings can be applied in other regions.

1.0 INTRODUCTION

Many small and remote councils struggle with attracting and retaining experienced staff. Drinking water treatment is clearly a crucial community service. While water service providers take their responsibilities seriously and there is a high uptake of training available under the national water training package, formal training alone does not provide the necessary skills to effectively deliver this service. Further, onsite, practical, plant-specific training is sometimes lacking from VET training activities. Regional approaches to training and development activities are often ad hoc and do not take advantage of opportunities for collaboration.

Access to expert technical assessment of plant and equipment, specialised technical training, and ongoing mentoring and support are provided as part of larger organisations as a matter of course, but substantially more challenging in regional and remote locations. The urban water industry has a number of distinct advantages to help address these challenges. Foremost of these is a lack of direct competition among employers, as water service providers are responsible only for servicing their own communities.

Theoretically therefore, the industry is not subject to at least some traditional barriers to collaboration, and as a result, there is a track record in delivering successful regional scale projects. This pilot project proposed a new approach to skilling remote and regional water industry staff with the overall objective of ensuring that safe and reliable drinking water is provided to local communities. The main focus of the project is to provide a contemporary approach aimed at improving regional Queensland's drinking water services, through workforce development activities such as mentoring, sound planning and upskilling in addition to technical assessments aimed at optimising each water treatment plant.

The main components of this program were:

- Water Treatment Plant/Systems Technical Assessment,
- Training needs analysis,
- Workforce planning analysis,
- Training Workshop development and delivery (alignment with Drinking Water Quality Management Plans),
- Development and implementation of an industry mentoring program, and;
- Development of communication strategies and continuity plan to ensure the outcomes and learnings can be applied in other regions.

Initially, an analysis of plant operations including staffing requirements, training needs and mentoring opportunities was undertaken. Technical consultants were engaged to analyse drinking water systems and specific plant requirements in conjunction with Drinking Water Quality Management Plans. Targeted training to address skills gaps was then delivered. The intention is to ensure that the initial momentum from this work is maintained by establishing short term mentoring capacity, as well as a longer term network of drinking water treatment operators and broader industry support framework.

2.0 DISCUSSION

A total of 9 Councils across two distinct regions committed to participate in the project with varying levels of involvement. The specific project outcomes are further discussed in the sections below.

2.1 Technical Assessment Visits

Two highly experienced technical consultants were engaged to undertake the technical assessment of plant operations, provide input into training and development plans and participate in the mentoring program. The aim of the visits was to analyse drinking water systems and specific plant requirements with a view to optimising existing systems through mentoring and skills development.

The technical assessment site visits with the consultants (which included on-site operator skills analysis) were held in Longreach (phase 1) in September and Burnett region (phase 2) in November 2013. A total of 22 water treatment plants were visited by the technical consultants (and *qldwater* staff) as part of these visits. A full technical report for each treatment plant, including suggested improvement actions, has been provided to each council involved.

The site visits by the technical consultants uncovered some recurring issues at each of the treatment plants. These included:

- Limited training in coagulation control and jar testing
- Limited training in filter operation
- Poor process monitoring, with limited reporting to management
- Lack of suitable online and laboratory instruments for the plant.

Training needs have been directly addressed (as detailed below) and other issues are being explored through the *qldwater* network.

2.2 Training Needs and Gaps

Councils participating in the technical assessment visits provided information on current staffing requirements and workforce issues in order for *qldwater* to undertake a training and workforce development needs analysis. Further, during the technical visits additional information on specific training needs and gaps for each operator was gathered. A number of training gaps were identified for each of the regions including for example Australian Drinking Water Quality Guidelines awareness, jar testing, filters and filter inspections, calibration, SCADA and general plant optimisation training.

Regional training workshops, for both Longreach and Burnett region, were held in March and April 2014. These training workshops, conducted by the technical consultants in collaboration with *qldwater*, provided practical training aimed at addressing some of the skills/training gaps identified during the technical visits. Specifically, the training gaps addressed through these training workshops include jar testing and filter training.

Training plans developed also identify recommended accredited training to be undertaken for the individual operators within scope. The project is exploring developing stronger regional partnerships with RTOs responsive to the needs of the industry. The training plan needs link in well with the National Certification Framework for Operators Within Drinking Water Systems Queensland pilot study. Longreach Regional Council and Toowoomba Regional Council are participants in both projects.

A shared training calendar will be developed to support a 'regional hub' training model approach, expanding scope to include ongoing training needs. An example is compliance training such as confined spaces where there is a potential incentive in cost savings to be realised by employers. Once participants are used to the process, it is hoped that regional training can be conducted through an annual intake. This helps to reinforce the mentoring and information exchange network and has proved successful in the past with the Water Industry Worker program in SEQ.

2.3 Mentoring and Operator Exchange

The Queensland water industry employs many highly skilled operators and water treatment supervisors with in-depth knowledge of plant processes and capacity to trouble shoot. Tapping into this existing knowledge base in conjunction with other initiatives including the Queensland Water Regional Alliance Program is essential in order to build the resilience of small regional and remote water service providers.

Internationally, water operator mentoring and exchange arrangements already exist to assist developing nations such as through the Global Water Operator Partnership Alliance (GWPA) Water Operator Partnership (WOP) program. This program has proven successful in establishing positive relationships between developing countries and Western countries.

Combined with a strong history of mutual aid in the event of natural disasters, the established ability of water operator partnerships and mentoring to exist at an international level should indicate a strong potential for successful partnerships at the state-based regional level in Queensland. WIOA has been involved in early stages of planning the project, and its network and operator resources are seen as crucial for future expansion of the work.

The purpose of a regional approach to water operator mentoring and exchange is to encourage knowledge sharing amongst water service providers and provide an opportunity for operators responsible for water treatment schemes to benefit from the knowledge and different perspective brought by operators from other areas. Mentoring and exchange programs have the potential to benefit both the water service provider (and individual operators) who host the mentor or exchange operator, as well as the water service provider and operator who provides the exchange or mentoring.

A framework for an industry Mentoring and Exchange Program has been developed in order to facilitate operator information sharing and exchange processes. The framework is based on a flexible approach to mentoring/operator exchange that meets the needs of both participating operators/organisations. Mentoring and exchange trials based on this framework are in the process of being developed.

As part of the technical assessment visits, some potential mentors for the regions have been identified. Further training and development of these mentors is required, but examples of mentoring and industry partnerships have already been evident.

3.0 CONCLUSION

Whilst a formal evaluation of the project has yet to be undertaken (the project completion date is 30 June 2014), feedback to date from both the operators and managers/supervisors involved has been very positive. The training workshops held in March and April were very well received by operators who particularly gained benefit from the practical nature of the training and opportunity for networking with operators within the region.

The project has provided an opportunity for water service providers to critically analyse the operation of their water treatment plants and approach to operator training and workforce development. The technical assessment site visits provided critical detailed information on the plant operation and opportunities for improvement as well as training gaps for staff. The follow up gap training and regional collaboration on training has provided not only an opportunity to source cost effective onsite training, but also provided valuable information sharing and networking opportunities. Further regional training collaboration will be explored throughout the final months of this project with the aim of firmly establishing a regional approach for future training activities.

A final report and evaluation of the program will be provided to the Department of Education, Training and Employment in July. The learnings of this project will be applied to other regions, with a focus on collaboration on training and promoting opportunities for operator exchange and mentoring.

4.0 ACKNOWLEDGEMENTS

qldwater acknowledges the significant contribution of technical consultants Peter Mosse (Hydrological P/L) and Bruce Murray (City Water Technology) to this project.