



Coffs Harbour City Council's Comments
on the Infrastructure Australia
Review of Regional Water Quality & Security
- Review and Reform Strategy Report



This document is submitted to Infrastructure Australia,
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Review of Regional Water Quality & Security

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Introduction

Coffs Harbour City Council (CHCC) takes this opportunity to respond to Infrastructure Australia in relation to the Review of Regional Water Quality and Security – Review and Reform Strategy report prepared by AECOM Australia Pty Ltd.

In January 2009 the NSW Government released a report detailing the results of its Inquiry into Secure and Sustainable Water Supply and Sewerage Services for Non – Metropolitan NSW. Council responded to this report in April 2009. The report and the Council's responses in 2008 and 2009 are available at www.water.nsw.gov.au

Council's water and sewerage utility, Coffs Harbour Water, is at the forefront of water and sewerage planning and management in Australia, and this fact is recognised by a number of awards and commendations at National and State level.

Coffs Harbour has recognised the challenges facing the nation's water supply and sewerage service providers. We have responded to these challenges by partnering with appropriate agencies, other local government authorities, with the community and with private enterprise, to plan, finance, design, build and operate systems that will meet the community's existing and future needs.

Our infrastructure, combined with other elements of integrated water cycle management, will meet the growing service demands and high standards demanded by the community for the next 30 years and beyond.

In 2005, Council commissioned an independent Operations and Maintenance Review of Coffs Harbour Water. This review resulted in Council maintaining the status quo and taking on board some improvements that were recommended.

Background

Coffs Harbour City Council has been an innovator and leader in water management, setting examples for local government throughout Australia, with its state-of-the-art sewerage services, regional initiatives to provide a secure water supply to 2030 and beyond, cooperative water efficiency programs and education, and through its highly acclaimed, reclaimed water service.

Despite being located in an area of high rainfall, Coffs Harbour faces its own pressures on supply, with growing population placing demand on infrastructure, and more stringent environmental flows being demanded by government.

Water efficiency measures, infrastructure upgrades, and community education have contributed to Coffs Harbour's status as one of the most water-efficient communities in NSW and Australia.

Coffs Harbour's Reclaimed Water Strategy has shown the way for other local government authorities to trial, demonstrate and educate the community, and to gain local support and demand for reclaimed water in a variety of commercial applications.

Council has partnered with six Councils that were subsequently amalgamated to form Clarence Valley Council, to deliver a secure bulk water supply system that combined with water efficiency initiatives and substantially increased environmental flows in rivers will meet the forecast need for population growth and demand for the next 30 years and beyond.

The build and non-build programs are expected to extend the life of the supply to 2046, when the population of the two local government areas is expected to reach 220,000.

This system of integrated water management demonstrates a regional alliance to achieve longterm sustainability and financial viability, while addressing increasingly stringent environmental requirements and establishing a platform on which whole-of community outcomes can be identified and optimised.

A new water treatment plant has recently been constructed and commissioned to provide high quality water (achieving Australian Water Quality Guidelines at all times) to Coffs Harbour consumers to 2036 and beyond.

Local Government and Shires Association of NSW

CHCC supports the position of the Local Government and Shires Associations of NSW (LGSA) in rejecting the key findings in the Report into Local Water Utilities (LWUs) released by Infrastructure Australia.

Local Government is responsible for water and sewerage services outside the Sydney and Hunter regions of NSW. Consultants who prepared the Report to Infrastructure Australia do not appear to have consulted with local government.

The Report does not adequately address the NSW Review and does not take into account the strong performance of NSW Local Water Utilities (LWUs) and solid improvements in quality, productivity and water security that have been made by this sector over the past decade.

President of the Local Government Association, Cr Keith Rhoades AFSM (Mayor of Coffs Harbour), states that it is widely acknowledged that councils are consistently delivering best-practice water management and the 106 LWUs in NSW are well-placed to manage water supplies and sewerage.

The LGSA argues that it is not necessary to have national uniformity in service delivery models, but that it is the outcomes that count: 96 per cent of NSW LWUs are achieving full cost recovery for water supply and 68 per cent have commenced integrated water cycle management.

The LGSA has proposed a regional alliance model that would deliver ongoing improvements in water security and quality standards through the sharing of resources.

Significant points raised by the LGSA, and supported by CHCC include:

- Councils are performing at best practice levels
- Councils know and understand local priorities;
- Councils are equipped to provide a whole-of community approach to water management.

NSW Water Directorate

The NSW Water Directorate has lodged its comments in regards to the Review and Report, and CHCC is supportive in general of the Water Directorate's position.

In particular, CHCC emphasis its agreement with the comments lodged offered in relation to the Report Recommendations:

1. Mandatory compliance with ADGW Guidelines is supported. This compliance is well progressed within regional NSW, and has already been legislated for by the NSW Health Department during 2010.
2. The NSW Health Department has a health based regulatory role associated with drinking water quality. Refinement of this role to conform to a national standard is supported.
3. The NSW Office of Water is responsible for independent monitoring and reporting of water quality performance of regional NSW water utilities. IPART also has a regulatory role. Refinement of their roles to conform to a national standard is supported.
4. NSW regional water utilities operate under a Best Practice Management Framework. A national standard that builds on this framework is supported.
5. NSW regional water utilities have in place a Best Practice Pricing Policy. A national standard that builds on this policy is supported.
6. NSW, through the Office of Water, has in place well developed operator training courses. A national standard that builds on this model is supported.
7. Structurally reforming water utilities in NSW **is not supported**. There are significant financial, social and environmental costs in disaggregating water supply functions from local government in NSW and forming regional corporations. The AECOM report does not address these costs and other key issues nor present any well substantiated arguments for its proposed recommendations to form regional corporations. The report has been based on selective and often questionable data and provides recommendations that are inconsistent or inadequately supported by the report content.

Coffs Harbour City Council Comment

One of the key failings of the Review is that it focuses attention on small local government areas with a population of up to 15,000. There is no evidence of the Review taking larger towns and cities into consideration in the report.

The recommendations have no research foundation to enable credible application to larger local government water management authorities.

While there may be some level of support and credible basis for amalgamating smaller utilities, there is no evidence to suggest that there will be any benefits to be gained for government or communities by amalgamating larger utilities that are already working in voluntary or other formalised regional alliances.

Coffs Harbour City Council has a long-standing alliance with Clarence Valley Council, which has delivered a regional water supply project worth about \$180 million and a secure long-term raw water supply that will meet the needs of the growing region to 2040 and beyond.

In addition, Coffs harbour has partnered with Bellingen Shire Council to provide a rationalised trade waste service and other support.

Coffs Harbour is well-placed in ensuring water quality and security, by having three sources of raw water supply, being:

- Orara River;
- Nymboida River;
- Shannon Creek Dam.

All these sources can provide water to the local off-river storage at Karangi Dam.



Shannon Creek Dam is a 30,000 megalitre storage facility built in an award-winning alliance of Coffs Harbour and Clarence Valley Councils and the NSW Government is part of a \$180 project to provide a secure long-term raw water supply for the growing region. The project is supported by a highly effective water efficiency program.

Security of Supply

CHCC has planned for the future with the works it is currently undertaking, including:

- \$180 million Regional Water Supply with Clarence Valley Council;
- \$250 million Coffs Harbour Sewerage Strategy;
- \$59 million Water Treatment Plant;
- Water Efficiency programs;
- Reclaimed Water used by 44 clients across the city, including commercial farmers, sports grounds, schools.

Drought Management Plans and Demand Management Plans are Best Practice requirements for all Councils. Individual Councils have been acting on long term source reductions for years.

Our planning and responses to challenges of security of supply have already demonstrated success in:

- Meeting the demands of a growing region;
- Delivering best-practice standards in sewerage services and treatment;
- Providing a secure water supply in times of drought, while meeting stringent environmental requirements for river flows;
- Demonstrating and encouraging the use of reclaimed water;

- Engaging the community to achieve best-practice water efficiency;
- Achieving cost recovery and compliance with State Government pricing policies;
- Leading the East Coast of Australia in the field of Environmental Laboratory sampling (also ensuring water quality);
- Training and peer support;
- Developing new technologies to provide safer and more efficient systems;
- Educating other local government water and sewerage authorities.

Our city is well advanced in its responses to: the Council of Australian Government's (CoAG) National Water Initiative (NWI); the results of the first biennial assessment of the progress of implementation of this agreement, and; future potential impacts on our rural council's ability to plan and provide a secure urban water supply as a result of changes to this agreement.

Water Quality

In our main water supply storages, Karangi Dam and Shannon Creek Dam, water is partly treated by aeration of the dams. The purpose of aeration is to:

- Prevent water turning over (destratification);
- Raise the dissolved oxygen level;
- Oxidise iron and manganese which settles out within the dams;
- Settle out suspended dirt particles and other matter within the dams.

Since the commissioning of the new \$59 million water treatment plant in 2009, CHCC has achieved higher standards of water quality.

The new plant minimises any risk posed to the local water supply by blue/green algae and pathogen infection; ensures that Australian Drinking Water Guidelines continue to be met and; minimises problems created by iron and manganese in the supply.

The treatment process involves:

- Conditioning using lime, caustic soda and Co₂;
- Removal of contaminants such as solids or algae by a dissolved air flotation and filtration process, with the assistance of filtration aids.
- Disinfection by ultra violet light irradiation;
- Disinfection by chlorine.
- Fluoridation.

The plant also has the ability to dose powdered activated carbon for taste and odours and potassium permanganate to assist in the removal of manganese, if required in the future.

This state-of-the-art treatment plant is ensuring water quality to the Australian Drinking Water Guidelines and has reduced substantially the flushing required to ensure water quality to consumers.



The new \$59 million water treatment plant at Karangi was built by Coffs Harbour City Council to protect the quality of water from all of our sources. The plant can treat up to 42 megalitres of water each day. Karangi Dam is pictured in the background. Water is gravity fed to the treatment plant from Karangi Dam.

Coffs Harbour Water is able to maintain compliance with health and environmental requirements, through the assistance of the Council's own Environmental Laboratory.

Our Environmental Laboratory provides analysis and consultancy service to Council and also to clients wanting a chemical and microbiological analysis of water quality. Bellingen, Kempsey, Nambucca and Clarence Valley Councils are among those who use our laboratory's services.

The laboratory is accredited by the National Association of Testing Authorities (NATA), and our laboratory has now established the Interlab group, which provides liaison between laboratories between Townsville, Tamworth and Foster, to share information. This group is now investigating options to improve purchasing power.

The laboratory analyses all types of water, including bore, tank, pool, reticulated and environmental. It also analyses wastewater, biosolids, soils and oysters.

The Environmental Laboratory provides services to a range of different clients including local councils, government departments, oyster growers, developers, contractors and individuals.

Our sophisticated testing equipment includes:

- Flow-through Injection Analyser (FIA) for nutrient analysis;

- Inductively Coupled Plasma Emission Spectrometer (ICP-ES) and Atomic Absorption;
- Spectrometer (AAS) with SIPS for metal analysis;
- Ion Chromatograph for the determination of anions (chloride, sulphate);
- Gas Chromatograph for the determination of pesticide residues;
- Total organic carbon analyser;
- Fluoride electrode for fluoride analysis;
- Microscope with camera attachment used for algae counts and identification.

Drinking Water Services include:

- Monitoring quality for compliance with national and international guidelines;
- Providing advice to assist in water quality management of distribution systems;
- Examining and advising on the quality of alternative sources;
- Analysis of private water supplies (dams, creeks, bores, tanks etc).



Coffs Harbour City Council's Environmental Laboratory was established as a unit of Coffs Harbour Water and has now expanded to provide water quality testing services and other analysis to external clients such as other local government water utilities and private enterprise.

Council has recently upgraded its entire sewerage system, expending more than \$250 million to provide:

- Treatment plants that treat effluent to the highest standards required for reclaimed water for commercial agricultural use;
- A deep sea release that replaced three former on-shore releases;
- Extensive network of pipelines, holding tanks etc to provide a supply of reclaimed water to a range of users;

- Development of new technology in telemetry pump station systems that is now being purchased and installed by local government water authorities across the nation.

In response to the community's demand for the highest standards of sewerage treatment, Council began looking at better ways to treat and dispose of effluent. In 1997, Coffs Harbour signed a Memorandum of Understanding with the NSW Government to develop a citywide sewerage strategy and to implement a number of reclaimed water demonstration projects.

A Reclaimed Water Strategy was adopted in February 1999, and the Coffs Harbour Sewerage Strategy was adopted in 2000.

Coffs Harbour's Sewerage Strategy was developed to:

- Safeguard public health;
- Meet future urban needs;
- Satisfy environmental safeguards;
- Protect the coastal environment and the Solitary Islands Marine Park;
- Maximise the beneficial use of reclaimed water;
- Ensure the strategy was affordable, and;
- Stage implementation to take advantage of emerging technologies.

Major components include:

- Reticulation of new urban areas;
- Upgrading of existing sewers and pumping stations;
- New treatment plants to provide tertiary treatment;
- Infrastructure, demonstration and education for reclaimed water;
- A Deep Sea Release;
- Planning, studies and an Environmental Impact Statement.



Coffs Harbour's main Water Reclamation Plant underwent a \$96 million rebuild as part of the wider \$250 million plus Coffs Harbour Sewerage Strategy, with most funding provided by Council, to achieve the highest levels of treatment and deliver reclaimed water to commercial and agricultural specifications.

Skills Shortages

CHCC has the capacity to provide mentors and other assistance to other councils, as skills shortage issues are not biting as hard for us, and probably never will, because of our favorable environment and lifestyle, and established training programs.

CHCC operators have won the past two successive Water Directorate Operator of the Year awards, and both operators are now involved in training and assisting other water management authorities.

Council has introduced a number of initiatives through its human resources recruitment, training and retention programs to address skills shortages and to improve the retention rate for highly skilled employees.

Coffs Harbour water is leading the way by actively encouraging training, and has ensured that a staff member can be available to conduct TAFE training program as required. Our Sewerage Pump Station Supervisor has been teaching Water Industry Certificate 2, 3, and 4 students from throughout the region in recent years. At present a number of Coffs Harbour Water staff are Certificate 4 holders.

Impacts of Changes to Current Water Management Practices

The Report's proposal for regional-based water corporations would have detrimental impacts including the following:

- Community support unlikely for asset transfer;
- Potential costs savings would be offset by costs for new corporate services, and cost increases for governance;
- No demonstrated ability to improve the financial viability of water and sewerage operations;
- Significant impact on the financial viability of local councils;
- Disparity in regards to levels of service provided to individual communities and pricing;
- Land development and planning processes become more complex when being addressed by two separate bodies

The benefits of maintaining status quo include:

- Community retains ownership of assets;
- Parity achieved in regards to charging and service delivery and quality of service;
- Councils remain viable, as economies of scale benefit local communities directly;
- Skills development through knowledge sharing;
- Reduced costs through resource sharing;
- Maintain high standards of environmental and health compliance;
- Existing pricing structure ensures sustainable service delivery;
- Existing systems and future expansion continue to meet future demands;
- Best model to achieve integrated water cycle management;
- Maintains streamlined approach for planning, development assessment, and environmental management;
- Maintains existing levels of local employment in water and sewerage services;
- Financially viable;
- Cost-effective service standards;
- Best socio-economic outcomes for local communities;
- Established strategies and programs to meet current and future demands and challenges are maintained.

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