Joint Working Group Annual Report

November 2013

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			Gold Coast City Council	
			Logan City Council	
			Queensland Urban Utilities	
			Redland City Council	
21 November 2013		Seqwater Board Chairman	Seqwater	
			Unitywater	

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1.0 INTRODUCTION

The Bulk Water Supply Code requires the Bulk Authority and the south east Queensland (SEQ) Service Providers to form a Joint Working Group (JWG) to encourage co-ordinated network planning on a best value for money basis and report on the outcomes annually to the Minister.

This annual report is provided to the Minister in compliance with the section 15 of the Bulk Water Supply Code.

The JWG was established in July 2013 and has since met monthly making significant progress on regional matters and the further development of Key Possible Projects (KPPs). This process has significantly improved communication between participants and has greatly enhanced the ability to undertake co-ordinated network planning between the bulk and the distribution sectors to achieve infrastructure planning on a best value for money basis. The JWG is committed to continue to meet monthly to progress the KPPs and other regional matters as they arise. The JWG reports its progress to the SEQ Water Service Providers Partnership (the Partnership) which is represented by the chief executive officers of Seqwater, Queensland Urban Utilities and Unitywater, and the mangers of the three Council owned water businesses. The Partnership has met three times in six months.

The JWG has identified and further developed KPPs which were projects under consideration prior to 1 January 2013. The JWG is further scoping and assessing these projects. Previously these projects were difficult to progress due to the many organisations involved and the complexity of the process. Following recent water reform including the streamlining of organisations and processes and the implementation of the Bulk Water Supply Code requirements, there is now a greater ability for SEQ water service providers to work together to complete these projects efficiently focusing on the best value for SEQ.

2.0 THE JOINT WORKING GROUP

The Bulk Water Supply Code encourages co-ordinated network planning between the bulk and the distribution sectors to achieve infrastructure planning on a best value for money basis. To achieve this, the Code requires that a Joint Working Group (JWG) be established.

In accordance with the Bulk Water Supply Code, the Joint Working Group (JWG):

- has been established (July 2013)
- has an agreed terms of reference
- meets regularly in greater frequency than bi-annually
- has identified some Key Possible Projects
- is reporting annually to the Minister.

The following table outlines the membership of the JWG.

Table 1: JWG Membership

Organisation	Position title
Gold Coast City Council	Manager Service Sustainability
Logan City Council	Water Business Manager
Queensland Urban Utilities	Executive Leader, Planning
Redland City Council	Principal Engineer Water Distribution
Seqwater	General Manager Water Supply Strategy and Policy
Unitywater	Executive Manager, Infrastructure Planning & Capital Delivery

3.0 SEQ GROWTH AREAS

The JWG recognises that regional growth in SEQ and therefore increased demand on water supply infrastructure is slower than predicted with the exception of some key areas. Consequently a number of the KPPs are focused on key locations to ensure the best value for the whole of SEQ.

For example, population growth within Brisbane will be largely by infill development (e.g. densification of the Brisbane central business district (CBD)); whereas development throughout other parts of the region will be classified by new Major Developments Areas (MDAs) as essentially Greenfield estates.

The most significant of these MDAs will be the Economic Development Queensland (EDQ) Priority Development Areas (PDA) as declared by the state government which include projects of:

- Caloundra South
- Greater Flagstone
- Ripley Valley
- Toondah Harbour
- Weinam Creek
- Yarrabilba
- Southport.

Other significant growth areas around SEQ are:

- Brisbane CBD/West End/South Brisbane
- Caboolture West
- Coomera/Pimpama
- Greater Springfield
- Kinross Road, Thornlands
- South East Thornlands
- North Lakes/Mango Hill
- Palmview
- Parkridge
- Rochedale
- Robina.

4.0 KEY POSSIBLE PROJECTS

The JWG has identified the following Key Possible Projects (KPPs) in 2013 as key examples of issues that could benefit from a collaborative assessment process between Seqwater and SEQ service providers. The JWG will further assess these KPPs and where the JWG considers that the outcome of the KPP will be cost savings and benefits, or a better 'value for money' choice, that KPP will be pursued.

At the time of writing this annual report the KPPs listed were being considered, scoped and assessed. Further information on the progression of these KPPs will be reported to the Minister in the 2014 JWG annual report.

The KPPs considered in this annual report and detailed further below, are:

- System Optimisation – Water Quality (Single Disinfection Regime)
- Asset Optimisation – Petrie Water Treatment Plant
- Asset Optimisation – Logan and Beaudesert

4.1 System Optimisation – Water Quality (Single Disinfection Regime)

4.1.1 Scope

- To assess the viability of implementing a single disinfection regime for the interconnected supply system.
- Consistent disinfectant for single-source supplies also desirable (e.g. for the purposes of tankering) so will be included in the assessment going forward.

4.1.2 Work to date

There has been a range of work on this issue over the last few years by various organisations including the previous SEQ Water Grid Manager and LinkWater, Logan City Council and Unitywater.

The SEQ Water Grid Manager undertook the *Study into SEQ Water Grid Disinfection Options*, which assessed the following issues:

- The existing disinfection regime including:
  - extent of regime
  - level of pathogen control achieved
  - level of disinfection by-product formation
  - level of chlorine residual achieved in summer and winter seasons
  - extent and frequency of nitrate formation for chloraminated systems
  - costs of operating and maintaining the disinfection systems.

- Assessment was undertaken with the following criteria to justify a change in regime:
  - capital expenditure
  - change to operational costs
  - public acceptance
  - ease and safety of operation
  - compliance with regulatory limits
  - ability to meet non-regulatory guidelines and industry standards
  - overall finding was that changing the entire connected water system to a single free-chlorine system would be beneficial in the long term.

- A phased implementation was recommended for the supply zones.

LinkWater undertook the Kuraby Reservoir Chemical Dosing Study, due to its significance in the quality of water supplied to Logan and parts of Brisbane.

Logan Water, traditionally a chloraminated supply, has undertaken its own breakpoint chlorination trials, and now routinely undertakes breakpoint chlorination of water entering its south eastern zone. In addition, Unitywater has undertaken breakpoint chlorination trials and converted some of their supply areas to be dedicated free chlorine zones.

4.1.3 Future work

Scope development

The scope of future work will likely include:

- Review of the recommendations from the Water Grid Manager study.
- A Technical Working Group will be set up to oversee the transition to a single disinfection regime.
- Other recommended actions described in the Study into SEQ Water Grid Disinfection Options should be managed through the Technical Working Group.

Assessment and Actions

- Further assessment of this KPP will occur in 2014 following the completion of the scoping actions above.
- Detailed costs and benefits will be determined through assessment as outlined above and documented for approval by appropriate business cases.

4.1.4 Costs and benefits

Costs and benefits were estimated at the time of preparing the previous reports, however these costs may need to be reviewed in light of the recent restructure of the water industry and more recent information. The existing assessments however provide enough indication of the overall benefits and potential cost savings and risk reduction to warrant further investigation of this topic.

4.1.5 Timeframes

The formation of the Technical Working Group and developing a plan of action for advancing this topic is envisaged to occur during early 2014.

4.2 Asset Optimisation – Petrie Water Treatment Plant

4.2.1 Scope

- In 2011, a collaborative sub-regional planning study identified optimisation opportunities for the bulk water supply system in the Moreton Bay Regional Council area through decommissioning of the Petrie Water Treatment Plant (WTP) and supplying water to the Petrie water supply zone from the North Pine WTP system.
- A recent condition assessment at Petrie WTP revealed a number of asset condition issues. Major renewals and upgrade costs would be required to keep Petrie WTP in service.
- Progressing an alternative water supply option from the North Pine WTP system would avoid significant maintenance and renewals expenditure on infrastructure that would be redundant shortly thereafter.

4.2.2 Work to date

Work undertaken to date on this project includes:

- 2011 sub-regional planning study
- An options assessment has been progressed through a series of workshops between Unitywater and Seqwater.
  - These workshops developed a series of concept design level connection options for decommissioning the Petrie WTP
  - These designs will be reviewed when developing the preferred option under a least-cost planning framework.

4.2.3 Future work

Scope development

Following the finalisation of the planning report and identification of a preferred option, a preliminary design will be developed for detailed cost estimation and project implementation as appropriate.

Assessment and Actions

The primary focus of the preliminary design will be to ensure that the integrated bulk water system hydraulic and water quality drivers are being effectively and efficiently achieved. This will be done to ensure that there is a clear understanding of any broader network operability issues and that all existing and emerging risks are identified and effectively managed.

4.2.4 Costs and benefits

Initial considerations show that this project has potential savings and it is warranted to conduct a detailed investigation. Detailed costs and benefits will be determined through assessment as outlined above and documented for approval by appropriate business cases.

4.2.5 Timeframes

- Options finalisation is currently scheduled for completion late 2013 with a preliminary design developed by early 2014.
- Project implementation including detailed design is likely mid 2014 with a view to project delivery late 2014, subject to the appropriate project approvals.

4.3 Asset Optimisation – Logan and Beaudesert

4.3.1 Scope

- The southern Logan and Beaudesert areas represent major residential and commercial/industrial growth areas in south east Queensland.
- This project will determine the preferred supply option for Beaudesert by determining the implications that this additional bulk water demand would have on internal southern Logan water supply distribution infrastructure, in terms of the changes to timing and required capacity.
- This essentially involves undertaking planning level cost estimates for the Woodhill to Beaudesert pumping system and any additional internal southern Logan water supply infrastructure to develop for comparison against the required Beaudesert WTP upgrades. This will then determine the least-cost planning solution.

4.3.2 Work to date

Work undertaken to date on this project includes:

- Previous planning has identified asset condition issues with the existing South MacLean WTP and the Beaudesert WTP, both of which source raw water from the Logan River catchment, which is subject to large variations in water quality. Large investment in renewals and capability improvements are required to maintain these facilities to support growth in the area and meet water quality objectives.
- Opportunities have been identified to connect these areas to the bulk water supply system as the long-term supply strategy.
- South MacLean WTP has already been taken off line and a decommissioning strategy is under development.
- The proposed bulk water supply network connection for the Beaudesert water supply, under a Beaudesert WTP decommissioning scenario, has been identified as a 14km pipeline extending from the Logan southernmost reservoir at Woodhill.
- Numerous planning investigations have been undertaken for the Beaudesert water supply scheme. The most recent was managed by the Queensland Water Commission (QWC) as a collaborative planning study between the previous Seqwater, LinkWater, Logan City Council and Queensland Urban Utilities (QUU) in 2012.
- The QWC study concluded that based on the adopted costs, there was little overall financial difference between the pipeline and the treatment plant upgrade; however, the pipeline gives improved security of supply and improved water quality outcomes in both the southern Logan network in the short term and for the Beaudesert water supply zone.
- An interim solution has been implemented involving cost-effective upgrades at the Beaudesert WTP (currently under implementation). This has enabled the decision on the long-medium and long-term options for the Beaudesert WTP to be deferred until an improved understanding of projected population and infrastructure costs were available.

4.3.3 Future work

Scope development

- The proposed project scope has been developed in consultation between officers from Seqwater and Logan City Council.
- The scope entails improving the cost estimate of the Woodhill to Beaudesert pumping scheme and the understanding of the costs and impacts on infrastructure and operations in the southern Logan and wider bulk water supply system.
- This will be done with consideration to the long-term integration of the Wyaralong WTP and changes to the likely sequence of development in the southern Logan area.

Assessment and Actions

Key items for assessment include:

- QUU determining the most likely population projections for the Beaudesert water supply zone (including the Bromelton Industrial Estate)
- Logan City Council is undertaking the network analysis to determine the impacts of the additional demand from Beaudesert on the southern Logan water distribution network
- Seqwater is confirming the required Beaudesert WTP upgrade costs.
- Seqwater has committed to engage a consultant to provide an improved planning level cost estimate of the Woodhill to Beaudesert pumping scheme.
- Based on all the above information Seqwater will undertake a financial assessment, including the overall impacts on the wider bulk water supply system to determine the least-cost planning solution for the bulk water supply system.

- Detailed costs and benefits will be determined through assessment as outlined above and documented for approval by appropriate business cases.

4.3.4 Costs and benefits

Yet to be determined. However, the assessment is focused on delivering the least-cost planning outcome. Initial considerations show that this project has potential savings when compared with a solution that focuses only on the bulk water supply infrastructure and it is warranted to conduct a detailed investigation.

4.3.5 Timeframes

- Finalise water demand for Beaudesert area based on recent population projections.
- Logan City Council are seeking to finish their southern Logan water supply planning late 2013.
- Financial modeling in early 2014.
- Final determination on the long-term supply strategy for Beaudesert mid-2014.

5.0 CONCLUSION

The JWG will continue to progress consideration of the KPPs listed in this annual report. The JWG will also continue to work together to develop, assess and implement KPPs which encourage coordinated network planning between the bulk and the distribution sectors of south east Queensland to undertake infrastructure planning (including water quality improvements) on a best value for money basis.