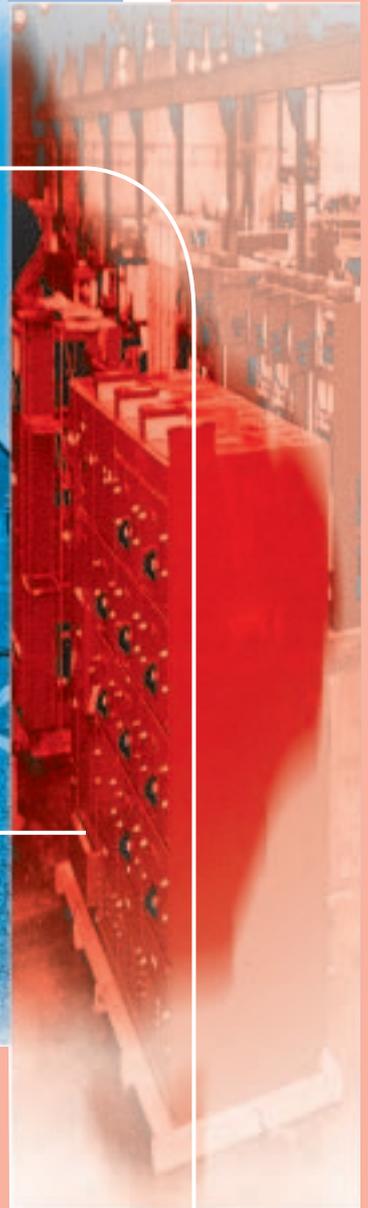




NILSEN REVIEW

Issue 7, November 2000



NILSEN - ELECTRICAL EXCELLENCE

A WORD FROM THE CHAIRMAN

The financial year 1999/2000 produced a mixture of results for the group. We have continued the expansion of our Contracting and associated service operations to the stage where they now encompass each of the mainland States in Australia. They provide a broad and expanding range of activities and services from the various locations to a widening customer base. A significant expansion in switchboard manufacture has taken place, particularly in Victoria, and we recently commenced the maintenance contract with VicRoads for all the Melbourne metropolitan area traffic signals.

The continuation of very good results from our contracting businesses in South Australia and West Australia and a marked improvement in the Victorian operations were, however, offset by the difficult conditions for our metering business and the completion of a Thailand installation project upon which the Group made a large loss.

Both of the problem areas have been addressed and specific actions have already been taken on each of them, but they adversely impacted upon what

would otherwise have been a year of continuing growth and improved performance from all the other divisions.

The metering business has been restructured, through a transfer of Sales and Administration to Nilsen



Technologies, and a reduction in costs in Engineering and Manufacturing. The transfer of Sales to Nilsen Technologies will provide significant synergies for both Electronics and Nilsen Technologies, and the leaner cost structure is more suited to

the current depressed market.

The importing and distribution business of Nilsen Technologies has benefited from a successful growth in market share for our IMV range of Uninterruptible Power Supplies, as well as gaining the full year effect from the change to its cost base during 1999. Nilsen Technologies now provides local support for the marketing and distribution of the Group's range of meters and associated equipment from its offices in each capital city and in New Zealand, a service that we expect will provide greater benefits and improved access to our customers outside Victoria.

The Group's main revenue base continues to be the operations of its Contracting and associated services business, which is now well placed to benefit from a range of activities across Australia. We also expect that the other Divisions will continue to improve in the current financial year, to supplement the ongoing strengths the Group can provide to its all customers, wherever they are located.

*J Nilsen
Chairman*

PROTECTION COVERED, EVEN IN THE AIR

A comprehensive and up to date range of Fire Protection products and services to protect your facility, regardless of what its needs are, in our offer. This includes Intelligent Fire Detection, Conventional Fire Detection, Air Sampling, Emergency Warning and Intercommunication and Fire Suppression. Ongoing maintenance, Fire Safety awareness training and Evacuation training are also part of our services.



This enables our customers and their employees to be educated on fire

fighting equipment, fire detection and the emergency evacuation procedures. This results in a safer workplace. Our Fire Protection Expertise includes:

- Major shopping centres.
- High rise buildings.
- Healthcare buildings and nursing homes.
- Power generation plants.
- 747 mock-up aircraft.
- Manufacturing plants.

Smoke sampling system and carbon monoxide detection installed throughout a 747 mock-up aircraft.

PETER VANDENHEUVEL APPOINTED A DIRECTOR

In July, Mr Peter Vandenheuvel was appointed a director of Oliver J Nilsen Australia Ltd. Peter has been in control of the very successful South Australian Division prior to his appointment as

Group General Manager, Contracting Group in which role he has executive responsibility for the majority of the Group's business.



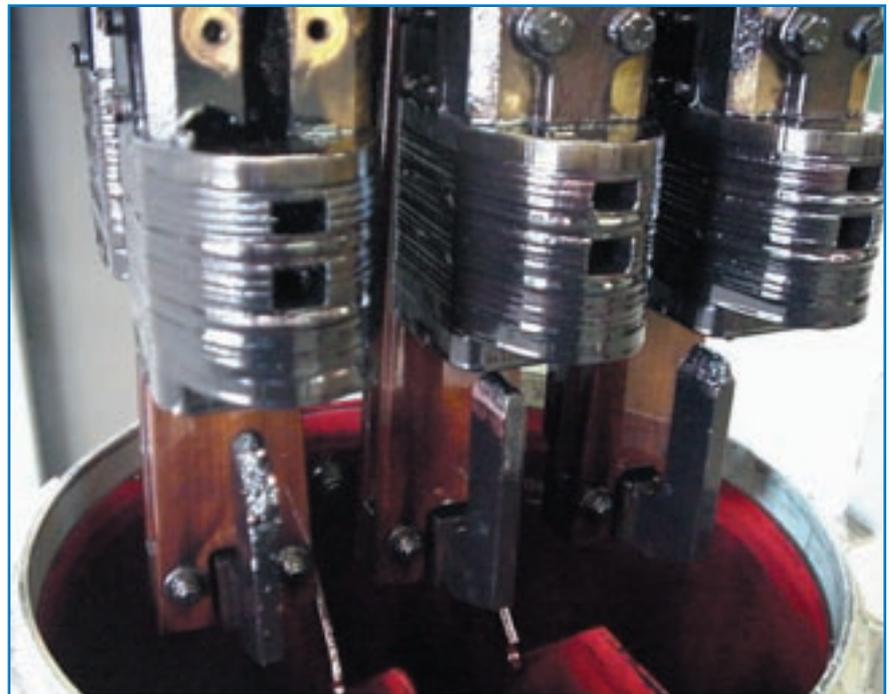
NILSEN BURNS MIDNIGHT OIL FOR PASMINCO

Nilsen Engineering Services ability to respond to a crisis were once again tested recently by the unexpected arrival in our workshop of a GEC type OLX oil filled circuit breaker belonging to Pasmenco, at about 7.00pm on Friday the 28th April.

While this in itself is not an unusual occurrence, the fact that we were required to completely overhaul the circuit breaker and have it back on site ready to energise by Sunday, meant that some long nights in the workshop were required.

After already working a full day our technicians Eric Wallace and Mark Jones put in a great effort and a very late Friday night to strip down the breaker and remove the main contacts, which were badly pitted and required refacing and resilvering. The resilvering was carried out on Saturday and after completing their scheduled work on Saturday the boys were once again in the workshop to reassemble and test the breaker which was dispatched from our works at 10.30pm on Saturday night in time to achieve our customer's deadline.

Nilsen Engineering Services team once again took on the challenge, and with a great effort from our Engineering



Services team were able to meet Pasmenco's clients expectations for a major rebuild of a High Voltage switch overnight.

Nilsen Engineering Services are also currently working on this site to install a new 11-panel High Voltage Switchboard in the Blast Furnace Substation. In addition to installing and commissioning the new switchboard, we will also be relocating the existing high voltage cables from the existing switchboards to the new switchboard and a refurbishment of the substation

to meet current electrical standards. Once again the co-operation between Engineering Services and Contracting Divisions made it possible to provide the specialists skills for all aspects of this job to be achieved within the shutdown timeframe.

NILSEN RESPONDS FAST TO CABLE BLAST

Nilsen Engineering Services were recently called upon by Santos Ltd to rebuild a Reyrolle type ROK 11KV Ring Main switch, from their Moomba gas field operations, which had been damaged by a cable blowout. The switch arrived in our workshop in pieces, several of which had to be remade due to severe rust corrosion.

An inspection of the damaged cable and switch was carried out in Nilsen Engineering Services workshop with Mr Mark Noack of Santos Ltd and Mr David Reich of Gilbert Lodge Australia Ltd, to ensure that any repairs carried out would avoid a recurrence of the problem.

By utilising the resources of our Engineering Services team and the Switchboard Divisions metal fabrication section we were able to take this work on and complete it within the tight time frame required.

The switch required new cable boxes to be manufactured, and due to severe corrosion of the HV bushing mounts on the main tank a section of the tank had to be cut out and a new section welded in. Silica Gel breather units were also added to the cable

boxes and main tank breather to reduce the effect of condensation from moisture caused by the severe temperature variances that occur at Moomba.

At the time the Engineering Services team was heavily committed on several major plant shutdowns for other customers. With a team effort, in particular some late night shifts by Mark Dittmar after completing his normal day shift, the switch was completely stripped, repaired, repainted and reassembled with new and refurbished components and shipped to site to meet Santos' requirements.

In addition to this Nilsen Engineering Services were then requested to muster a team to follow the switch to site and re-install it. This required in line jointing and re-termination of the existing 11KV ring main paper insulated lead-armoured cables and replacement of the 11KV feeder to the adjacent transformer.

Once again the significant resources of Nilsen Electric were utilised with Phil Mellow of our Contracting Division and Eric Wallace from Engineering Services rushing to site to achieve our customers needs. Whilst on site for this installation work Eric and Phil also serviced and repaired two other similar units again highlighting Nilsen Electric's ability to be flexible and responsive to our customers needs.



IN FIRE, WE PRACTICE WHAT WE PREACH

A number of Nilsen W.A. people gained some valuable experience in fire training recently, undertaking a course in selecting and using portable fire fighting equipment.

Leanne Jamieson, W.A. Safety & Health Co-Ordinator organised the course in conjunction with John Franklin, who recently joined Nilsen as Fire Training Co-Ordinator.

The demonstration, started with a brief introduction followed by a video presentation and instruction on the characteristics of fire, selection of equipment, it's use and limitations etc.

Each person then had the opportunity to put theory into practice and put out a range of fires using a selection of fire extinguishers and a fire blanket, on Fire Services new

training, purpose designed fire demonstration unit.

Everyone gained valuable knowledge and will now be more confident in handling the equipment. This was considered to be important as electrical hazards and flammable materials which are sometimes required, make for a volatile mixture.



The new Fire Demonstration Unit allows the W.A. Fire Services Division to attend a customer's site and conduct this type of training, in a safer more environmentally efficient way, to great effect on all types of fire situations. Nilsen Fire Services is currently one of only two training organisations using this technology in W.A. to demonstrate fire extinguisher training.

The development of the demonstration unit was a Fire Services initiative. It is proving to be a very useful addition to its capabilities in fire safety and training.

ELECTRICITY METERING FITS HAND IN GLOVE AT NILSEN TECHNOLOGIES

At Nilsen Technologies we spend all of our efforts on marketing, selling and supporting electrical and electronic test and measurement instrumentation. So, why not electricity meters? Why not, indeed, and it was a logical step for Nilsen Industrial Electronics and Nilsen Technologies to amalgamate the sales and marketing of electricity meters with the instrumentation business.

The transfer of the sales and marketing responsibility, leaves Nilsen Industrial Electronics free to concentrate its efforts on product design, and manufacturing. The experts at the job of bringing the product to Australia's electricity distribution authorities and companies have now set up their desks at Nilsen Technologies in Collingwood. The engineering and manufacturing operations remain in Heidelberg. The changes have all happened smoothly, and now the sales process for the Nilsen smart electrical energy meters has acquired a new synergy by virtue

of Nilsen Technologies' well developed sales network around Australia. It is also of obvious advantage to the users of Nilsen meters to have a 'local ear to bend', when necessary.

Competitors to Nilsen electricity meters, being competitors, may well try to interpret the changes in the organisation of the two Nilsen companies with a negative slant. There is, however, every reason for them to fear our latest moves, because we have, in actual fact enhanced our competitive position:

- We sell Australia's smartest metering systems
- We have an active ongoing product development program
- We are now Australia-wide; and on the ground

So what's ahead? Obviously a busy time, as we will be flying around Australia and New Zealand to meet customers and to explain the benefits of the amalgamation. This is only an initial phase, and

necessary as Nilsen Technologies wants to bring its new role in sales and support directly to customers. Generally speaking, though business activity for us should increase by virtue of the January 2001 full domestic contestability timeline approaching.

Our range of Nilsen 2600e meters with their capacity for remote readout and control via the public switched telephone network, memory to store up to 440 days of 30 minute interval demand information and ability to operate with eight distinct time of use tariff structures, is ideally tailored to small as well as large consumers.

We are continuing with a vigorous development program, and over the next six months or so, it is going to be very much a "watch this space" scenario with a some exciting new products being launched!

Bob Harris

NILSEN ELECTRIC & NILSEN TECHNOLOGIES DELIVER "NILSEN POWER SOLUTION"

Global carrier Primus Telecommunications Pty Ltd has launched its next assault on the Australian market, with its recently completed "Melbourne Exchange" expanding its nationwide data network that locks it in battle with both international supercarriers rivals and the country's leading telcos.



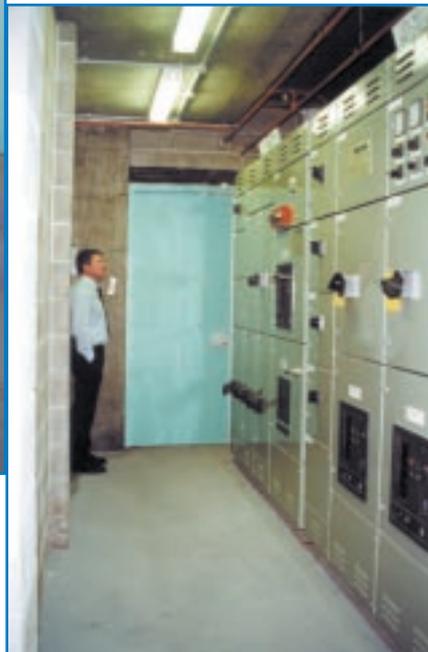
The new exchange is designed to serve the ever expanding business community in key capital cities where the demand is high for network services capable of handling increasingly heavy data traffic.

Primus will connect this facility and similar other facilities in other capital cities and regions to the company's world-wide fibre-optic networks.

Primus as Nilsen discovered are no different to other telcos, in that they want their "Exchange" built

yesterday. So after discussions with key personnel from Primus, Nilsen Electric and Nilsen Technologies, Nilsen were able to agree on a proposal to meet not only Primus's "Power Systems" needs but also their Access Control, CCTV Systems and Data.

Nilsen Electric Contracting, Switchboard & Communications Divisions then set out to engineer, design and deliver the project within ten (10) weeks in conjunction with Nilsen Technologies who supplied the UPS and Battery System.



The challenge was that the new "Exchange" would be located on the third floor of a high rise building with no room for Switchboards, Generator Sets, UPS and/or Battery Systems. These major items of supply were spread throughout the building from the basement where the Main, Generator and UPS Input/Output

Switchboards were located together with the UPS and Battery Systems, to the third floor where the Local Distribution Boards and the bulk of the cabling was to be installed and then onto the roof of the high rise building where the Generator and Dummy Load Bank was located.

Scope of supply was quite varied and large as indicated:

- 800 KVA Generator Set
- AC & DC power reticulation
- Access Control and CCTV Systems
- Lighting
- Power
- Main Switchboard
- Nilsentre Form 3B switchboards with Rear Connect & Arc Fault Containment for the generator, UPS and mains service.
- Generator Switchboard Nilsentre Form 3B, Rear Connect & Arc Fault Containment
- Level 3 Main Distribution Board Nilsentre Form 3B, Front Connect & Arc Fault Containment
- Distribution Boards Custom Form 2
- Cat 5e RJ45 Data Points and RJ12 Telephone outlets
- Installation & Splicing of 144 core Fibre Optic lead-in cable from King Street
- UPS System Two (2) x 200 KVA Parallel Redundant Architecture UPS from (IMV) with decentralised control logics and bypasses
- Two (2) Banks of FIAMM Sealed Lead Acid (SLA) Batteries of 400 Amp Hourz

EDS POWER BREAK THROWS NILSEN A CHALLENGE

With the end of the financial year, the end of the old Tax System and GST to come into effect at the start of business on Monday, the last thing you need as an Electronic Data Service company is power fluctuations. Especially when your client base incorporates some of the largest companies in South Australia.

Well, Murphy's law was true to a fault and for EDS, long a client of Nilsen Electric, this was just the case.

EDS experienced power fluctuations from their UPS at 3.00am on the Saturday morning, just before the end of June. This is when they called the Nilsen High Energy Service.

A Nilsen technician was immediately dispatched. On arrival it was found the power fluctuations were created by two problems. Firstly, the existing UPS control system was unable to hold a steady output and secondly via use of thermo-graphics, a hot joint in one of the Main UPS Distribution Pyrotenax supply cables was diagnosed.

Given the horrendous financial implications that could arise from an unplanned power outage, for EDS and their customers this meant that EDS could not simply shutdown their computers. This meant problems would have to be rectified without loss of a power to the facility.

Nilsen people thrive on challenges and by combining the talents and expertise of all three Nilsen Divisions (Contracting, Switchboards



and Engineering Services), Nilsen confirmed to EDS that it would meet this challenge head on.

The largest challenge lay with Nilsen Switchboard Division, given it was now Saturday afternoon. Could the Division design and manufacture two 1600amp switchboards in seventy two hours? With the aid of a helpful vendor and an air freight company, the circuit breakers required were delivered to Nilsen in quick time. Whilst waiting for the breakers to arrive and utilising its flexible product range, Nilsen set



about constructing two switchboards including full busbar systems. Once the circuit breakers had arrived and were installed, the switchboards were tested and dispatched to EDS. Total time taken to meet the challenge - 67 hours.

Whilst the Switchboard Division were working around the clock to meet their challenge, the Contracting Division were doing the same at EDS. Ensuring that when the switchboards arrived and with the aid of another UPS and an 800A generator set, they could arranged a complex change over to create a shutdown to the affected parts without loss of power to the facility.

Needless to say the work was completed in time for the GST and end of year rollovers, all with a minimum of fuss. This is where Nilsen excels with its balance of skills in servicing, switchboard building, contracting and communications, providing a complete range of services.

Another challenge for Nilsen. Another challenge successfully completed. The outcome for EDS?, A very contented customer who was able to place its confidence fully in the Nilsen team.

NILSEN CEMENTS MAINTENANCE CONTRACT

Nilsen Engineering Services have been chosen by Adelaide Brighton Cement to carry out maintenance on the high and low voltage electrical distribution system at their Birkenhead site during their July plant shutdown.

The scope of work includes :

- 36 Transformers
- 18 HV Oil Circuit Breakers
- 18 HV Vacuum Circuit breakers/contactors
- 36 LV Air Circuit Breakers
- 100 Protection Relays
- 36 HV Substation Earthing Systems

Prior to the shutdown commencing Nilsen Engineering Services carried out a full site survey of all electrical power assets to determine the scope of works and to allow Adelaide Brighton Cement and Nilsen Engineering Services to jointly develop a shutdown schedule. This ensured the work could be carried out in conjunction with other maintenance activities occurring during the shutdown.

As there was a need to program the necessary power shutdowns to avoid disruption to other activities taking place, Nilsen Engineering Services

had to be both flexible and adaptable in managing our team on site to fit in with last minute amendments to the planned works. This involved working various shifts and providing a team of up to six technicians and the associated testing equipment on a flexible roster.

Nilsen Engineering Services ability to react to these type of situations and adapt our workforce accordingly is one of the major reasons that Nilsen Engineering Services is chosen by many major Australian manufacturers for the electrical maintenance of their assets.

ISP PLANETEL CHOOSES NILSEN

The Comm's Division of strategic targeting of the ISP & Telco market recently paid off by securing a National contract with Internet Service Provider, Planetel across Melbourne, Sydney & Brisbane. Not only were Communications able to accommodate the data cabling requirements, they were also able to utilise Nilsen Technologies and Nilsen Switchboards (Melbourne & Adelaide) to successfully provide a total package solution for the client.

What started out as a data cabling project over 3 states turned into a complete electrical and lighting, UPS, main switchboard upgrade, main

CRM sub-board and 2 x UPS sub-boards in Melbourne. In all over the 3 sites, a total of 7 switchboards were supplied and 3 were upgraded.

As a tier 1 ISP Planetel now have the requirements to supply 100% uptime to their clients, meaning now we are supplying 2 x Gensets via Nilsen Technologies. In all, this medium sized data cabling contract has been turned from a relatively modest project into a multi-million dollar one.

To date, Planetel have populated only about 10-12% of their COLO environment and are marketing through the industry, the

opportunities of co-habitation and the cost saving benefits. When they sign up a new client, Nilsen Communications will sell the cabinets and inter-connection cabling required to activate them across each site.

The project doesn't stop there. We are currently involved with their satellite installations across each state and have already been speaking with Planetel about Stage 2 proceeding as early as November. This will equate to approximately an additional value of 75% of Stage 1.

Nice work Comms.

NEW LOCATION FOR NILSEN ELECTRIC AND NILSEN TECHNOLOGIES IN SYDNEY

Nilsen Electric NSW and Nilsen Technologies have moved in together at 72 South Street, Rydalmere, a high profile well known business location. There are Workshop/Warehouse facilities including off street parking, spacious offices, a boardroom for presentations, training, sales meetings etc.

WINE IMPROVES COMMUNICATION

It is often said that we become better communicators after a couple of glasses of wine. Well, wineries are also seeing the need for better communication!



Heathfield Ridge winery is located 10km south of Naracoorte and 15km north of the well known Coonawarra, arguably the best red wine growing area in Australia if not the world. Heathfield Ridge crushes approximately 1000 tonnes of their own fruit each year but also crushes many tonnes for other wineries in the Coonawarra area.

Our brief was a design and construct for electrical, communications, security services and fire alarm.

During discussion with the winery management during the design stage brought to light the keen desire for state of the art communication with the ability for access order status

information. Further it was imperative that data transmission time to be kept to a minimum so internet access could be optimised.

To meet this criteria cat 5E structured cabling system of Lucent manufacture was installed, with an 8 core fibre optic cable connecting a Cellar Door Sales and Administration. A communications closet was installed in each building, horizontal cabling to each work station location.

Also, 'just up the road' approximately 10km south of Padthaway and 50km north of Naracoorte is Stonehaven Winery nestled amongst the gum trees is the Cellar door sales and function building, constructed to compliment the winery facility.

Nilsen also carried out the installation of electrical, and communications services for this winery. Again a 6 core fibre optic cable was used to link the Cellar Door building and main Administration building Approximately 700 metres away.



Nilsen can offer the best communication solutions having accreditation for installation of all major manufacturers of equipment including Lucent, Amp, Krone and Molex.

If it's a winery.com, Nilsen can help it communicate!



MATER PRIVATE HOSPITAL, REDLAND CO-LOCATION - ANOTHER NILSEN HEALTH CARE PROJECT

Nilsen Queensland's inaugural project, the Mater Private Hospital, Redland Co-location project, commenced in January 2000 and is due for completion, on time, in mid August 2000.



The Mater Private Hospital will provide a range of world best practice, private medical, surgical and day surgery service to the Bayside community.

The hospital is co-located on the same site as the existing Redland Public Hospital and includes a main hospital building, of five levels housing patient wards with 60 beds, operating theatres, kitchens and utility rooms. Adjoining the main building is a single level building



incorporating a chapel, specialist medical centre, day procedure unit and reception area.

The building has been constructed to allow for future expansion in the form of additional operating theatres and patient accommodation. The electrical services scope of works on this project includes general light and power, exterior landscape lighting, operating theatre lighting, centrally monitored emergency lighting system, cable support systems and mains reticulation, switchboards (manufactured by Nilsen), 385kVA standby diesel generator set, uninterruptible power supply (U.P.S.)

units, electro medical treatment installations, master clock system, x-ray viewers, communications, nurse call system, master antenna television (M.A.T.V.) system, public address system, security system, PABX infrastructure & handsets, radio paging system and a lightning protection system.



One hundred car parking spaces have been constructed around the Hospital and medical centre buildings, and staff parking is provided in the basement of the main building.

The Nilsen team is grateful to the Builder, Boulderstone Hornibrook for giving us the opportunity to work on this project and to showcase our capabilities. We hope it will be the fore runner of many a successful project delivered with the Nilsen 'on time, on budget' stamp on it.

NILSEN BRISBANE OFFICE

Nilsen is now back in Brisbane with well appointed, modern offices and a workshop at 505 Litton Road, Morningside (see details on back page). Our teams, headed up by Mike Kerr (Contracting) and Simon Morgan

(Engineering Services) have already made a difference on a number of projects and the order book just keeps growing. Well done to the Queensland team!.



WE LINK DARWIN WITH A FIBRE OPTIC CABLE NETWORK

Nilsen Electric has forged for itself an envied reputation as one of the leading 'top end' electrical contractors with projects at Apin, Shoal Bay, Tindal, RAAF Base and many others. Because of this and its experience in the Darwin, pilot undergrounding project, Nilsen was invited to partner with the Power and Water Authority in a fibre optic infrastructure rollout for the NT Government. Nilsen was chosen to be part of a consortium that tendered to provide SMOF to nominated Northern Territory Government departments throughout Darwin. Cable and Wireless Optus was head of this consortium, which through innovation and competitiveness won the contract.

Under the contract, the Power and Water Authority (PAWA) is the owner of the fibre optic infrastructure which is leased to Cable and Wireless Optus.

Nilsen worked with PAWA to install the fibre Optic Infrastructure. The contract which had to be completed in a period of 19 weeks included:

- Design and Survey of the cable route (same 43km!)
- Obtaining council approvals for location of the ducts, pipes, pits and other access.
- Install another 43km of fibre optic cable.
- Fusion splicing of 3500 terminations
- OTDR testing of all splices and recording of results

Over the 43km route length, this involved 6000metres of 144 core, 29000 metres of 72 core and 8000 metres of 12 core Single Mode Optical Fibre (SMOF).

As is usual with any projects that involve trenching and earth works in Darwin, the project started in January, right in the middle of one of the wettest wet seasons on record. The challenge within the Darwin

Darwin Hospital, NT University and establishing at point of entry into the Telstra network. The installation so impressed the industry that the project was highlighted as the main article in the April/May issue of the Australian Power and Energy News.

12 core fibre was then used as a spur to feed the 14 individual buildings on the network, with more buildings being connected each week or so.



CBD was to install 144 core fibre within high voltage underground tunnels and ducts, some of which were large enough

to walk through whilst others were very difficult to locate. The fibre was run on cable tray below the existing HV cable. In many instances the cables were installed in HV ducts. All cable installation within the tunnels was done at night time in the rain with sometimes up to 500mm of water in the tunnel system (but luckily, no crocodiles or snakes!).

A 72 core cable was then reticulated to the suburb of Casurina via underground conduits, most of which we had to install, feeding the Royal

To help Optus with the Commissioning of the network Nilsen were asked if we could hand over more than 70% of the network one month early. With some re-planning we took the challenge and ran 3 8-hour shifts, fusion splicing 24 hours a day in a 2 metre by 2 metre tent in tropical down pours. Needless to say, the first stage was handed over on time.

The entire project was completed successfully on time and within budget. To show how confident Nilsen was of its workmanship, Nilsen offered and was awarded the maintenance of the network for a period of 10 years with an option of a further 10 years.



LONG TERM CONTRACTS

Nilsen Engineering Services have recently entered into a 5 year maintenance contract with Mitsubishi Motors Australia (MMAL) Ltd, to carry out the scheduled maintenance of the High and Low Voltage power distribution system at MMAL's Clovelly Park facility. Having already provided this type of service to MMAL's Lonsdale motor manufacturing plant for over three years, Nilsen Engineering Services will now be servicing the

entire Mitsubishi Motors Australia Ltd South Australian operations.

Nilsen Engineering Services have also renewed a contract with "The Advertiser" newspaper plant, to carry out the scheduled maintenance of their High and Low Voltage power distribution system for a further three years. The Advertiser plant is one of Nilsen Engineering Services longest running service contracts and the main 415V Switchboards on this site are Nilsen switchboards.

W.A. HIGH ENERGY SWITCHES ON

We welcome Paul Donohue, Operations Manager and Tom Leitchman, Business Manager to W.A's High Energy Division.

Both Tom and Paul come to Nilsen with substantial backgrounds in High Voltage and High Power Systems. Both are well known and respected throughout industry in Western Australia and have had substantial exposure through previous experience. Our strong team is also about to be supported by a full time Office Assistant.

Recent engineering developments and close customer consultation have seen High Energy secure an order for the supply and retrofit of 3.3KV Motor Starter / Isolators to Hamersley Iron, East Intercourse Island conveyor drives.

As a result of some very innovative design, our team have managed to retrofit existing Switchboard cubicles with new H.V. isolators, paired (and interlocked) earth

switches, new current transformers and fused vacuum contractors. As space was very limited, very considerable prototyping was required. The result was a design that not only utilised the space available in the best possible way, but it also offered optimised safety through purposely designed interlocking.

This is a 12 month project involving intensive work on site during very short production shutdowns. The first stage involves completing seven (7) units in just three working days. Our first shutdown window is the 10th - 13th September 2000.

Ross Blacklock



Nilsen Electric (SA)

100 Regency Road, Ferryden Park, SA 5010,
Phone: +61 (08) 8440 5300, Fax: +61 (08) 8347 0347
Email: nilsensa@nilsen.com.au
Website: www.nilsen.com.au

5 Pyne Close, Mt Gambier SA 5290
Phone: +61 (08) 8725 2442, Fax: +61 (08) 8725 2327
Email: gambier@nilsen.com.au
Website: www.nilsen.com.au

Nilsen Electric (VIC)

41 Kylta Road West Heidelberg, VIC 3081
Phone: +61 (03) 9450 1300, Fax: +61 (03) 9457 5261
Email: nilsenvc@nilsen.com.au
Website: www.nilsen.com.au

71 Princes Highway, Morwell VIC 3840
Phone: +61 (03) 5133 9127, Fax: +61 (03) 5134 4631
Email: nilsmwl@nilsen.com.au
Website: www.nilsen.com.au

Nilsen Electric (WA)

4 Park Place, Bibra Lake, WA 6163
Phone: +61 (08) 9434 2311, Fax: +61 (08) 9434 2322
Email: nilsenwa@nilsen.com.au
Website: www.nilsen.com.au

Bunbury, PO Box 22, Gelorup WA 6230
Phone: +61 (08) 9795 6808, Fax: +61 (08) 9795 6808
Email: nilsenby@nilsen.com.au
Website: www.nilsen.com.au

Nilsen Electric (NSW)

U39/2 Railway Parade, Lidcombe NSW 2141
Phone: +61 (02) 9649 7551, Fax: +61 (02) 9649 7924
Email: nilsensw@nilsen.com.au
Website: www.nilsen.com.au

Nilsen Electric (QLD)

Unit 7, 505 Lytton Road, Morningside QLD 4170
Phone: +61 (07) 3899 8866, Fax: +61 (07) 3899 8766
Email: nilsenq@nilsen.com.au
Website: www.nilsen.com.au

Nilsen Electric (NT)

Unit 2/43 Berrimah Road, Berrimah NT 0828
Phone: +61 (08) 8947 1134, Fax: +61 (08) 8947 3173
Email: nedarwin@nilsen.com.au
Website: www.nilsen.com.au

Nilsen Industrial Electronics

43 Sheehan Road, Heidelberg West, VIC 3081
Phone: +61 (03) 9450 1532, Fax: +61 (03) 9457 6327
Email: nilsenie@nilsen.com.au
Website: www.nilsen.com.au

Nilsen Technologies

150 Oxford Street, Collingwood, VIC 3066
Phone: +61 (03) 9419 9999, Free call: 1-800-623-350
Fax Stream : 1-800-067-263
Email: niltechn@nilsen.com.au
Website: www.nilsen.com.au

Nilsen Technologies N.Z.

Unit 4, Ambury Court, 1 Porters Street
Eden Terrace, Auckland, New Zealand
Phone: +64 9 309 2464, Fax: +64 9 309 2968
Email: sales@nilsentechn.co.nz
Website: www.nilsen.com.au

Nilsen Electric (Thailand) Co Ltd

1/30 Boonyawat Road, Tambol Huawiang,
Muang Lampang, S2000, Thailand
Phone: +66 54 221 829
Fax: +66 54 221 829
Website: www.nilsen.com.au

Editor: Mark Nilsen • Phone: (03) 9417 7788 • Fax: (03) 9415 1014
Email: nilsen@nilsen.com.au • Website: www.nilsen.com.au