



LPG EXPANSION PROJECT

CASE STUDY

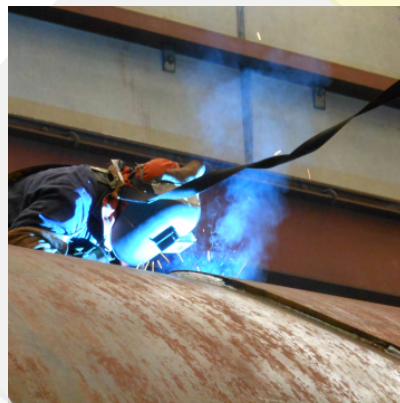
CATEGORY
PRODUCTS / PRESSURE VESSELS

Industry : Oil & Gas
Reference : LA2909
Client: Origin
Year : 2012

The Requirement : Origin's expansion of the Otway LPG facility required two large LPG underground bullets to be designed, manufactured and delivered within an 11 month window

The project was schedule driven based on the need to install the vessel over the Victorian summer to avoid autumn rains. To mitigate risk Origin elected to have the project designed and manufactured in Australia despite the size of the vessels. During the bidding process LA Services was able to illustrate its project management and engineering capability to met the delivery

Scope included Design, Draft, Verify and Register



PROJECT DETAILS

Engineering

- Design Pressure : -50 / 1730 kPag
- Design Temperature : -46 to 70°C
- Dimensions : 4.0m ID x 32 long overall
- Mass : 96,000 kg
- Standard : AS1210 Class 1H
- PWHT 650°C per 25mm & normalised ends

Materials

- Shell : AS 1548-5-490TL50Z35
- Heads : AS 1548-5-490NRAL50Z35
- Flanges & nozzles : ASTM A350-LF2 / A333-6

Manufacturing

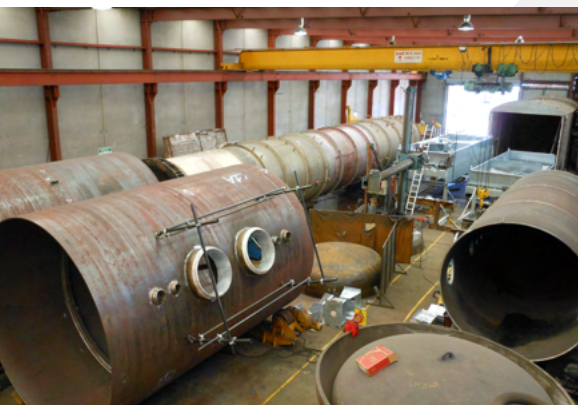
- NDE 100% visual, RT, UT & MT &
- Hydro pressure 2770 kPa

Surface Treatment

- Interzone 485 high build 800um
- Internal class 3 blast

Delivery / Transport

CIF, Southern Victoria



Planning

Due to the tight schedule project planning was a primary focus, which prioritised design aspects so long lead materials could be ordered early. Vessel handling and transport were also major planning activities taking 8 months to design loading / unloading solution and obtaining NSW / Vic permits.

Challenges

Beyond the logistics challenge sourcing a suitable combination of Australian grade boilerplate for the shell and dished ends proved to be an engineering challenge. Due to the size of the ends they required a weld seam before foming, but the low temperature toughness required a normalised procedure. A weld procedure was developed and qualified before proceeding. The impacts required standard PWHT on the strake section where the main nozzles were fitted, this complicated the build sequence as it was also a sloping vessel.

Notes

To support the client's site install and crane schedule site unloading of the first vessel was engineered to be done without cranes. However the need to design for earthquake risk resulted in the supports being substantial temporary structures

[Find out more at www.la.services](http://www.la.services)

Contact us for further details on our projects

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