Kingaroy Wastewater Treatment Plant Upgrade
Topics

- History
- The process
- Technology selection
- Construction
- Operation
- Results
The ‘old’ plant
Project Objectives

- Need to service the current needs of Kingaroy as well as cater for future population growth
- Adjustments to operating licence from DEHP
- Reduce nutrients discharged to the Stuart River
- Robust, fit for purpose plant
- Cater for septage receipt and treatment
- Allow for beneficial reuse of recycled water where practical
Engagement with DEHP

• Unable to comply with conditions of existing licence
• Assessment of receiving waters:
  – Gordonbrook Dam on Stuart River
  – Monitoring data
  – Upstream and Downstream monitoring points
• Open communication with DEHP
The Journey

1. Risk Assessment
2. Population Assessment
3. Technology Assessments
What we wanted

- 12,500 EP catering for 20 year projected population growth at medium growth rate of 1.3%
- Licence requirements median values of 10mg/L total Nitrogen, 3mg/L total phosphorus, 1mg/L Ammonia
- Production of Class A recycled water for golf course and sporting fields
- Stable Class B biosolids – reduced odour production
- 25 kL per week imported sludge from septics
Long Story Short – The EOI process

• 4 companies submitted
• 2 alternative proposals

• Selected Aquatec Maxcon’s “Nereda Process”
The Nereda Process

- Pure biomass, no support media required
- Excellent settling properties
- High biomass concentration
- Small footprint
- Low energy consumption – compared to standard technologies
- Simultaneous biological Nitrogen and Phosphorous removal
• Lower capital and operational costs
• Simple operation
• Sustainable technology
Operations

• State of the art plant
• Far more technical than what we've been used to
• More analysers
• Lab work
• Computer skills
• Alarms
• Dealing with the locals
Results

- Meeting licence conditions within 3 weeks of cut over
- Minimal chemical additions
- No odour problems
- Meets cost reduction requirements
- Flow on effects to the community
Key Achievements

• Operator involvement
• Development of Laboratory
• Contractor involvement and support
• Relationship with RDHV
• Compliance with licence