

Michelago and East Gippsland Compressor Stations



Phases Detailed Engineering and Design, Construction and Commissioning Support

Client Enerflex/Jemena

Location Victoria and New South Wales

Date/Year 2014-2015

Background The Eastern Gas Pipeline (EGP) is a 796km long pipeline running from the Longford Compressor Station in Victoria to Horsley Park on the outskirts of Sydney, transporting natural gas at an MAOP of 14,895MPa. The pipeline receives gas from the Esso plant at Longford and the Patricia Balleen gas fields in East Gippsland, with offtakes at various points on the pipeline for customers.

Historically gas to New South Wales has been sourced from the Cooper Basin, but with increasing demand for gas in Queensland, flows to NSW are declining. So to ensure a secure gas supply to NSW, Jemena proposed to expand the capacity of the EGP from 106PJpa to 130PJpa

In order to meet the new demand on the EGP Jemena proposed to install new compression facilities consisting of a single Solar Taurus 60 turbine driven centrifugal compressor set at new facilities at Michelago (approx. 60kms south of Canberra) and East Gippsland (375km east of Melbourne). In addition to the compressor package the project will install associated infrastructure including control room, workshop, accommodation, piping systems and onsite power generation.

In 2008-2009, Enerflex carried out EPC works for the construction of new compressor stations for Jemena at Mila, Banana and Rolleston. On the success of these stations Jemena again engaged Enerflex to provide services for the new stations.

The intention of completing these two installations concurrently was to maximise the design and procurement synergies between the projects and, wherever possible, to reduce cost and effort.

Why Momentum Enerflex contracted Momentum in April 2014 to carry out the detailed design works for the new compressor stations. Momentum worked successfully for Enerflex providing engineering and design services in 2011/12 on the Mondarra Gas Storage Facility Project, and a similar delivery model was applied to this project.

In addition to a successful working relationship, Momentum has significant experience delivering compressor station projects for pipeline operators across Australia, and we were able to bring this experience to support the fast track nature of this project.

Utilising Mila Compressor Station as a design basis, Momentum was able to quickly carry out preliminary engineering assessments to identify areas where the design for Mila could be applied, and then utilise available equipment information and layouts from Mila to produce 30% design models for the new stations for Client input within 2 months of project kick off.

The Momentum process, mechanical, piping, civil and structural teams worked seamlessly with the Enerflex instrument and electrical engineering and design team to produce a fully integrated design for the stations.

We worked closely with the Enerflex construction team to ensure that the design aligned with construction methodology and captured constructability improvements identified in previous projects.

Results Project 30% 3D model review for both stations held only 2 months after project commencement
Project HAZOP completed 3 months after project commencement

Collaboration between the design teams, working in the same design models, ensured that potential clashes or design issues were mitigated well before development of construction drawings. This resulted in very few technical queries during the construction and commissioning phases.

Working together with our Client, the team delivered the design construction packages in alignment with the Enerflex workshop and construction teams priorities, optimising the utilisation of the blue collar resources for the project

The construction work for the two stations was successfully completed in late 2015.