



CASE STUDY >

DESIGN, FABRICATION AND SUPPLY OF FOUR PRESSURE VESSELS FOR THE PLUTO TRAIN 2 PROJECT

PROJECT OVERVIEW

Pluto Train 2 is the expansion of a second LNG train at the existing Pluto LNG onshore facility near Karratha in Western Australia run by Woodside. Pluto Train 2 will process Scarborough gas and have an LNG capacity of ~5 million tonnes per annum. As part of the construction of Pluto Train 2, additional domestic gas infrastructure will be installed to increase capacity to ~ 225 Terajoules per day

SCOPE OF WORK

RSG's scope consists of the detailed design, the finite element analysis, general arrangement of detailed drawings, fabrication and supply of four pressure vessels.

These vessels are the

- ◆ PENTANE 2E-2301 Vessel
- ◆ START UP 2E-2202 Vessel
- ◆ DOMGAS OE-6031 A & B Vessel x 2

The Smallest vessel is the pentane heater. The Start-up vessel is larger than the pentane vessel and is used to initially heat up the gas before it moves into the domgas distribution system. The domgas vessel is used to heat up gas prior to distribution to the domestic gas pipeline infrastructure network.

The scope with the fabrication of the vessels includes the

- ◆ Supply of materials per bill of materials and drawings for the pressure and non-pressure parts
- ◆ Fabrication of the vessels
- ◆ Non-destructive testing of the welds
- ◆ Pressure testing of the entire vessel
- ◆ U Stamp
- ◆ Packaging and shipping

SOLUTION

RSGx provided the detailed design of the pressure vessels in accordance with ASME Section VIII Division 2, Class 1.

RSGx provided all calculations and performed the following tests on the vessels

- ◆ Shop pressure test
- ◆ Basic flange and bolt loads testing
- ◆ Flange stress analysis
- ◆ Flange rigidity testing
- ◆ Internal pressure testing
- ◆ External pressure testing
- ◆ Metal temperature testing
- ◆ Hydrostatic testing
- ◆ Stress testing of nozzle, nozzle wall, pad materials and pressurised vessel elements
- ◆ Wind load testing
- ◆ Earthquake load testing
- ◆ Lifting lug testing
- ◆ Axial load testing
- ◆ Transport load testing

ACHIEVEMENTS TO DATE

RSGx have delivered the vessels to our client in line with the drawings and specifications required for the project in budget and on time. The complexity of this project and the nature of providing these vessels from design, right through to fabrication and supply is an outstanding outcome for RSGx, our client and the Pluto Train 2 project.

CLIENT

VULCANIC TEE

SERVICES PROVIDED

DETAILED DESIGN, FABRICATION, SUPPLY

SCOPE

DESIGN AND FABRICATE

INDUSTRY

OIL & GAS

LOCATION

PLUTO TRAIN 2, WESTERN AUSTRALIA

