South East Queensland Water Grid

IPLOCA – International Pipeline and Offshore Contractors Association
South East Queensland Water Grid

- Background
- About the SEQ Water Grid
- Progress of the projects
- Pipes
- Land processes
The Facts

- Queensland’s population is 4.2 million people
- Of those, 2.7 million people live in South East Queensland (SEQ) – 80% of the state’s population
- 50,000 – 60,000 people migrate to SEQ each year
- SEQ expected to reach 3.96 million in 2026 and 5.08 million in 2051
- Without additional water supplies the future, economic growth and quality of life in SEQ will be severely affected
- Rainfall in SEQ has been well below average for the past six years, being the worst 10 year period in history
- Has led to major storage 'deficits' in our water storages
Queensland the Smart State
Wivenhoe Dam – 1999 and today
The Government’s Response

Regulatory change

– Councils and water service providers required to respond on a range of water supply and management options.
– Requirements to prepare drought and leakage loss management plans.

Institutional Reform

– Future Water Grid Manager.
The Water Balance

Current
450,000Ml

Annual Water Needs to 2050

300,000Ml
additional

Dams

Traveston
Borumba
Hinze Raising
Bromelton
Wyaralong etc

Extra
210,000Ml

Water Grid
Recycling
Desalination

existing

Annual Water Supply

Extra
110,000Ml

Queensland the Smart State
About the South East Queensland Water Grid

The $9 billion SEQ Water Grid is a network of two-way pipelines that will be able to move water from areas of water surplus and transport it to areas that face a shortfall.
South East Queensland Water Grid

- There are over 3,500 workers at over 45 different locations working on the SEQ Water Grid.
- Over 3.3 million man hours have been clocked-up on the projects so far.
- It is the largest urban drought response in Australia.
- It will have the capacity to deliver up to an additional 350,000ML of water a year to the region’s supply.
- It will secure water supply for the region now and for the future.
Priority Water Grid Projects

- Western Corridor Recycled Water Project
- Gold Coast Desalination Plant
- Southern Regional Water Pipeline
- Northern Pipeline Interconnector
- Eastern Pipeline Interconnector
Western Corridor Recycled Water Project
Western Corridor Recycled Water Project

- Australia’s largest recycled water project
- Third largest advanced water treatment project in the world
- Will have the capacity to provide up to 232ML/day of purified recycled water to the region’s supply
- Includes 205 kilometres of pipeline and three advanced water treatment plants at Bundamba, Gibson Island and Luggage Point.
Western Corridor Recycled Water Project

- Uses almost all the wastewater from six existing treatment plants in Brisbane and Ipswich
- Will provide purified recycled water to Swanbank and Tarong power stations, industry and agriculture, as well as to Wivenhoe Dam to supplement our drinking supplies
- Cost $2.4 billion
AWT Process

Key steps in the process are:

Step 1: Transfer water from wastewater treatment plant
Step 2: Treat water using Microfiltration
Step 3: Reverse Osmosis
Step 4: Remove nutrients
Step 5: Advanced Oxidation
Step 6: Stabilisation and Disinfection
Step 7: Discharge waste to waterways
Step 8: Water ready for use

Queensland the Smart State
Milestone – First Water, Bundamba Stage 1A
First Water to Swanbank Power Station
August 2007
Gold Coast Desalination Project

- Joint initiative between the Queensland Government and Gold Coast City Council
- First large-scale water desalination plant on the eastern seaboard
- Will provide up to 125ML/day of new drinking water to the region
- Investigating a possible upgrade to boost output by up to 47ML/day, increasing capacity to 172/ML/day.
- Includes construction of a desalination plant, a 2.2 kilometre marine intake tunnel, a two kilometre outlet tunnel and a 24.9 kilometre pipeline to connect the plant to the South East Queensland Water Grid.
- Cost $1.2 billion
Inlet Tunnel - Gold Coast Desalination Plant
Self Elevating Platform
Tugun
1.5 kms offshore
Southern Regional Water Pipeline
Southern Regional Water Pipeline

- 100 kilometre link that will move water between the Gold Coast, Logan and Brisbane.
- Will transport water from Wivenhoe Dam, Hinze Dam, the Gold Coast Desalination Plant and future water sources
- Built with two-way flow capacity of up to 130ML/day
- Cost is $900 million
North Beaudesert Balance Tank – Base Pour
Check our Progress

- Progress of all projects updated on web weekly
## Pipelines – South East Queensland Water Grid

<table>
<thead>
<tr>
<th>September 07</th>
<th>Kilometres of Pipeline</th>
<th>Pipeline Capacity</th>
<th>Expected Completion date</th>
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<tr>
<td>Western Corridor Recycled Water Project</td>
<td>205</td>
<td>232 ML/day</td>
<td>Dec 2008</td>
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<tr>
<td>Gold Coast Desalination Plant</td>
<td>25</td>
<td>125 ML/day</td>
<td>Nov 2008</td>
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<tr>
<td>Southern Regional Water Pipeline</td>
<td>100</td>
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<td>Northern Pipeline Interconnector</td>
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<td>Eastern Pipeline Interconnector</td>
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<td>22 ML/day</td>
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Pipe Procurement

- The Water Grid requires 450 kilometres of large diameter pipes
- Plus fittings ranging from DN 800 to DN 1500
- Centralised process
- Two suppliers Tyco and Iplex
- Tyco – approx 310 kms
- Iplex – approx 90 kms
Pipe Procurement

- Mild Steel Cement Lined (MSCL) – 300 kms
- High Density Poly Ethylene (HDPE) – 10 kms
- Glass Reinforced Plastic (GRP) – 90 kms
Land Acquisition Processes

- Easements and land are required for the construction, operation and maintenance of the water pipelines.
- There are two acquisition processes available to the Coordinator-General using powers in State Development and Public Works Organisation Act 1971.
  - Acquisition of easements and land via the process in the Acquisition of Land Act 1967.
  - Registration of critical infrastructure easements over existing public utility easements.
- In both cases, the Queensland Government prefers to reach agreements with affected landowners or after full consultation.
- The easements allow the Coordinator-General and its agents to access land for construction, operation and maintenance of the infrastructure needed.
Land Impacts and Progress with Acquisitions

- Wherever possible the water grid projects are endeavouring to utilise government land, existing easements and road reserves to reduce impact on privately owned land and to minimise disruption to landowners.

- Approx 400 private landowners are directly affected by the WCRWP, GC Desal and SRWP
Conclusions

Investment is happening now – unprecedented levels.

We are very focused on delivering these major projects.

All of the priority water projects are currently on program.
Questions