



ENERGY AUSTRALIA IONA GAS STORAGE FACILITY ENGINE CRANKSHAFT FAILURE

Background

The Iona Gas Plant supplies gas directly into the Victorian gas market in the South West Pipeline and the South Australian market via the South East Australia Gas (SEA Gas) pipeline. Storage reservoirs are used to store gas on behalf of customers during periods of low gas demand to be withdrawn from storage during periods of high demand, and to support gas fired peak power generation. In August 2009 one of the compressors responsible for delivery of this gas suffered a major failure of the engine/driver, a Waukesha 8LAT27GL engine. The failure was a torsional break of the engines crankshaft caused by deterioration of the engines crankshaft vibration damper. Subsequent inspection of the dampers fitted to the remaining engines revealed they were in a similar condition and a repeat failure to one of these engines was a distinct possibility.

Challenges

The Iona gas plant is critical to the supply of gas into Melbourne and Adelaide. Returning the gas compression units to reliable operation prior to the onset of a high demand period was of paramount importance. The geographical location presented the first challenge in relation to access to available resources. In the case of the failed engine it was necessary to remove it from its tight confines within the gas plant, ship it to our rebuild facility for replacement of the crankshaft, return of the repaired engine, installation and re-commissioning of the engine.

Client

Energy Australia
(Formerly TruEnergy)

Location

Port Campbell, Victoria

Scope of Work

- > Removal, overhaul (including crankshaft replacement), installation and commissioning of an 8LAT27GL engine;
- > Onsite removal of crankshaft dampers and modifications and reassembly of 1 x 12VAT27GL and 38LAT27GL engines.

Commissioning & Start-up

Valmec were responsible for the start-up and commissioning of the newly overhauled 8LAT27GL

Delivery Time

10 weeks

Completion Date

December 2009



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Challenges (continued)

With our established relationship with the OEM, GE Waukesha, and access to extensive inventories through the Exterran network we were able to source a new crankshaft and all other parts required to complete repairs and return the engine to service 2 months after removal from site. It was also necessary to coordinate additional repairs to the remaining units which involved a modification to the crankshaft that could only be performed by a GE Waukesha factory technician. These repairs needed to be carried out during a plant shutdown scheduled to occur less than a month after the initial failure. Valmec were required to source all spare parts, additional labour resources and mobilise a GE Waukesha technician from the US. This work was completed on time and without incident prompting a commendation from the customers Maintenance Supervisor and Asset Manager.

Advantage

Valmec were able to provide all the resources and manage the logistics necessary to carry out both the onsite works and workshop overhaul concurrently. All required works were able to be completed within the fast-tracked Client schedule, within budget and without incident.

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