

MISSION STATEMENT:

We offer our customers integrated solutions using innovative products, combined with unrivalled service and reliability worldwide.

ENERGEX Awards NOJA Power a Recloser Supply Contract as Part of Network Upgrade Program

NOJA Power has won a multimillion dollar contract to supply one of Australia's leading power distributors equipment to improve network reliability. The highly competitive international tender was awarded to NOJA Power to supply pole-mounted reclosers to assist ENERGEX enhance network reliability as part of their five year, \$4 billion plus network upgrade program. A top 100 Australian company, ENERGEX is aiming to improve its rural reliability with the installation of the NOJA Power automatic circuit reclosers on the 11KV network to limit the number of customers interrupted during faults.

ENERGEX is one of Australia's largest and fastest-growing corporations with more than 3900 staff working in a range of roles to supply electricity to a population of around 2.8 million people in South East Queensland. In the 2008-09 financial year ENERGEX is investing around \$830 million on upgrades to its electricity network while a further \$340 million-plus has been set aside to maintain and operate the network. That's an overall average of more than \$3 million a day.

Under the Queensland Electricity Industry Code, ENERGEX is required to use its best endeavours to ensure that it does not exceed minimum service standards for urban and short rural SAIDI and SAIFI. In order to minimise the possibility of exceeding these targets, ENERGEX is focusing on improving the performance of its rural network over the next five years.

As the majority of unreliability arises from faults on the 11 kV network, one of ENERGEX's strategies to improve its rural network performance is the installation of automatic circuit reclosers and sectionalisers on the 11 kV network to limit the number of customers interrupted during faults. ENERGEX currently has approximately 540 automatic circuit reclosers and sectionalisers installed on its network (in a normally closed state). The majority of these devices are installed on rural feeders.

ENERGEX has 335 rural feeders supplying more than 340,000 customers with a total installed circuit exposure of almost 14,000 km. Of these feeders, around 224 have at least one ACR or sectionaliser installed.

For the 2007/08 financial year, there were 744 faults on the rural 11 kV network which involved a protection operation. Approximately 50% of these faults occurred beyond a recloser or sectionaliser.

ENERGEX's reported rural SAIDI due to unplanned outages in 2007/08 was 205 minutes. ENERGEX estimates that in 2007/08 its installed reclosers and sectionalisers saved 91 minutes of rural SAIDI, or 31%.

As a result of these ongoing performance benefits, ENERGEX is continuing to install automatic circuit reclosers and sectionalisers on its 11 kV network as part of an overall reliability improvement

program, with significant numbers of ACRs and sectionalisers proposed to be installed in coming years. The majority of these new devices will be installed on rural 11 kV feeders.

ENERGEX is also proposing to undertake programs to improve the reliability of its urban 11 kV network. One of the strategies to achieve this is the accelerated deployment of Distribution System SCADA (DSS) being undertaken as part of current and future reliability programs of work. DSS includes application of remotely controlled load break switches (non-fault break) to increase the speed of restoration to customers following a fault.

Over the next 5-7 years, the total number of remotely controlled switching devices is expected to exceed 3000 sites.

In 2003, ENERGEX commenced using the NOJA Power OSM Recloser product. ENERGEX have traditionally utilised reclosers in their rural area, however a trial in 2004 saw 120 NOJA Power OSM Reclosers installed predominantly on its urban network with a view to increase reliability and remote control.

While the program represented a relatively small number of feeders, the results have been a significant increase in reliability on the feeders where these devices were installed since completion of the program in January 2004. In fact, for the period up to end of 2006, the total estimated urban SAIDI was 11.4 minutes. This represents a huge success for both the reliability of the network where the devices were installed, and for the NOJA Power OSM Recloser.

As part of the ENERGEX five-year network upgrade program, NOJA Power has been contracted to supply the pole mounted recloser requirements which will predominantly be installed throughout the rural ENERGEX network to increase integrity and reliability of the distribution network. The new reclosers will all be remotely controlled via DNP3 communications protocol together with a spread spectrum frequency hopping radio system to integrate into the DSS.

The contract was awarded after a competitive international tender was called followed by a detailed technical and commercial evaluation and audit process.



NOJA Power OSM Recloser installed as part of the ENERGEX five-year network upgrade program

OSM Recloser 'Steps Up' at EESA Conference

The 84th National Electrical Energy Society of Australia (EESA) Conference & Exhibition was held on the 20th to the 22nd of August, 2008 and saw over 200 delegates in attendance at this three-day event in Brisbane.

The main theme of the conference revolved around "stepping up to the challenge", with focus on how Queensland's major energy providers work with their suppliers and contractors on the challenge of maintaining capacity, reliability and power quality.

First day of the conference was welcomed by EESA Queensland President Lawrie Cleary in the prestigious Queens Ballroom of the Hilton Hotel, Brisbane. Delegates were informed on what was in store for the coming days of the conference.

The conference keynote speakers included, Professor Elizabeth Taylor, who provided

an informative talk on the current issues facing the industry, including ageing infrastructure and new business models. Professor Hardisty also gave an interesting presentation focused around an environmental theme of energy supply, with mention of the global warming issue, as well as how changes to the production of energy affects environmental sustainability.

NOJA Power's exhibition stand was manned by NOJA Power Sales Director Tony Stacey, Sales Engineer Shane Gorman, and our Brazilian Recloser Application Engineer Bruno Kimura, who were able to respond to delegate's questions.

The trade exhibition was a great opportunity for NOJA Power to display the pole-mounted OSM Recloser and provide information on how they are 'Stepping up to the Challenge'.

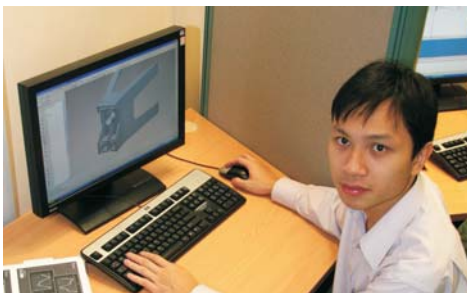


EESA Queensland President Lawrie Cleary and Recloser Applications Engineer Bruno Kimura

High-Tech Projects Assisted by CEED Students

The CEED program aims at linking students with the industry by connecting current real-world projects to students within the relevant fields. While students have traditionally undertaken what is often referred to as 'work experience' or 'vacation work' to compliment their studies, CEED projects go beyond this to provide not just training and experience but the opportunity to work on actual industry-based projects with real goals and deadlines. Recent CEED students Thomas Cheung and Linda Liu were both employed by NOJA Power to assist the company with ongoing engineering projects.

Master of Information Technology student Linda Liu was enlisted by NOJA Power through the CEED program to design, develop and implement a new software tool to communicate and store information from the existing embedded system from a remote location. With the great success of this project during Linda's time in the CEED program, Linda is now a full-time employee at NOJA Power.



Final year Mechanical Engineer Thomas Cheung works on next generation mounting bracket for OSM Recloser

Thomas, a final year Mechanical Engineer, worked on a project to produce a 'next generation' mounting bracket of lighter weight, stronger build and lower production cost for mounting NOJA Power's OSM Recloser. This project was completed following first semester 2008 with Thomas submitting a technical report detailing findings, analysis and recommendations for improvements that will assist future developments of NOJA Power's mounting brackets.



Master of IT student Linda Liu developing a software tool for NOJA Power

The success of the projects completed by Thomas and Linda indicates the capability of university students to perform in the workforce. NOJA Power will continue to support students' transitions into the working world by participating in programs such as CEED.

Coal Terminal Upgrade with Intelligent MCC's

NOJA Power has been awarded a contract from Ports Corporation of Queensland (PCQ) to design, manufacture, test and deliver Low Voltage Motor Control Centres for the Abbot Point Bulk Coal Terminal upgrade. The X25 upgrade program is designed to increase the capacity of the coal handling facilities to 25Mt per annum. NOJA Power is manufacturing Intelligent MCC's incorporating DOL motor drives and Variable Speed Drives, interfaced to a plant wide control and monitoring system. The upgrade is a major project for PCQ, a Government owned corporation, with engineering to the project provided by Connell Hatch.



Intelligent MCC provides high level safety and control capabilities

The MCC's are designed to AS/NZS 3439.1 and pass a comprehensive Factory Acceptance Testing and pre-commissioning process carried out as a joint effort by NOJA Power and Connell Hatch. Monitoring and control of the motor drives is by way of Devicenet and Controlnet protocols over an RS-485 communications bus facilitated by Allen Bradley DYN42R starter auxiliary units. Variable speed motor control is achieved using Allen Bradley Powerflex

drives installed together with Line Reactors in fan cooled enclosures mounted separately from the main MCC. This design solution satisfies the 'brown fields' nature of the work which involves installation in existing buildings and presents equipment installers with significant space constraints. The NOJA Power MCC is an ideal choice as it provides the designer with flexible options including full depth cable ways utilised to accommodate the control and monitoring hardware without requiring additional tier space.

The Safety interface to the control system utilises Silbus equipment, PILZ relays and Dupline carrier for conveyor safety and control. Each motor drive cell door is fitted with a Voltage Vision device to provide unambiguous indication of an energised motor drive. Earth Leakage protection is provided by the new Terasaki ZS range of Tembreak 2 Moulded Case Circuit Breakers. The ZS range MCCB provides standard thermal-magnetic overload functionality but has the advantage of not requiring a separate EL toroid. Terasaki's Tempower2 ACB's are fitted with AGR-31 over current relays to provide the specified under voltage protection on an individual phase basis. The AGR-31 OCR also provide full power management functions accessible locally from the large LCD or remotely via the MODBUS communications interface, making a separate PM relay and CT's redundant which assists in minimising the space requirements. To cope with the harsh environment of a coal handling facility the MCC's are manufactured with a high Ingress Protection index, all busbars are fabricated using tinned copper and each tier is fitted with oxidation and corrosion inhibitors.

Installation Benefits from OSM Recloser

St Lucia Electrical Services Limited (LUCELEC) is the sole commercial generator, transmitter and distributor of electrical energy in the Caribbean island nation of St. Lucia, delivering electricity to a residential, commercial and industrial customer base of nearly 60,000.



As part of LUCELEC's feeder reliability improvement program, the first NOJA Power OSM Recloser was installed to an important feeder, identified as experiencing a high number of transient faults. The Recloser installation is undertaken in feeders identified in this manner, to provide a higher reliability of supply to LUCELEC's customers.

Factory training was provided by Tony Stacey of NOJA Power at LUCELEC in the beautiful city of Castries, St Lucia - one of the most scenic islands in the West Indies. The Training program was extended to planning, protection and network engineers, as well as technicians, installers and operational personnel, and included the live line installation of the NOJA Power OSM15-16-630-110-200 Pole-Mounted Recloser.



NOJA Power OSM Recloser pole-mount 200 series installation for PMLD

Utilising world's best live line practices, LUCELEC's high regard for safety of personnel and quality of workmanship took full advantage of the OSM Recloser's safety and reliability features. With a focus on eliminating the use of harmful insulants including oil and sulphur hexafluoride (SF6) gas from the distribution network where practical, the NOJA Power Recloser's solid dielectric insulated and patented

arc fault contained and vented design were well received and appreciated by the LUCELEC live line installation teams.

NOJA Power also assisted with the installation and commissioning of a series 200 OSM Recloser at Princeton, Massachusetts for Princeton Municipal Light Department (PMLD). Service Director Oleg Samarski and NOJA Power's local distributor Jim O'Connor provided training to the PMLD personnel on protection configuration and operation of the OSM Recloser.

NOJA Power Awarded for Continued Exporting Excellence

NOJA Power has recently received the 2008 Australian British Chamber of Commerce Export Award and was also recognized as a finalist in the prestigious Premier of Queensland 2008 Exporter of the Year awards.

NOJA Power now exports to more than 70 countries around the world from its Brisbane factory which operates two shifts per day to service the demand for its pole mounted switchgear products.



NOJA Power Switchgear - finalist at Queensland Premier's Export Awards 2008

NOJA Power Sponsors Switchgear Forum

NOJA Power is the major sponsor of the IDC Technologies Power Cable & Switchgear Forum to be held in KL, Malaysia on the 18th & 19th March 2009. This conference provides a forum for key players in the Electrical Engineering industry to discuss technologies, best practices and improvements in power cables and switchgear. The two-day event will include a workshop followed by presentations aimed at highlighting critical strategic, technical and business issues for successful cabling and switchgear systems.



Factory Expansion Increases Production Capabilities

In response to demand and to support increased production output, NOJA Power has recently expanded its Murarrie facilities to add an additional 900M² of production space for finished goods manufacture and testing. This expansion of NOJA Power's facilities is in response to recent contract awards from both domestic and international customers for the provision of their medium voltage recloser products as well as low voltage switchgear products. Integral Energy and Country Energy, two of Australia's largest users of pole mounted recloser products, have both recently awarded multi year period contracts to NOJA Power. Ports Corp Queensland has also recently awarded NOJA Power with approximately 50 tiers of low voltage motor control centre manufacture for the expansion of their Abbot Point ship loader facilities. The first 8 tier motor control centre was recently factory acceptance tested for this project.



NOJA Power adds 900M² production space for finished goods manufacture and testing

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