

GASCO

Australian Values



AS FEATURED IN **RESOURCE IN FOCUS**
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AUSTRALIAN VALUES

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Victoria-based Gasco Pty Ltd has established a reputation as one of Australia's leading thermal, combustion and process engineering companies. Formed in 1991, it is an independent, 100 per cent Australian owned company, its board and management largely comprised of professional engineers acknowledged for their experience and expertise.

Written by John Boley

GASCO offers a range of services in the fields of engineering, consulting and design, fabrication, installation, commissioning, project management, audit and maintenance. Facilities include a 4,000 square metre head office and fabrication and engineering shop in Bayswater, Melbourne, Victoria and the staff comprises more than 100 individuals including professional design engineers. The company can also offer on-site installation and commissioning and complete turn-key systems and solutions.

The purpose designed and built equipment and systems provided by Gasco include gas conditioning systems, thermal oxidisers, fired heaters, thermal oil heaters, flares, water bath heaters, burners, heat recovery systems, heat exchangers and burner management systems.

Gasco continues to grow, and in 2009 a second shift was added in its workshop. The company's success is in contrast to prevailing market conditions. Its wide range of clients spans various industries including oil and gas both onshore and offshore, environmental, mining, mineral, chemical processing, refining and petrochemical, food, automotive,

water and waste treatment, biogas and power generation.

CEO Nick Grzegorzczyn is a member for Buy Australian at Home and Abroad (which is headed by Peter Beattie and reports to federal Ministers Martin Ferguson and Greg Combet). He explains that, "In 2012, we began expanding our service department across Australia with the opening of our Queensland office. Gasco's success is due to our commitment to total customer satisfaction and a reputation as a reliable company both in the Australian and international markets."

"The company can offer on-site installation and commissioning and complete turn-key systems and solutions."

Gasco operates in a tough local and global market, says Nick. "There are a number of factors that impact on our operations. The strong Australian dollar is a big factor which affects adversely on relative competitiveness both in the international export market and for domestic sales due to cheaper imports. This is particularly so for the large resource projects in mining and oil and ▶▶



Gasco supplied, installed and commissioned Fired Heaters – Gas Plant

► gas in Australia which procure globally and price is the predominant driving factor, Australian industry participation and local content stipulations notwithstanding. Despite our concerted effort, Gasco did not have much success in obtaining large orders for the major LNG projects in Queensland, although we had success with Woodside Pluto LNG plant in Western Australia successfully supplying and commissioning the

250 Ton Regenerative Thermal Oxidiser which was the first of its kind in the world for a LNG Plant.”

However, in recent months, Gasco has been focusing on the small to medium sized packages for the oil and gas and process industry in Australia, including some strategic partnerships which have resulted in success. Additionally, says Nick, “We have secured a couple of good orders in this sector from Thai-

land, Oman and New Zealand and also have been awarded local projects for BHP via Worley Parson and Rio Tinto via OSD Pipelines. We are also targeting Indonesia which is one of the biggest overseas markets in our neighbourhood. We have recently appointed an agent and have bid on some live and imminent projects and hope to have some success in the near future. To continue this focus Gasco acquired the

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industrial heating division of Grimwood Heating in December.”

Nick stresses the importance of looking beyond just the bottom line to take account of the quality, longevity and reliability of any equipment and suggests that in many cases buying could be done by people with more engineering expertise rather than cost driven buyers often making decisions from low cost centres. Gasco itself prefers to support Australian industry because of its outstanding supply chain quality –

even if it does in some cases cost a little more. “We are members of the Australia Made Logo and ICN, the key bodies that support Australian Industry participation,” explains Nick.

“Gasco’s success is due to our commitment to total customer satisfaction and a reputation as a reliable quality driven company.”

“The strong Australian dollar and the highly globally competitive nature of our business are key challenges. We have been having ongoing strategic reviews of our processes to improve efficiency in all areas right from bidding through to project execution. We rely on our execution track record and have been able to secure repeat business from customers due to our reliability. While Gasco’s priority is to maximise Australian content in our contracts for global projects, we use an optimal mix ▶▶



RECENT PROJECTS

Project location: Central Asia

Scope: Supply and Commissioned

Equipment: 3 API 560 Hot Oil Heaters - 18.78MW each

The hot oil heaters are vertically aligned cylindrical heaters specifically designed for the heating of thermal oil. The thermal oil is circulated through the process heat transfer coils within the heater. The heat transfer to the thermal oil within the coils is firstly via the horizontal convection section passes and then the vertical serpentine radiant section passes. The energy within the heater is supplied by four forced draft burners firing vertically up; with associated valve trains and combustion air system.

The design concept for the units is that of a fired heater to the requirements of API560.

Each unit consists of the following main sections:

- Heater shell complete with radiant section, convection section and exhaust stack.
- Process heat transfer elements (Radiant and convection coils).
- Forced Draft Combustion System with four gas burners, valve trains and duty/standby combustion air fans.
- Unit Control panel housing the burner management system and HMI.
- Local Operator panel.

Hot Oil: Dowtherm Q

Hot Oil Flow: 322,000 Kg/hr

Hot Oil Inlet/Outlet Temperature: 161°C / 255°C

Heater Efficiency: Minimum 85%

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Equipment: Convection Heater

Project Location: Thailand

The induced draft recirculation type convection heater – output 7.6MW – is a large horizontal type unit weighing approximately 60 tonnes, to be located on an oil platform in the gulf of Thailand.

Also included was on site commissioning and supply of spare parts. Detail design was completed in its entirety at Gasco's Melbourne office including process and mechanical design, structural, electrical and instrumentation and PLC controls. The large size of the heater dictated that fabrication had to be undertaken at several locations: fuel gas supply skid and control cabinet were fabricated at Gasco's workshop; recirculation and combustion air fans were ordered from an Australian supplier but fabricated in Singapore to avoid delivery by sea; and the main heater shell, coil, elevated platform and combustion air skid were fabricated in Thailand by a subcontractor under Gasco supervision. The client required a short delivery period to coincide with a shutdown on the oil platform and as a consequence the fuel gas control skid had to be airlifted to Thailand.

▶ of high value added work in Australia and more competitive heavy fabrication work in Southeast Asia. This also helps with meeting local content requirements in the respective countries. Gasco has also diversified its product range in related areas of Energy Efficiency, Biomass and Heat Recovery products and small power plants."

Recently Gasco undertook a strategic review of its products and markets. "We settled on a 'growth matrix' defining our existing products and new products planned, existing markets and new ones proposed." When the Carbon Pollution Reduction Scheme (CPRS) was



initially floated by the Labour government in 2007, Gasco foresaw the opportunities in Australia and started gearing up for targeted products such as biomass boilers and heaters, heat recovery steam generators (HRSG) and associated products.

"We explored the technology options and finally signed a licence agreement with world renowned Eck Rohr Kessel (ERK) of Germany for which we are the sole licensee in Australia. We have since supplied and commissioned our first HRSG for a gas turbine cogeneration plant in New South Wales." Additionally, Gasco is partnering with Pratt & Whitney to design and supply total power plants



Gasco was presented with the industry Achievement Award 2008 from ICN.

Left: John Peruzzo, Chairman/ Director, Middle: Nick Grzegorzczyn, CEO, Right: Ed Strauks, Engineering Director

of small and medium size using the latest Organic Rankine Cycle (ORC) technology which has some unique features, particularly for power generation from waste heat in remote sites where steam systems are not preferred due to water availability and need for boiler certified operators. So clearly, "the focus for the Australian market is to increase our market share for our core products and also diversify into related products and systems that are likely to grow due

to carbon pricing and the general focus on energy efficiency."

"Gasco prefers to support Australian industry because of its outstanding supply chain quality."

Gasco recently completed three waste heat recovery units for BHP Billiton in

Western Australia. Each unit is used for heating heat transfer oil (HTO) using turbine exhaust gas which would otherwise be exhausted into the atmosphere as waste heat. For another major customer the required outlet temperature of the chosen HTO happened to be quite close to its maximum film temperature limit, requiring a detailed analysis of its condition at 350mm intervals through the finned tube bundle flow path. Gasco process ▶▶



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Gasco supplied and commissioned Fired Heaters – Gas Plant, Central Asia



Woodside RTD for LNG, Acid Gas project loaded on ship at BAE Systems, Williamstown, Melbourne



Hot Oil Heater – Santos, Orboist, Victoria



Todd Energy New Zealand - Water Bath Heater just completed at our purpose built facility, Melbourne

► engineers provide this level of analysis using in-house software as well as Aspen to corroborate the design.

The company has supplied many API 12K type indirect heaters ('water bath heaters') for city gate stations, power stations, in the oilfield, and in both natural draft and forced draft. "We specialise particularly in handling multi-phase fluids such as hydrocarbon liquid plus vapour, or hydrocarbon liquid with an aqueous phase plus vapour. We can supply heaters in many different sizes ranging from 50kW and lower up to 10MW."

"Gasco is actively building on its thermal engineering expertise and pursuing emerging low-carbon and renewable energy markets."

On the export front, Gasco is ramping up its activities in South East Asia with a big focus on Indonesia. "We have agents in Thailand, Indonesia and Malaysia. We also do work in New Zealand and plan to ramp up our activities there. We are in the final stages of commissioning an upgrade of fired heaters for a state owned oil company in Abu Dhabi where we took on the total EPC responsibility. We expect to grow our activities there on the back of



Gasco's purpose built facility in Bayswater, Melbourne.

this successful implementation."

Gasco is actively building on its thermal engineering expertise and pursuing emerging low-carbon and renewable energy markets. The confluence of factors increasing how much companies are now spending on energy, both gas and electricity, and increasingly there are opportunities for industrial companies to reduce costs by looking more closely at their own wasted resources. Some of the areas that Gasco is focusing on include: waste heat recovery from gas turbines, engines, boilers, thermal oxidisers, and industrial flues; biomass power plants at sawmills and agricultural processors; power genera-

tion from waste heat using Organic Rankine Cycle turbines; heat recovery steam generators and thermal oil systems; and gas-fired cogeneration.

In conjunction with this, Gasco has taken on licences with key technology partners; Eck Rohr Kessel for biomass boilers and heat recovery equipment, Callidus for flares and Econotherm for high efficiency heat exchangers. These products increase Gasco's ability to help companies reduce their energy costs and carbon footprint. "We specialise in gas and heat recovery which is substantially more environmentally friendly than diesel or coal ■



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