

Oil, Gas & Hydrocarbons

WINNER

Apex Optimisation and Santos

Port Bonython Advanced Process Control Project
Port Bonython, SA

APEX Optimisation and Santos undertook a joint project to improve the profitability of selected sections of the Port Bonython (PB) liquids plant via use of Multivariable Predictive Control (MPC), a model-based approach that in this instance provided a compelling payback of less than three months.

MPC incorporates a model of dynamic process responses with an optimiser to maintain the plant in a profitable way. The benefits include improved profitability, operability and safety metrics. As MPC is purely software it extracts maximum value out of the existing hardware assets with minimal plant impact. In this project, MPC was identified to offer some high value areas where it could be exploited

to improve profitability, including a dynamic adjustment of the Natural Gas (NG) flow limit to maximise gas consumption and minimise propane consumption; heat recovery and ethane maximisation; maximising C2 rich propane from the refrigerant system; and maximising C4 in the Automix blend.

"We are delighted with the success of this project and recognition provided with this Award," said Apex principal consultant, Andrew Taylor. "This project illustrates how Advanced Process Control (APC) technology, which has been used for decades in the oil refining sector, can be successfully applied to different processing industries to tackle the modern challenges of improved profitability, energy efficiency and reduced environmental footprint. Congratulations to Santos for having the vision to pursue APC technology."

The judges said: "Innovation in this project has led to environmental benefits with minimal investment, despite a heritage control system."



MPC incorporates a model of dynamic process responses with an optimiser to maintain the plant in a profitable way, also offering improved operability.

WINNERS: Apex Optimisation principal consultant, Andrew Taylor (left) and Santos process control engineer, Daniel Duffy, after accepting the award.

HIGHLY COMMENDED

Trifield Electrical Engineering

Coal Fuel Handling Project
Munster, Western Australia

TRIFIELD Electrical Engineering delivered a coal transport and grinding system with burner management to heat coal to a desired temperature for a major cement and lime manufacturer in Western Australia. After the manufacturer's gas supplier revised gas consumption sales, they would lose part of their intake into the plant. There are two lime kilns and three cement kilns operating 24 hours a day. Lime kiln No 6 had no capacity in heating with coal and gas mixture, so they required an alternative source of fuel to heat the existing kiln.

Lime is essential to many industries throughout Western Australia which

include the house building industries and the state's clean drinking water. Trifield was awarded the job, as the customer had confidence in Trifield to deliver.

"This prestigious award is a testament to my team's commitment to excellence and it is an honour to be recognised by our industry in this way," said Trifield director, Ross Rifici.

"Winning this award defines the integrity and reliability my management and field workforce has in delivering a quality project."

The judges said: "Proactive project management has delivered safe project execution of complex scope."

HIGHLY COMMENDED

Parasyn Controls Pty Ltd

Origin Energy CSG Talinga
Coal Seam Gas Control & Management
Port Bonython, SA

ORIGIN Energy's Talinga Coal Seam Gas (CSG) Field is one of the most recent gas field developments undertaken by Origin Energy CSG; the Talinga Gas gathering system is monitored and controlled by a fully-integrated and tailor-made SCADA solution. A process information solution is also integrated into the 1000+ site SCADA design which also allows for the support of various plant systems such as gas compression and water treatment. Pipelines are also part of the same SCADA system.

Through a collaborative approach between Parasyn and Origin Energy CSG, the system design for the Talinga

SCADA system was formed. The remoteness of the gas field provided communications challenges, which were overcome with detailed planning and leveraging of Digital IP Radio Technology. Key results of the design include a SCADA system with area-wide control and telemetry-based monitoring capable of supporting a large number of production wells distributed over an area of 500-700km².

The Talinga development now features one of the most advanced wellhead monitoring and control SCADA systems available. All investor parties were able to provide their input