

## CASE STUDY

### Compressor Station Upgrade

<b>OUR CLIENT:</b>	<b>Vector Gas Transmission - Mahoenui</b>
<b>INDUSTRY:</b>	Oil and Gas
<b>VALUE:</b>	NZ\$1.5M
<b>OVERVIEW:</b>	<p>The compressor station at Mahoenui had three compressors with pneumatic controls, the safety shutdown systems were relay logic panels and the only indication was via local lamps.</p> <p>The aim of the project was to upgrade the control systems to a Sparten control system utilizing Allen Bradley PLCs.</p> <p>The safety shutdown systems would be upgrade to Allen Bradley SIL 3 rated PLCs and the indication would be upgrade to a Wonderware Intouch HMI system, located in the control room.</p> <p>The upgrades would allow the new site systems to be integrated into the existing site pipeline SCADA system so that trending of critical parameters can be trended .</p>
<b>ENGINEERING:</b>	<p>ECL TÜV certified functional safety engineers were involved in the development of the logic for the controls systems and the graphics for the HMI, plus the project documentation for testing and commissioning of the systems.</p> <p>An Allen Bradley GuardLogix controller was utilized for the safety shutdown system, this has a primary controller and a safety partner controller.</p> <p>This gives a 1 out of 2 (1oo2) architecture resulting in a SIL3 compliant controller. GuardLogix Safety I/O blocks were used for the field inputs and outputs.</p> <p>Once commissioning was complete the system was locked with a safety signature, preventing unauthorized changes to the system. The SIL rating for the site will be reprovved by periodic testing, this is due every 5 years.</p>

#### OUTCOME:

- The site was upgraded to current safety standards, enabling maintenance engineers to trend critical parameters.
- The reliability and up time of the station has been improved, this station will be used as a template for similar stations on the gas network.

