



# PROTECTING INFRASTRUCTURE INVESTMENT IN NSW

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## PARASYN streamlines New South Wales Gas Pipeline SCADA System.

In late July PARASYN completed an overhaul of the SCADA system used to monitor the Cathodic Protection of the 1200km long Moomba to Wilton Gas Transmission Pipeline. The pipeline, maintained and operated by Agility Management Pty Ltd a subsidiary of the Australian Gas Light Company, carries natural gas from Moomba in the resource rich Cooper Basin of central Australia all the way to Wilton just south of Sydney from where it's distributed to gas customers throughout New South Wales.

The pipeline was built in 1976 to carry natural gas in its liquid form and as for much of its length the pipe remains buried to maintain the integrity of its metallic structure it's protected by a 'Cathodic' anti-corrosion system. This is a common method of prolonging the life of pipeline infrastructure by connecting anodes made of expendable metal to the fabric of the pipeline. A small electrical current is then passed between the pipeline and the anode, effectively making the pipeline the cathode in an electric cell. As a result the metallic elements of the pipeline are kept free from corrosion at the expense of the metal anode which deteriorates over time, but which can be easily replaced at relatively little cost.

Cathodic Protection needs careful monitoring and Agility employ a major SCADA system along the length of the Moomba to Wilton pipeline, capturing vital information about current, voltage and pipe temperature. Establishing the SCADA system required a major investment but unfortunately the finished system proved unwieldy to operate and failed to provide all the information needed to effectively manage the pipelines Cathodic Protection. PARASYN, who have worked on other major projects with Agility including the SCADA System used to monitor production from the Camden Coal Seam Gas (CSG) field in New South Wales, were called in to conduct an audit of the Moomba to Wilton pipeline's SCADA system prior to the implementation of a new control centre being established in Young. The audit identified a number of improvements that could be made to streamline the system and release its full potential while preserving the existing investment in hardware, communications equipment and IT infrastructure. PARASYN were retained to undertake the necessary remedial work.

Firstly improvements were made to the existing process data to allow for time stamped data logging while the PARASYN developed Kingfisher Remote Terminal Unit (RTU) driver extension for Citect SCADA was deployed to recover this data from the RTU network. These modifications facilitate backfilling of vital information that under the old system would have been lost and provides Agility with previously unavailable operational trend analysis. To enable more efficient communication between the existing Leeds and Northrope 2026 SCADA host and the field systems, it was necessary to utilise DNP3 communications using the Kingfisher Series II protocol, something that had not been achieved before with that particular host. PARASYN engineers developed a modified DNP3 interface that not only provides fast and effective communication between the disparate systems, but one that is also scalable, allowing the system to grow without the requirement for major modifications to the existing configuration. Additionally to improve usability the operator interface of the Citect SCADA system was re-engineered to provide a 'process focus' to the screen navigation, making it easier to move around the system and view, investigate and rectify alarm situations.

The system upgrades provided by PARASYN are now being fully deployed at existing sites along the length of the Moomba to Wilton pipeline and along its subsidiary gas distribution pipe network. They offer a marked improvement in the capabilities of the operations existing SCADA system, while maintaining its core functionality and preserving Agility's capital investment. Most importantly, Agility is now able to extract maximum value from their assets and prolong the life of the costly pipeline infrastructure.