

MISSION STATEMENT:

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

Practical Perspective on Recloser Training

Engineering trainees in Hermosillo, Mexico, were treated to an impromptu practical demonstration when a nearby OSM Recloser operated to lockout on a 3kA earth fault.

The OSM Recloser was minutes away from where Service Director Oleg Samarski was conducting a training session on the OSM Recloser to the installation and service crew. The training covered basic recloser configuration theory and applications and advanced data analysis using TELUS - the OSM Recloser's built-in data analysis software.



NOJA Power OSM Recloser
At installation site of Hermosillo, Mexico

Oleg used this opportunity to demonstrate the OSM's advanced data-logging and reporting functionalities in a real-world setting. Connection was made to the device using TELUS software and the data was downloaded and analysed. This allowed Oleg to demonstrate how the software translates the data into relevant, useful information and was able to diagnose the cause of the fault.

| Date and Time | Event title | Start/End | Source of event | Relevant phase | Relevant | Critical parameter |
|---------------------------|---------------|-----------|-----------------|----------------|----------|-----------------------------|
| 3/06/2008 12:19:34:056 PM | Pickup | Start | EF1+ | | | lop, A=84 |
| 3/06/2008 12:19:34:061 PM | Pickup | Start | OC1+ | C | | lop, A=420 |
| 3/06/2008 12:19:34:240 PM | Trip | | EF1+ | | | |
| 3/06/2008 12:19:34:277 PM | Open | | Driver | | | |
| 3/06/2008 12:19:34:277 PM | AR Inhibition | | AR OCEF | | O2 | T _c = 20.00 |
| 3/06/2008 12:19:34:277 PM | Pickup | End | OC1+ | C | | Max(E _c) A=3073 |
| 3/06/2008 12:19:34:277 PM | Pickup | End | EF1+ | | | Max(E _n) A=3049 |
| 3/06/2008 12:19:34:295 PM | Pickup | Start | Uabc> | | | Up, A=6.7 |
| 3/06/2008 12:19:34:395 PM | Pickup | Start | LS0 | | | |
| 3/06/2008 12:19:34:395 PM | Pickup | Start | Uabc> | | | |
| 3/06/2008 12:19:54:275 PM | Close | | AR OCEF | | C2 | |
| 3/06/2008 12:19:54:333 PM | Pickup | Start | EF1+ | | | lop, A=84 |
| 3/06/2008 12:19:54:337 PM | Closed | | Driver | | | |
| 3/06/2008 12:19:54:338 PM | Pickup | End | LS0 | | | |
| 3/06/2008 12:19:54:338 PM | Trip | | IR | | | 0IR(M)-4.00 |
| 3/06/2008 12:19:54:241 PM | Pickup | Start | OC1+ | C | | lop, A=1470 |
| 3/06/2008 12:19:54:438 PM | Trip | End | IR | | | |
| 3/06/2008 12:19:54:504 PM | Pickup | Start | OC1+ | B | | lop, A=420 |
| 3/06/2008 12:19:54:520 PM | Trip | | EF1+ | | | |
| 3/06/2008 12:19:54:558 PM | Open | | Driver | | | |
| 3/06/2008 12:19:54:558 PM | AR Inhibition | | AR OCEF | | O3 | T _c = 20.00 |
| 3/06/2008 12:19:54:558 PM | Pickup | End | OC1+ | B | | Max(E _c) A=3571 |
| 3/06/2008 12:19:54:558 PM | Pickup | End | OC1+ | C | | Max(E _c) A=3038 |

Event log data viewed using TELUS

This was a great opportunity for the trainees to view the practical applications of their training on the recloser device successfully operating in +42°C conditions.

NOJA Powers Brisbane Clem Jones Tunnel

NOJA Power is manufacturing low voltage switchgear for the Clem Jones Tunnel Project, one of Brisbane's most significant upgrades to its Transport Infrastructure, scheduled to be open in 2010.

Previously known as the North South Bypass Tunnel (NSBT), the Clem Jones Tunnel is the first section of the M7 motorway in Brisbane and provides a twin, 2-lane 6.8 kilometre link between Ipswich Road and the Pacific Motorway. Motorists travelling through the tunnel are expected to avoid 18 sets of traffic lights, reducing their travel time by 15 minutes and taking one-third off the peak traffic from the city's landmark Story Bridge.

The Tunnel will boast a variety of cutting edge, redundant electronic systems such as automatic traffic incident detection, ventilation control, air quality monitoring, CCTV monitoring, thermal detection and fire safety systems, directional signs, and an electronic tolling system providing national compatibility. All systems require high quality and reliable switchgear to provide for continual and uninterrupted operation.

NOJA Power Switchgear Pty Ltd has been commissioned to supply the Cross Passage Panels by United Group Infrastructure, a sub-contractor of the builders of the Clem Jones Tunnel - Leighton Contractors and Baulderstone Hornibrook/Bilfinger Berger Joint Venture (LBB JV).

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NOJA Power Commended for Manufacturing Endeavours

The Manufacturers' Monthly Endeavour Awards celebrates the manufacturing industry's contribution to Australia's economy and society. Started by Manufacturers Monthly in 2003, these awards are the only ones in the country that are exclusive to the manufacturing industry.

Now in its fifth consecutive year, the 2008 Manufacturers' Monthly Endeavour Awards was held on the 28th of May and saw over 250 guests in attendance at a gala dinner at Doltone House in Sydney. Among the distinguished guests was Minister for Innovation, Industry, Science and Research, Senator Kim Carr.

Senator Carr introduced the awards with an acknowledgement of the manufacturing industry's significant contribution to Australia's economic prosperity and the key role it plays in the drive for innovation, with almost 40 percent of business expenditure on research and development.

Recognising the importance and vast potential for growth of the manufacturing sector, Senator Carr voiced his thoughts on the current state and future challenges it is set to face.

"The sector provides jobs for over 1.1 million Australians and contributes more than 10 per cent to GDP. Last year manufacturing exports were over \$87.1 billion.

"Over the past five years, manufacturing exports have increased 5 per cent per annum, up 7.2 per cent in 2007. "Despite such positive performance, manufacturing still faces impediments to growth.

"A shortage of skilled workers, infrastructure bottlenecks, and a tangle of regulation are some of the challenges that need to be overcome.

"From the government's point of view, we take manufacturing very seriously and intend to bring a lot more energy and focus to industry policy," Senator Carr said.



Head of Business Development for the Australian Government Export Finance and Insurance Corporation, Sunil Aranha, and Managing Director of NOJA Power Switchgear, Neil O'Sullivan.

Of the nine award categories, NOJA Power Switchgear Pty Ltd was Highly Commended in the Exporter of the Year category. This is a substantial achievement for NOJA Power, proving their success has continued to grow in the wake of receiving last year's top honors at the Queensland Exporter of the Year Awards.

NOJA Power Switchgear's Managing Director, Neil O'Sullivan, commends the team at NOJA Power on their contributions to the company's continued success and ensures achievements will exponentially increase over the coming years.

This is a foreseeable future with NOJA Power's recent factory expansion further driving the company's low voltage switchgear and medium voltage autorecloser manufacturing capabilities.

"NOJA Power's foundation lies in manufacturing products for global applications. With a competitive edge on a globally ready product, we are continuing to expand our worldwide distribution capabilities and marketing channels," Neil said.

Receiving the High Commendation at the Manufacturers Monthly Endeavour Awards has further instilled NOJA Power Switchgear as a key player in Australia's electrical manufacturing and exporting industry.

OSM Recloser Firmware Updates

A selection of new features have been added to the OSM in the latest release of MPM firmware and the TELUS software package:

Single Shot Trip

This feature allows the user to select which trip sequence settings are active when auto-reclosing is turned off. Previously, trip 1 settings were always used unless Live Line was activated. This new feature allows trip 1, 2, 3, or 4 values to be selected as the single shot trip time/current settings.

External Load Reset Time

Communications equipment connected to the external load 13.8V DC power supply can be reset at regular intervals by automatically cycling the power supply off and on again.

Maximum Call Duration

Modem connections can be terminated if they exceed a maximum duration regardless of whether data is still being

delivered. This can be used to reduce call costs in situations where constant generation of events is causing the slave to remain connected.

SCADA Time

SCADA time can now be set to report as Local time, or as GMT time.

IEC Protocol

The IEC 60870-5-101 SCADA protocol is now available on request in a separate firmware version.

Additional Inverse Curves

- | | |
|---------|---------|
| -TCC101 | -TCC102 |
| -TCC133 | -TCC117 |
| -TCC140 | -TCC135 |
| -TCC163 | -TCC122 |
| -TCC112 | -TCC120 |

OSM Road Test & Training With New Zealand Distributor

With the support for distributors and customers at the forefront of NOJA Power Switchgear's service policy, Sales Director Tony Stacey visited New Zealand to assist the specialist overhead and underground electricity distribution equipment supplier, OHUG Power Equipment Limited, in providing support and training for staff at Powerco's Pohangina Apiti feeders automation project in the Manawatu.

OHUG Power Equipment Limited is an independent supplier of high-quality overhead and underground power equipment to the electrical utility market, throughout Australasia. In conjunction with NOJA Power's Sales Director Tony Stacey, OHUG Operations Manager Tony Burtton conducted comprehensive training on site at Powerco, a large distribution utility in the North Island of New Zealand. Tony Stacey travelled with the OHUG representatives and offered factory support and technical assistance to the training initiative. The training sessions were attended by Network managers, Planning and Protection Engineers, key Technicians and Testing staff involved in the company's network innovations. The objectives for the training were to establish a philosophy and setting parameters for proposed network automation systems, and develop directional protection sets for those schemes.

Over the duration of the training sessions, various features of the NOJA Power OSM Recloser were demonstrated. This included the simulation of faults and restoration by automation, remote communications, and general testing and installation procedures.



On the road with OHUG - NOJA Power Switchgear's Sales Director Tony Stacey Providing OSM Recloser Training in New Zealand

To further promote these training and support sessions, the OHUG team has designed a mobile recloser training and demonstration trailer. This trailer is fitted with an active NOJA Power OSM Recloser that be configured to perform in-the-field operations to demonstrate the devices capabilities.

NOJA Power exhibits OSM Recloser reliability at IEEE Conference

A substantial issue that faces worldwide energy generation, transmission and distribution sectors of the power industry is that of sustainability. Not only does this include environmental sustainability, but it also encompasses energy quality, costs and reliability and these were the main themes of the 2008 IEEE PES Conference and Exhibition.

Operating as one of the largest global platforms for information on electrical engineering, the 2008 IEEE PES Conference and Exhibition was held in Chicago, Illinois on the 21st to 24th of April and centered this year's theme around "Powering Towards the Future" which provided a focus on the issues of reliability and quality of electricity supply. The City of Chicago catered perfectly for the extraordinary number of delegates and guests, and with views of the magnificent Chicago skyline and splendid coastline views of Lake Michigan, the setting for sharing of information and knowledge was world class to say the least.

At a conference designed to provide transmission and distribution professionals an insight into the latest technologies, best practices and tools available in the industry, the team at NOJA Power Switchgear's exhibition stand ensured their contribution to the event was beneficial to the relevant individuals of the 13,000 in attendance.

NOJA Power's stand was located at booth 1290 in the 184,000 square feet area of the Exhibition Hall in the McCormick Place Conference and Exhibition Centre. The

booth was attended by NOJA Power factory management and sales staff, all NOJA Power manufactures' representatives from within the U.S., with a large number of NOJA's exclusive distributors for Canada, Mexico, Central America, Latin America, The Bahamas, West Indies, Jamaica, Europe and Asia. The NOJA Exhibition booth was a popular discussion ground for Distribution Utility Engineers from most states of the USA and many international Engineers, for many of whom, NOJA Power is the Recloser Switchgear manufacturer of choice.



NOJA Power Switchgear's Sales Director Tony Stacey and Managing Director Neil O'Sullivan exhibit the OSM Recloser

Discussions at the Conference and Exhibition revolved mainly around the demand on the US Distribution Utilities to provide reliability improvements. This provided a very sound platform for discussion at NOJA Power, as well defined use of the pole mounted auto circuit recloser can provide very rapid reliability gains.

The NOJA Power Recloser offers the Distribution Network Engineer a very powerful tool in terms of directional protection schemes for rapid network re-configurations, extremely fast timing for precise protection grading providing an increased number of network sections protected, and a very high level of distribution System Automation and communications capabilities. These inherent features come as standard in the OSM Recloser with many optional configurations also available, and all contribute to strategies for proven high feeder reliability.

OSM Recloser helps Mine through Bat Season

Every dry season in the northern topics of Australia bats roost in large numbers. During the night they take to the skies in search of food and fly into power lines causing frequent outages. This can cause havoc with 24-hour mining operations which have to clear the lines and replace expensive fuses on almost a nightly basis.

GBS Gold's processing plant is situated in Pine Creek, 250km south of Darwin in the Northern Territory of Australia. Outages caused by bats on the 11kV overhead distribution system costs thousands of dollars with the amount of fuses are used each dry season. Costs associated with lost productivity of staff who are required to manually change these fuses adds to the annual expense caused by this problem - all at a time when gold has been at record prices.

Maintenance staff at the mine made numerous efforts to minimize the effects of bat strikes on the lines, but nothing seemed to have a lasting impact. After asking around other mines in the region for any solutions to the bat problem, the electrical supervisor at GBS Gold, Paul Barnes, was told about the NOJA Power recloser installation at the Sally Malay Nickel mine for this exact purpose.

GBS Gold had two main objectives - minimize disruption to the processing plan and stop replacing expensive fuses. Two OSM15 reclosers were purchased so that the distribution line could be sectionalized into two separate segments. A fuse saving strategy was employed in the protection settings so the reclosers would isolate the faulted line without blowing the fuses.

NOJA Power configured each recloser to operate three shots to lockout, allowing the power to be restored if the bat falls free from the line during the dead time of each operation. In the event that the bat remains on the line, the recloser will go to lockout after three trips and sectionalise the faulted section of feeder, leaving the rest of the processing plant still operational.

The return on investment for these reclosers is expected to be almost instant. When the cost of replacing the fuses, lost production and maintenance time is taken into

consideration, the cost of installing the two OSM reclosers will show a positive return to the operation before the first bat season has finished.

The OSM recloser is well suited to this type of application. Numerous faults occur during the bat season and the 30,000 operation rating of the OSM means it will easily last the distance. The NOJA Power OSM recloser is also the lightest and smallest on the market today, ensuring ease of installation on distribution lines where weight and space is important.

Following the successful installation of the first recloser, NOJA Power Service Engineer, Brian O'Sullivan, conducted basic operation training with the electrical and maintenance crew that was cut short with the appearance of a 3.5 metre crocodile on site.



OSM Recloser installation to reduce maintenance costs and lost production time at GBS Mine

The maintenance team was also impressed with the well thought out package supplied in the crate. NOJA Power pre-assembled the surge arrestors and connecting bars on the bushings, supplied molded bushing boots to fit the arrangement and supplied insulated water-blocked cable pre-stripped at the ends for convenience. The installation team was able to place the crate at the base of the pole and install the OSM recloser with ease.

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