

Remote Monitoring of Final Treated water at Dysart WWTP - Queensland

Dysart is one of the 12 towns located within Isaac Regional Council (IRC). IRC is located in Central Queensland and spans across 58,000 km². This area is larger than countries such as Croatia and Costa Rica. The estimated resident population is 20,940 with an additional 10,580 workers housed in temporary accommodation that work in the mining sector at any one time making the full-time equivalent population at 31,835. Dysart was established in 1973.

Project or Scope

The existing Dysart wastewater treatment comprises a primary treatment and secondary treatment process by way of inlet screens and existing trickling filters, followed by final chlorine contact tanks. Gaseous chlorine is used to disinfect the secondary treated water before being stored in an effluent irrigation dam. The treated water is then sprayed for irrigation purposes.

The IRC has a dedicated but small team of operators that travel to significant distances in order to operate various WWTPs spread across the region. The final treated water quality was monitored using grab samples and analysis on a weekly and monthly basis. The Council was looking to implement a solution that will enable real-time and remote monitoring of the WWTP's final water quality.

“Xylem’s WTW brand of online sensors and controllers provide a simple and cost effective solution for remote monitoring of WWTP performance”

NATA accredited laboratory testing is important and may be necessary from a regulatory perspective. However it is ineffective when it comes to monitoring WWTP performance rigorously or enable prompt operator intervention.

Xylem was asked to offer a real-time online and remote monitoring solution to monitor Dysart WWTP's final treated water quality. The Council had a requirement to monitor pH, conductivity, temperature, BOD, suspended solids and free residual Chlorine.



Dysart

CLIENT: Isaac Regional Council
ORDER DATE: October 2018
COMPLETION: February 2019
XYLEM'S ROLE: System Integrator and Solutions Provider

XYLEM SCOPE:

Manufacture, Supply, Installation, Commissioning and Training of Remote Monitoring with SMS alert ability of final treated water at Dysart WWTP. The scope of supply included:

- Digital pH sensor - [Sensolyt 700 IQ](#)
- Digital Conductivity sensor - [TetraCon 700 IQ](#)
- Digital BOD and TSS sensor
 - Reagent-free [CarboVis 705 IQ](#)
- Free residual chlorine sensor - Reagent-free FCML 412 N
- Multi-parameter controller - [2020 3G, MIQ/MC3 and MIQ/PS](#)
- Sensor cables - [SACIO](#)
- Analogue Chlorine Controller - CI 298
- Modem, datalogger and power supply converter
- Installation accessories and controller cabinet



a xylem brand

A complete turnkey solution was offered to the Council inclusive of supply, installation, commissioning and training. A modem with a datalogger and 12 V power supply converter was included to enable remote monitoring using digital sensors and controller for all parameters except free chlorine. Free chlorine was monitored using a reagent-free analogue sensor and a controller. Monitoring data is available on a continuous basis in tabular and graphical format on a web portal. The web portal sends SMS alerts to Council designated mobile phones when the operating limits are exceeded.

A multi-parameter six-in-one reagent-free sensor that also provides BOD and TSS measurement in a single sensor was also part of this solution.

“Our ability to provide a complete turnkey and integrated solution with our commitment to solve our Customer’s problems was the key differentiator.”

Result

The Isaac Regional Council operators are now enabled to monitor Dysart WWTP’s final treated water quality in real time remotely no matter where they are based. The Council’s Southern Region Operations Supervisor, Craig Bindhoff comments reflect the true value of this solution –“We are a small team here and the demographics are not always in our favour. We would like our finger on the pulse no matter where we are and this solution allows us to just do that. My Operators are now well-equipped to monitor our WWTP’s performance.”



Xylem’s system and installation team member immersing the UV-VIS CarboVis 705 IQ multi-parameter six-in-one sensor with BOD and TSS measurement in the final chlorine contact tank.



Happy Isaac Regional Council team all around with fully installed and commissioned system.

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