Jemena Northern Gas Pipeline Project

CLIENT

Jemena

LOCATIONS

Melbourne, Australia

Tennant Creek in Northern Territory, Australia

Mount Isa in Queensland, Australia

CORE CAPABILITIES

- Detailed design of automation and electrical engineering
- Fire and gas detection
- Panel fabrication
- Factory acceptance testing
- Site acceptance testing
- Commissioning
- Remote telemetry units and systems with DNP3 communications
- System compliant with functional safety standards IEC61508 / IEC61511 – Safety Integrity Level SIL3 safety functions

TECHNOLOGIES

- Honeywell R2020 flow computers
- Rockwell ControlLogix Programmable Logic Controllers (PLCs)
- Schneider Triconex Trident Safety PLCs
- Honeywell Experion

PROJECT SUMMARY

Jemena's Northern Gas Pipeline Project stretches 622km from Tennant Creek to Mount Isa, delivering critical energy from the NT gas fields to Queensland customers.

Synertec designed, supplied, and commissioned the process control and safety system for the $800 million pipeline project.

THE CHALLENGE

Jemena required a control system incorporating remote onsite commissioning for its gas processing plant, compressor stations, and remote pipeline monitoring stations.

The system also needed to comply to international functional safety standards.

SYNERTEC'S SOLUTION

Synertec provided the detailed design and supply of a large-scale PLC automated control system and flow computers, including electrical design and panel fabrication to meet the required functional safety standards. The design included Hazard And Operability Study (HAZOP) and Control Hazard And Operability Study (CHAZOP) assessments.

The system included integration of numerous plant packages and incorporation into Jemena's Supervisory Control And Data Acquisition (SCADA) system to enable remote operations from Melbourne.

Synertec conducted factory acceptance testing on the control system and electrical panels in Melbourne prior to installation and commissioning. Site acceptance testing was also conducted on site at each end of the pipeline in Mount Isa and Tennant Creek, and at monitoring sites in between.

Synertec successfully navigated the key challenges associated with delivering the project at remote sites in the Northern Territory and Queensland, and managing the safety aspects associated with remote sites and travel.