

## CATERPILLAR G3616 DESTINED FOR CONDAMINE

**This project exemplifies the strength of the Caterpillar® network. A Caterpillar G3616 generator is being supplied by EPSA to the Condamine Power Station, located 330 kilometres from Brisbane, with project completion expected for the end of 2009.**

Due to the specialised nature of the G3600 product, a Caterpillar factory engineer will be mobilised to the site to carry out a construction audit and commissioning of the generator package. This is to ensure that EPSA's ancillary systems design is correct and that the generator produces the 3640ekW specified by Caterpillar for the site conditions. The G3616 is the largest Cat® packaged generator manufactured in the USA and has a shipping weight in excess of 60,000kg. "Once commissioned, Hastings Deering will be well placed to provide servicing support for this engine from their Toowoomba branch, this being the dealership's primary support centre for large Caterpillar gas engines and the closest branch to the Condamine Power Station."

"The order for the new Caterpillar G3616 generator and ancillaries was awarded to EPSA in September 2007. EPSA's client Austrian Energy and Environment had secured a turn-key project to build a gas turbine combined cycle power station for Queensland Gas Company (QGC)," explained Bob King, Senior Product Manager at EPSA.

The Condamine Power Station is being developed to supply electricity into the National Electricity Market. The power station is using QGC's coal seam gas and water recovered as part of the gas production process.

At Condamine, the Caterpillar G3616 will operate as a 'Black-Start' generator. "If a fault results in the network going 'black' (meaning it shuts down), it is likely that this may lead to the site's turbines stopping. The black start generator starts automatically and provides auxiliary power to the station and allows the turbines to be restarted or barred," explained Bob. "Barring is essential to alleviate shaft distortion, or a resulting longer delay in restarting and loss of revenue from not being able to generate power," Bob added.

EPSA's Brisbane internal EPG project group supports the sales process by estimating and tendering projects such as this. Once the contract is won, the Project Manager takes responsibility for delivery, financial control and scheduling. "In this project it has included the in-house mechanical/electrical design and procurement associated with a portal framed acoustic enclosure. Also the air start compressor, gas pressure reduction skid, horizontal cooling system radiators, all gas, water and air systems pipe work, motor control centre and control panel including protection and synchronising equipment and cabling," Bob explained.

Hastings Deering is currently supporting QGC's site staff in putting together a maintenance program, with parts to be provided from the Toowoomba branch.

Seeing such a complex job come together is very satisfying, and it's great to have the Caterpillar family pulling together to make things happen.



The Caterpillar G3616 Gen Set, one of only four in Australia, is unloaded on site.

## INDUSTREA ORDERS 27 C9 ENGINES WITH MORE TO COME

**When Industrea was considering purchasing a large number of Caterpillar® C9 engines from EPSA for its mining vehicles, the suggestion that these could be dyno tested at WesTrac prior to delivery helped to seal the deal.**

Industrea manufacture these mining vehicles, predominantly for export to Asia for underground coal mining. "EPSA has modified the engines to be compliant to Mines Department requirements for underground gaseous mining application, and these changes can have an effect on performance. So Industrea jumped at the opportunity to have these engines put through their paces at WesTrac's dyno facility," explained Mark Balduccino, Industrial Sales Rep at EPSA.

The dyno facility is a purpose-built room that enables engines to be run and tested thoroughly prior to installation to check they are operating as intended. It is a significant value-add, especially if engines are to be exported and the application involves special

conditions. This way if there are any issues when the engine is eventually installed, the customer knows that the problem is not with the engine itself.

Years before, Mark had employed extensive dyno testing for a C7 project. "The last time we had a similar project, we flew the engine to Melbourne and ran it at William Adams. So for an order of this size, earmarked for shipping overseas, it made sense to suggest dyno testing to Industrea and they were very pleased that we did," Mark elaborated.

"WesTrac has been fantastic," Mark said. "WesTrac had long operated a dyno facility but it was dismantled when the Cat® Dealer relocated. Given the volume of engines involved in the Industrea order, WesTrac wasted no time in reassembling the facility," Mark added.

A dyno test takes approximately four to five hours including set up and dismantle time. "The engine is run under different conditions," Mark explained. "An engineer sits in the control room and remotely throttles the engine, monitoring eight to 15 parameters and recording the readings. It's a comprehensive testing that provides the customer with a full report ensuring that power output, as well as the additional sensors, are all within specification and performing just as they were engineered to do."

According to Mark, Industrea is very happy with this arrangement. In fact, he expects there will be another order from Industrea "for probably about 10 more C9s" in the not too distant future.



A C9 engine being put through its paces at the WesTrac dyno facility.

## CAT RENTAL POWER SUPPORTS UTILITIES

**The new Business Development Manager of Utilities at EPSA's Cat® Rental Power, Darren Jackson, is a man on a mission. With 15 years experience in the equipment rental business, for refrigeration and generators, Darren has hit the ground running. Since joining Cat Rental Power in March, he has been investigating the potentially lucrative utilities sector and is encouraged by what he has learned.**

"Many utilities contracts are coming up for renewal, so this is an opportune time for Cat Rental Power to make in-roads into this sector," Darren said. "We also know from intelligence that the sector is looking for reliable suppliers with deep technical expertise," Darren explained. "The power grid is complex and highly technical. If you don't understand it, then it's very difficult to deliver what these companies want."

Darren sees Cat Rental Power providing generators in the event of power outages and planned maintenance. In addition to supplying energy providers, new business could well come from shut-down industries. That is, big industries that close down a plant for maintenance and rely on rental equipment during these periods.

While the Caterpillar® brand is recognised and respected, Darren concedes that Cat Rental Power is not as well known in the utilities sector and this is something he intends to change. As Darren surmised: "With our Australia-wide coverage, extensive generator fleet, technical expertise and unrivalled customer support, I believe that Cat Rental Power can and will become a crucial supplier to the Australian utilities sector."

## EPSA RECEIVES DLMS RECOGNITION

**EPSA has been recognised with an award for having the highest percentage of staff enrolling and participating in the Dealer Learning Management System (DLMS).**

DLMS is a global training and learning administration system. It serves as the one safe source for Caterpillar Dealer training and e-learning ensuring a consistent delivery of knowledge so that everyone is on the same page.

Currently the DLMS has six campuses. They cover Sales; Service Learning and Performance; Rental; Global On Highway Performance; Product Support Sales; and Power Systems. Staff can opt to undertake an individual learning program choosing to study only the modules they deem most relevant to them. Or they can successfully complete all modules to achieve certification. The number of modules for certification varies from 25 to 35 depending on the area being studied.

Plaques are awarded quarterly to the two dealers who have achieved the highest enrolments and the highest certification.

EPSA's award pertained to the number of staff who took part in the Power Systems campus. 42 staff comprising sales reps, project managers, as well as engineering and rental personnel participated in the online training over a period of six to eight months. Of these, 40 EPSA staff members from Victoria, New South Wales, Queensland, Western Australia and South Australia had successfully gained certification by the end of Quarter 1.

Angie Francis, the DLMS administrator at EPSA, reports that enrolments have continued. It is a wonderful result and congratulations to all newly-certified EPSA personnel.



Alex Graf from Caterpillar, seen here presenting the plaque to EPSA's MD Phil Canning and DLMS administrator, Angie Francis.

## HASTINGS DEERING'S ENGINE PRODUCT SUPPORT

**The Caterpillar® brand is renowned worldwide for its proven performance and reliability. It's a reputation that is further enhanced by the after sales product support, delivered through the extensive Cat® Dealer network.**

According to Steve Bliss, Commercial Engine Account Manager at Hastings Deering, "We are heavily customer-focused, and by engaging with the major commercial engine users, we provide all of the parts and service options available from the dealership. The efficient delivery of these services ensures high levels of customer satisfaction with the Caterpillar engine product."

Hastings Deering is the Cat Dealer assigned to Queensland, the Northern Territory, Pacific (PNG) and the Solomon Islands. As Steve explained, "We support any Caterpillar engine, diesel and gas fuelled, in every application from industrial drives, power generation through to marine and on-highway truck engines". However it is the area of spark-ignited gas engines where Steve is seeing the greatest potential.

"Population growth here in Queensland is seeing increased demand for domestic gas," Steve elaborated. "At the same time, Government policy is dictating that we, as a society, reduce our reliance on coal-fired power stations. It is unlikely that any new coal-fired power stations will be built," Steve added.

As a result, Coal Seam Gas (CSG) is adding capacity to counter decline in gas production from older fields, presenting a plethora of business opportunities for Caterpillar engines and Hastings Deering.

"Gas industrial engines driving gas compressors and generators are required to supplement the gas grid for domestic use, for power generation and for proposed Liquefied Natural Gas (LNG)," Steve said. In fact, the export of LNG projected to commence in 2014 will ensure that Hastings Deering is kept very busy indeed.

Queensland's Courier Mail reported on 22 June 2009 that more than \$6 billion will be added to Queensland's economy each year through the development of the Santos-Petronas liquid gas project at Gladstone, as well as 4300 jobs.

Steve agreed, "If the proposals all go ahead at Gladstone, I believe this will be the largest coal seam gas conversion to LNG in the world." The implication, of course, is that this presents us with a major opportunity to provide customers with parts and service for the Gas Compression Engines, with the added challenge of delivering the services in remote regions.

For engines, Hastings Deering can be involved in the commissioning or start-up, routine maintenance, as well as the supply of parts and fluid consumables (coolants and engine oil). Hastings Deering can also negotiate contracts to handle the more complex trouble shooting and repairs, if the project has its own maintenance staff on site.

While Hastings Deering works closely with EPSA, Steve concedes that the larger Caterpillar gas engines tend to be purchased overseas, built into a Gas Compression Package then shipped to Australia, making local after sales support even more important. In fact, the nationwide support offered by the Cat Dealer network is seen as a critical consideration for customers importing Caterpillar engines.



A typical Gas Compression Engine is the Caterpillar G3612. This 12 cylinder engine delivers 2647 kilowatts (equivalent to 3548 horsepower).

## STATE OF THE ART ENGINE REBUILD CENTRE

**This year, Hastings Deering celebrates four decades of service in Rockhampton and to see proof of its commitment to Caterpillar® customers, you need look no further than its world-class engine rebuild centre.**

According to Jeff Powell, Engine CRC Supervisor, "The workshop in Rockhampton has 118 staff including tradesmen, trades assistants and apprentices. The supervising staff, alone, offer over 200 years of experience." There are two shifts daily from 7.00am till 3.30pm and from 3.30pm till midnight, enabling around 450 engine rebuilds per year. That's more than eight Caterpillar engines being fully reconditioned in any given week.



The centre's first Caterpillar G3608 Gas Engine rebuild was recently undertaken for Santos.

In the workshop, the team works with the range of Caterpillar engines. "You name it, we do it," emphasised Jeff. "We rebuild Caterpillar 3500, 3400 and 3300 engines, as well as Caterpillar's C series. The engines we rebuild are used in vastly different sectors, from mining applications through to marine and rail, to name just a few."

This world-class facility recently rebuilt its first G3608 Gas Engine for Santos. "The workshop is now in the process of doing a G3516 for this oil and gas exploration and production company," Jeff elaborated.



A Parts Exchange Caterpillar 3516 engine from a 793 truck.



More rebuilds. This time two Caterpillar 3516 Marine Engines from the Pacific Patrol Boat 'Voea Neiafu'.

Jeff credits the quality of this facility's engine rebuilds with exacting attention to detail, including compliance with 5 star Caterpillar contamination control. Each engine rebuild undergoes 22 operations that correspond with quality control standards. "Processes are in place everywhere that must be signed off before progressing to the next stage," Jeff explained. "Our customers benefit from the processes we have and the people who work here who care about what they do. We are very proud of our facility, proud of what we do and proud of the people we work for and this is evident in all our engine rebuilds," said Jeff.

The centre also boasts two dyno facilities, at 7000 and 2500 horsepower, to fully test all engines before the customer takes delivery.

The engine rebuild centre is always busy and its workload has only increased with the economic downturn. "I believe that many people are rebuilding components rather than replacing them and, of course, everyone here is very happy to assist our customers in this way."



A Parts Exchange Caterpillar 3508 Engine from a D11.

## ABB AUSTRALIA SPECIFY OLYMPIAN FOR RIO TINTO

**When ABB Australia undertook projects for Rio Tinto to help increase capacity at its iron-ore mines, they needed temporary power before work could commence. Based on past experiences, ABB Australia chose Olympian Generator Sets, supplied by EPSA, then installed and commissioned by WesTrac.**

The project work awarded to ABB Australia included the turn-key construction of a 220 kilovolt switching station at the Seven Mile power station, in the Pilbara region of north-west Western Australia.

According to Saju Pothen, ABB Australia's Project Engineer on the switching station, "Our initial requirement was for a prime power generator to (temporarily) power a range of site amenities that included a number of building huts, water pumps and ancillary equipment such as welding equipment".

"ABB Australia has had extensive experience with Energy Power Systems Australia and their range of Olympian Generator Sets, the most recent being at Rio Tinto's Brockman mine," Saju elaborated. As these Olympian Generator Sets are all providing a good standard of performance and reliability, Saju was very comfortable specifying another one for the Seven Mile power station project.

As he told us, "Fuel efficiency, product support and reliability in harsh operating conditions were essential prerequisites – and in these areas Olympian generator sets have proven themselves time and time again".

After briefing Cameron Sharp at EPSA, Saju received a number of recommendations based on the 50 kVA Olympian GEP50-5, which included packaged and unpackaged options. Eventually ABB Australia decided on the 50 kVA Olympian GEP50-5 that included a weatherproof enclosure complete with a self-contained fuel tank in the base frame. "Cameron's price was right and EPSA could deliver within the required timeframe, which was tight," Saju explained.

EPSA arranged all the engineering and then the subsequent shipment to the Seven Mile power station where the technicians from the local WesTrac branch performed the installation and commissioning. For Saju this was another tremendous strength of dealing with EPSA as "they've got access to support throughout the country through the Australia-wide Cat® Dealer network".

Since commissioning, the feedback has been very positive with no problems encountered. As Saju surmised, "From my point of view it's important when working on projects like this that can be thousands of kilometres away to deal with suppliers who perform.

"And that's exactly what Cameron and the EPSA team did, keeping us up-to-date throughout the project with progress, while meeting every agreed deadline".

Commenting on the Seven Mile power station, EPSA's Olympian National Business Manager, Kim Howlett, said that EPSA's association with the Caterpillar Dealer network was proving to be an influential factor with many customers, as it provided continuity of service and support that other generator suppliers just can't match.



Before work could commence on the new switching station, ABB Australia had to arrange for reliable temporary power, so they turned to Energy Power Systems Australia (EPSA).

## CAT TO POWER CONSTRUCTION OF THE 'PLUTO' LNG PLANT

These massive Caterpillar® Generator Sets are heading for the 'Pluto' LNG Plant. The contract was awarded to Energy Power Systems Australia (EPSA) with WesTrac involved in assembling the radiator and other ancillary components to the Gen Sets. After installation into the acoustic enclosures, WesTrac undertook alignment of the generators and assisted during the comprehensive Factory Acceptance Test (FAT) in accordance with stringent Inspection and Test Plan (ITP) procedures and data records and organised for the preservation of the Gen Sets prior to shipment.

Woodside Petroleum's 'Pluto' LNG Project is set to break all records, taking just five years from gas discovery in 2005 to production in late 2010. To meet such a bold challenge Woodside Petroleum has enlisted the support of Australia's leading mining industry suppliers. According to EPSA's Oil and Gas Business Manager, Rob Siegrist, the Pluto LNG Project is one of the more complex petroleum projects EPSA has undertaken to date.

Two contracts awarded to EPSA were for six Caterpillar Generator Sets. The first three 240kW 3406 Gen Sets were needed to provide prime power for the off-shore riser platform. The latter three 2MW 3516 Gen Sets were to provide black-start emergency back-up for the plant on the Burrup Peninsula, to safely supply power to the LNG Plant turbines in the case of a power outage. "In both cases we are delivering complete Cat® engine/alternator packages which appealed to Woodside from a continuity of servicing perspective," Rob elaborated.

Originally the Caterpillar 3516 Generator Sets were to be installed on the Burrup Peninsula but not running until the plant was operational. This was why WesTrac was given the task of preserving the engines until which time they would be activated. This brief has since changed and now the Caterpillar Gen Sets will be up and running in September 2009 and used to power the construction of the plant.

In this remote region, the Caterpillar 3516B Gen Sets were recommended for their reliability, serviceability and safety. These engines feature individual unit injection enabling low-pressure fuel delivery to the cylinder head through internal galleries, which greatly reduces the risk of accidental fuel leaks and fire. Like the 3406 Gen Sets specified off-shore, these units boast MODBUS communications technology, which is part of Caterpillar's latest EMCP 3.3 Control Panel.

The Gen Sets will be commissioned first to provide power for the construction of the LNG plant. Then commissioned again when the plant is operational and they revert to supplying black-start emergency back-up. EPSA will commission the Generator Sets on the Burrup Peninsula but WesTrac will handle ongoing maintenance from its branch in Port Hedland.



It took a 150 tonne crane to lift each of these 50 tonne Generator Sets, then swing them into place on the low loaders for transport to the Burrup Peninsula in Western Australia.

# ENGINE ROOM

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