NILSEN REVIEW

2011 ISSUE 19

INSIDE...

MINING & RESOURCES

Nilsen has effectively tapped into this growing market

NILSEN – AUSTRALIA WIDE

Welcome to the new look Nilsen Review!

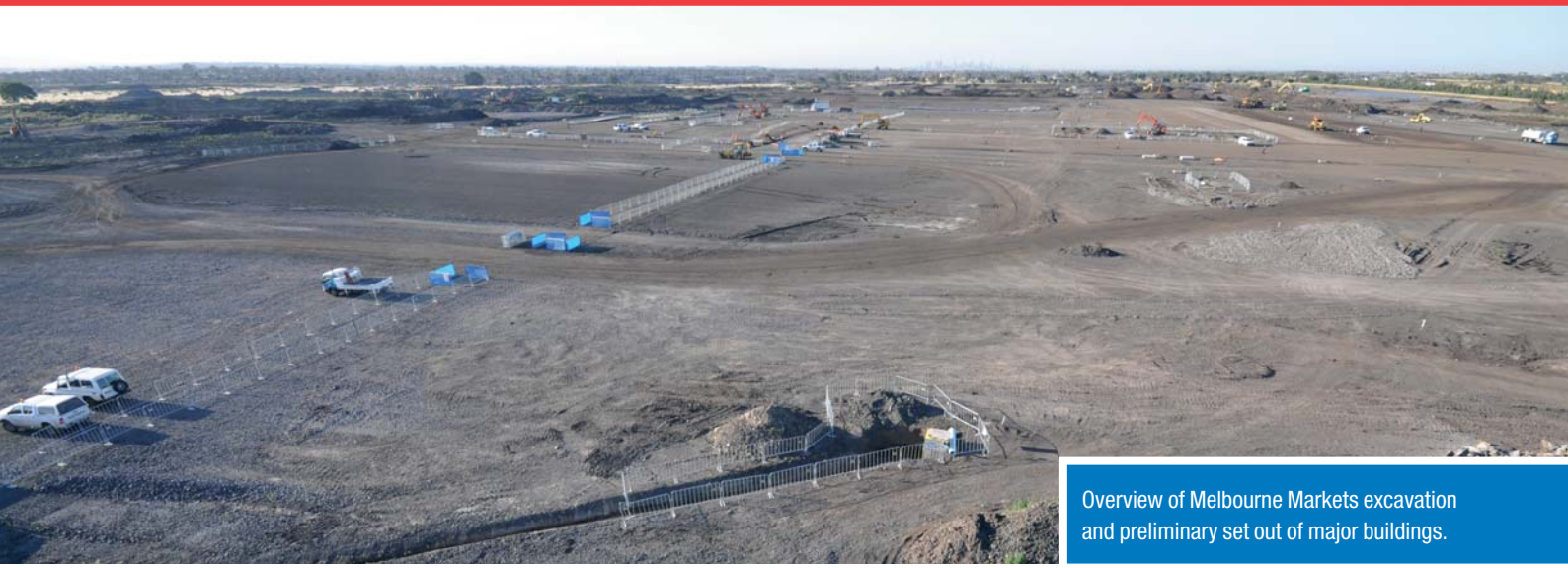
Just as our company continues to grow and develop, bringing effective solutions to a broad range of customers, so too does our newsletter. We've given the Review a fresh feel as we look back on the year that's been, as well as ahead to the future.

It has been a year of some exciting major projects, both completed and in progress, that have given Nilsen staff the opportunity to excel and really show just what they can do. Our strength is in our people – their knowledge and experience ensures the best possible outcomes for projects of all types right across the country. From mining and resources, through education and industrial, to government and defence, Nilsen is at the forefront of the construction and implementation of complex and integrated electrical systems that fulfil specific customer needs.

Mark Nilsen
MANAGING DIRECTOR

Overall design of the Wholesale Fruit & Veg Market and the Flower Market.

Entrance via Gate 1 into the Wholesale Fruit & Veg Market.



Overview of Melbourne Markets excavation and preliminary set out of major buildings.

What's New in Nilsen Projects...

Whether it's switchboards, upgrading, maintenance or full implementation of new electrical system requirements, Nilsen projects are as many as they are varied. To meet the unique challenges that different jobs can present, we are constantly developing ways to use the latest technology to provide the most effective solutions for our clients. Many projects will use existing, proven systems, while others have seen us incorporate quite specific requirements and continue to develop new technologies to make this happen.

While we're sure you're used to seeing Nilsen in shopping centres and other large commercial works, we have also been working on an ambitious project for the Melbourne Wholesale Markets involving a relocation and a whole new level of investment in enhanced technology. This unique environment needed some innovative electrical solutions to meet the location's needs, including embedded tariff and smart metering for individual stall holders to provide accurate, to the minute energy use information. Enhanced IT services via a fast, fibre backbone, traffic management, lighting control, as well as public and emergency lighting and security. The communication backbone is an integral part of the building management system providing a high level of lighting control.

The power reticulation required is over a very large area of the markets – 380 hectares – and involves the use of seven 415V Main Switchboards, 23 main distribution boards and 150 individual tenant distribution boards complete with metering. And that's not all! The scope of work is large and at peak periods we'll have some 120 personnel on site ensuring the job is completed to the highest standards, on budget and on schedule.

Another project that has seen us get involved across the board of requirements is the Ararat Prison Project, where our job includes overall responsibility for the design and construction of refurbishments, as well as construction of all electrical works. This is another large scale project involving increasing the housing of the current 370 prisoners to 700 in addition to giving this somewhat forbidding location a kindlier façade. To achieve this, new lighting towers are being designed and constructed that not only meet their primary function of providing high security illumination, but also give a more appropriate and pleasing effect when viewed from outside.

Another interesting challenge of this job for our team is the considerable 'green tinge' involved, as there will be six 65kW gas-fired micro turbines utilising the tri-generation (a highly efficient co-generation methodology) scheme to provide power to the prison. Needless to say, security of supply in this environment is paramount and a very high degree of redundancy is being built into the reticulation. The broad requirements of the job have also seen us installing a communication network to support the Department of Justice's Prisoner Interface Learning System (PILS).

It's just another example of the broad expertise that our Nilsen personnel have – a veritable pool of talent that can be drawn upon and tailored to suit the needs of any job. It enables us to effectively manage and complete large-scale projects with varied components and requirements; to meet challenging criteria and provide superior quality solutions every time – the Nilsen way.

Nilsen Leads the Way in Safety

At Nilsen, we are striving to live the credo that safety should be more than just a noble idea, it should be a state of mind – something that becomes an intrinsic consideration with everything we do.

OH&S in the workplace has become an increasingly prominent issue in Australia and we feel it is definitely an area where everyone should do their bit to practice what they preach. That's why we have invested in innovative behavioural training – to really keep workplace safety at the forefront.

We place strong emphasis on OH&S Leadership across the group and also developed our Speak Out For Safety Program to increase ownership of OH&S throughout the business. It's an ambitious program whose aim is to ensure the safety of not only all our staff, but all the people we work with and for in projects all across the country; be it on land, at sea, underground, in the air, or just in the office! Just as safety is important to us, we know it is a key consideration for our customers and we work with them to ensure any protocols they have in place are also being met.

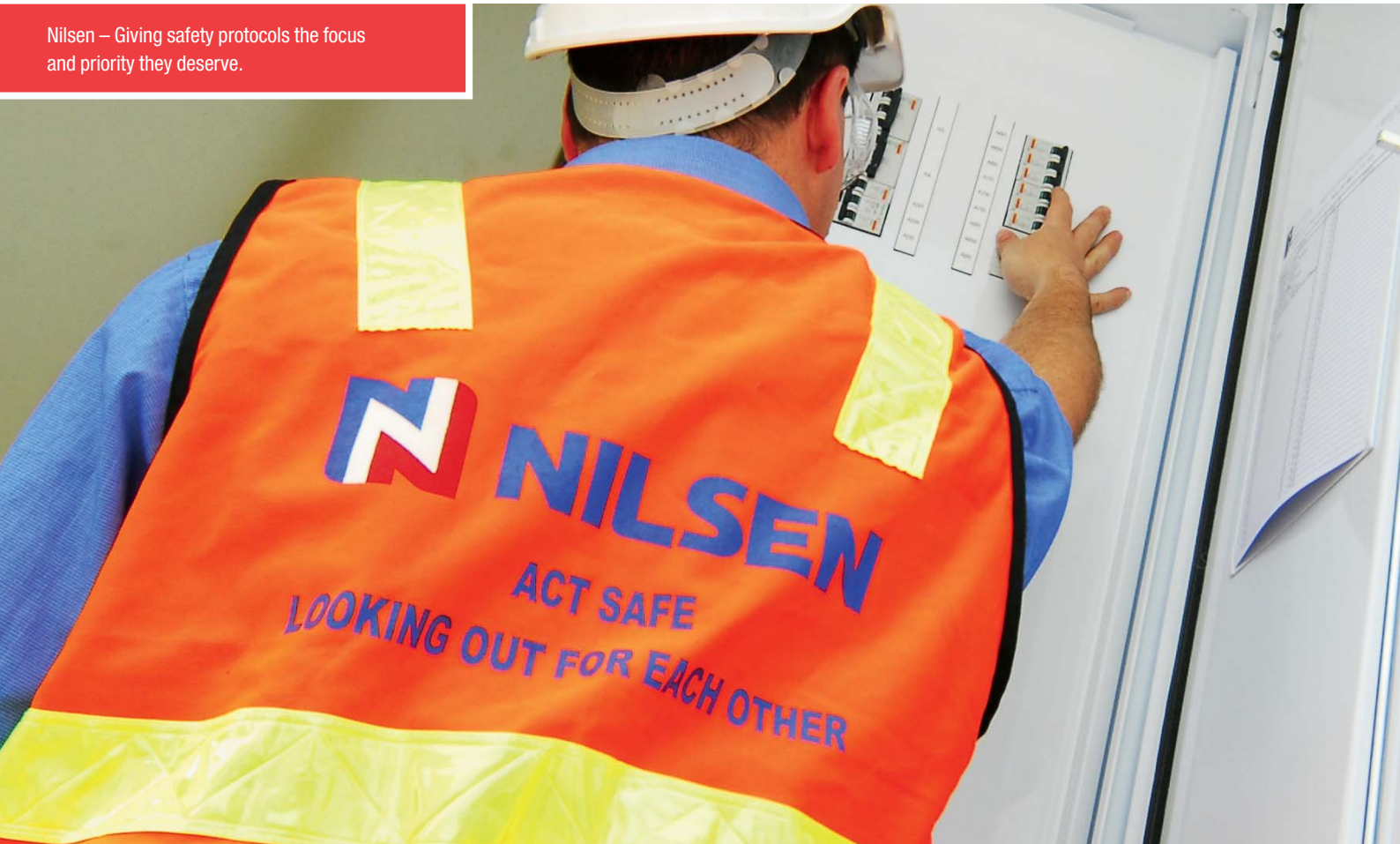
NECA Victoria and National OH&S Excellence Award Winner

In July, Nilsen (Vic) was awarded the OH&S award for Excellence in Victoria and has now also been presented with the NECA National OH&S Award. So a huge congratulations to all our staff who continue to lead the way in this vital area and have truly set an industry benchmark for workplace safety in Australia. Keep up the great work!

We're very proud to receive this type of award, but won't rest on our laurels. We'll continue to invest in these OH&S systems that have contributed to:

- A safer work place for all our staff – LTIs & MTIs have reduced significantly,
- Financial savings as a result of a significant reduction in our insurance premiums,
- Building a safety brand for Nilsen and as a result being a preferred supplier to many builders who share the same ethos, and importantly
- A building of our onsite and offsite leadership abilities.

Nilsen – Giving safety protocols the focus and priority they deserve.



Continuing to develop the skills of our workforce – one of our most valuable assets.

A Building Project of a Different Kind – Our People

Nilsen has been delivering building, construction and maintenance projects for decades, winning formal recognition with NECA and MBA awards at both State and National level. And while it won't receive this kind of recognition, there is one project that we're particularly proud of. It's our most long-term building project and its continued positive outcomes are critical to our future success. What is this large-scale project? Building and developing our highly skilled workforce, both technical and support, through apprenticeships and traineeships.

We recognise that our success lies in the skills, experience and contentment of our people and we are committed to their continued growth and development through both apprenticeships and further education. These are the building blocks designed to develop our most valuable resource – our people.

We employ apprentices in teams across the country in various areas of expertise. Here they are surrounded by our experienced employees, who lead by example and teach them how we deliver projects safely and to exactingly high standards day in, day out. And in providing these apprenticeship opportunities to both school leavers and more mature candidates (many of whom have already worked as trades assistants at Nilsen), we ensure that both the individuals and the company are best equipped to be successful now and into the future.

We also have employees developing their knowledge by completing qualifications such as certificate III and IV in Business Management, certificate IV in Front Line Management, certificate IV in Training and Assessment and the Diploma in Project Management. Through on the job training and experience, plus further education, we have long serving employees who have built successful careers, moving up through the company to take up more senior roles such as Project Supervisors, Project Managers, Senior Estimators and Estimators. It really is a testament to the fantastic working environment and opportunities for growth that Nilsen provides. Needless to say, our thanks go out to the much-valued and appreciated efforts of our staff that ensure our ongoing success.

View from behind showing conveyor rising up Tripper section, to Elevator section with machine slewed out for stacking commencement.

MINING & RESOURCES

Nilsen has effectively tapped into this growing market

450MW combined cycle power plant for the Sino Iron Project

Nilsen has a strong presence and history in supplying systems and services to the Mining & Resources Industry. From iron ore, gold and metal, to gas and coal, we have proven our expertise and adaptability in supplying tailored solutions across a broad range of industries.

Given the nature of these mining and processing works, the projects we undertake can be quite remote. But with Nilsen's Australia-wide coverage and pool of talented and specialised teams, we can effectively service our Resources customers and deliver our projects on budget and on time.

So no matter the industry, Nilsen has the people, knowledge and capabilities to fulfil the needs of our varied customers. In fact, we thrive on solving and overcoming the unique challenges that each project can present, using our considerable experience to either utilise our current technologies or even develop new systems to suit a particular environment.

Some of our recent Mining and Resources projects have included the following scope of works.

Nilsen has been involved in the largest magnetite mining and processing operation under construction in Australia – supplying, installing and pre-commissioning electrical, instrumentation and control works on a 450MW combined cycle power plant for the Sino Iron Project.

We have also been engaged in what is becoming the fastest developed liquefied natural gas project in the world, involving the process of gas from the Pluto and Xena gas fields into LNG and condensate. Five subsea wells on the gas field are connected to an offshore processing platform, which then pipes the gas to the onshore processing facilities. And through all these work areas, Nilsen was there, installing approximately 235,000m of cables including high voltage and low voltage power through to control and fibre optic cables, as well as 8000m of conduit – a mammoth feat!

Wiluna, a world-class goldfield with mining leases covering approximately 50 square kilometres, also turned to Nilsen for their upgrading works. The mine includes a gas pipeline, processing facility and BIOX® bacterial oxidation plant, along with other established infrastructure. Our Resources team is upgrading the electrical installation for the mine, including motor control centres, motors, generators, HV reticulation, and upgrading of instrumentation.

At Nilsen, we're always striving to grow and develop our customer relationships and it's always very pleasing when a customer discovers other ways that we can provide for and enhance their business.

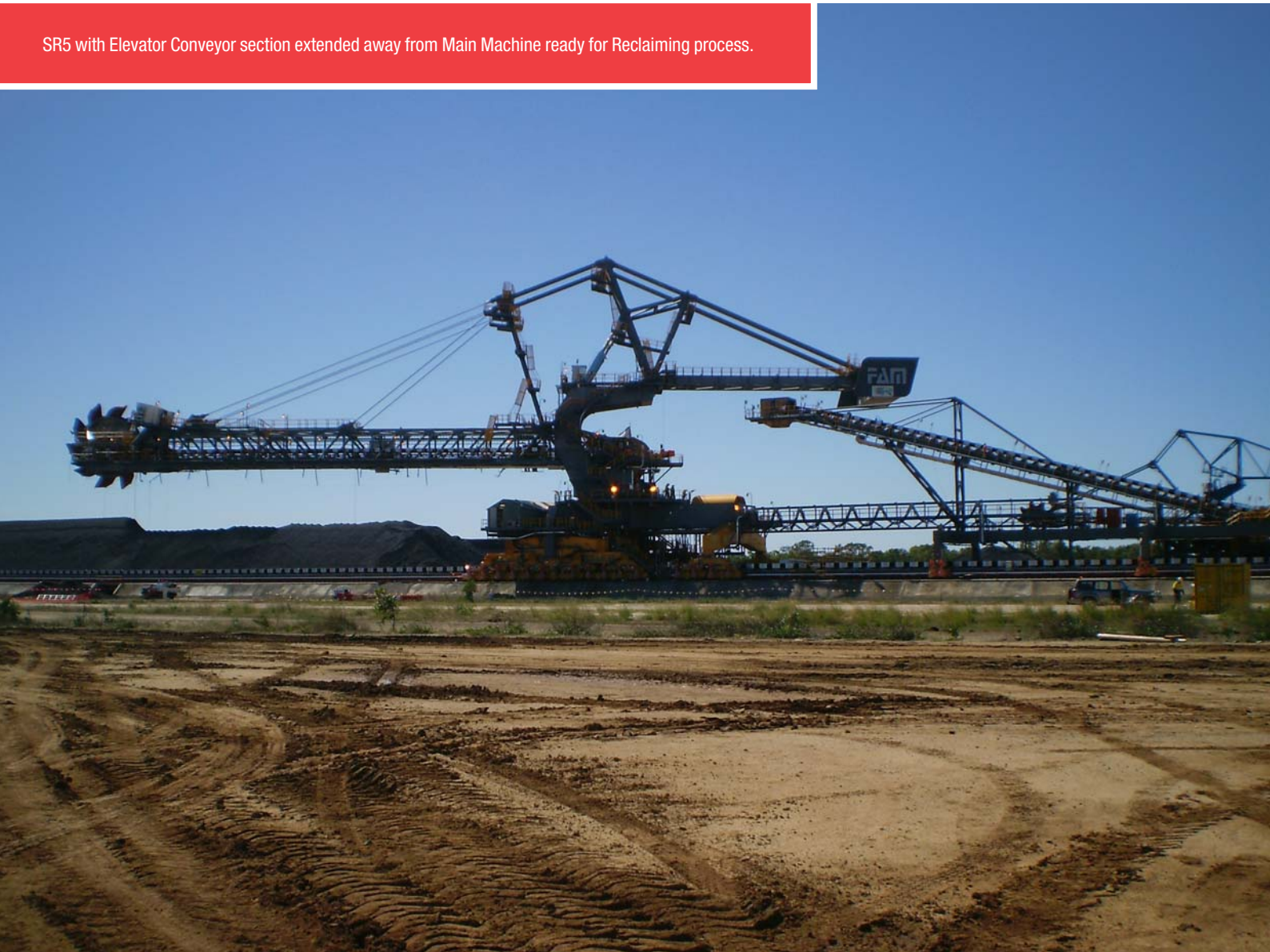
Switchroom at Prominent Hill site

Prominent Hill Switchroom

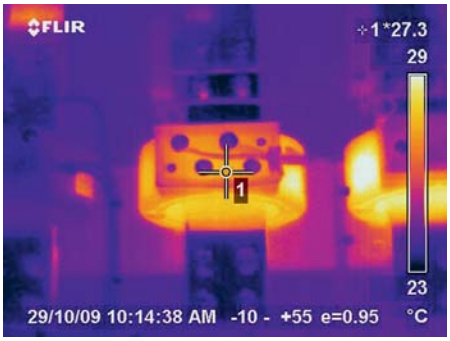
Having previously supplied switchboards for Simsmetal facilities, we have continued our relationship being awarded a contract to also supply one of their new Motor Control Centres. We strive for this repeat business that is testimony that we can deliver quality products that fulfil our client's technical requirements, as well as providing a high level of customer service.

In another on-going project, we're happy to say that we have been successfully solving the particular challenges involved in a major coal loading facility project, Abbot Point. Nilsen is responsible for doing the total electrical design, supply, installation and commissioning of the electrical machinery and control systems of four stacker/reclaimers – an extensive scope of work involving trailing cable, cable reeling systems, transformers, bus ducting, a series of sensors and control systems using various communication protocols, and field devices such as ultrasonic detectors, rotary shaft encoders and inclinometers. Electrical protection is another area of complexity, with particular reference to earth leakage. Grading the protection system and co-ordinating it with line protection was quite an exercise, but our Nilsen team succeeded, once again demonstrating that we're the right choice for these complex materials handling projects.

SR5 with Elevator Conveyor section extended away from Main Machine ready for Reclaiming process.



The right testing can help detect and prevent electrical failures.



NILSEN ENGINEERING SERVICES –

Leaders in the latest technology

No matter what your Industry, power outages and failures can cost you valuable time and unnecessary cost. Wherever possible, it just makes good sense to detect potential issues before they happen. At Nilsen, we're experts in utilising the latest technologies, not only for construction and maintenance, but also the crucial area of prevention. We understand how debilitating it can be when something unexpectedly goes wrong, so our services can ensure that you have the best possible tools in place for detection and prevention of electrical failures.

Sometimes a double-pronged approach is the most effective and Nilsen have expertise in using ultrasound combined with infrared technology in our field maintenance procedures. The technique forms part of our TEGG preventative maintenance package, which has proven effective in many situations including commissioning work done on sub-stations, and high voltage maintenance for mine sites, hospitals, steel mills and foundries.

We use infrared to detect hot spots and ultrasonic to detect arcs and corona. In this way we are able to assess potential failure conditions. This combined with our thermographic analysis capability provides a very powerful tool – detecting failure issues that are beginning to develop, as well as diagnosis of faulty operation of electrical gear.

We recently carried out an investigation on a switchboard at a shopping centre, which was found to be overheating due to under-rated circuit breakers. Inadequate ventilation allowed moisture and vermin access, compromising the insulation integrity of the switchboard. This could have had dire consequences for the shopping centre – setting it up for a potential catastrophic failure and possibly a disastrous fire. But fortunately, they had engaged Nilsen to assess their current electrical systems and our team was able to head off a potentially dangerous and costly power outage.

Mackay Hospital – Nilsen ensures that it's business as usual at the hospital while upgrades take place.

HOSPITALS & MEDICAL RESEARCH

Nilsen expertise in demand Australia wide

Fiona Stanley Hospital – Nilsen is responsible for electrical, IT and communication systems for this prestigious project.

It's no surprise that Nilsen is considered a leader in electrical contracting for hospitals and medical facilities across Australia. Such specific requirements for light and power, communication and emergency systems, need specialised experience and our teams have shown their knowledge and expertise in all kinds of hospital projects.

The many years of experience is certainly showing in the number of new projects we are working on – projects that not only require a high level of technical skill, but also the ability to effectively work with architects, engineers and constructors, while meeting the particular needs of the customer and end-users.

Fulfilling our customers' aims with the demands and constraints that the hospital environment entails, takes a multi-faceted approach and the experience to match. This encompasses demanding time-lines, specific technical requirements and operational practice needs such as mission-critical standby power and stringent patient and personnel safety needs.

Our process is to assess the particular specifications and operational requirements of each health facility and come up with a strategy for implementing the works for the best possible outcome. Doing this in consultation with the client/s, be they consulting engineers, builders or end-users, ensures potential issues are avoided by doing it once and doing it right – something we are proving we can consistently achieve. From electrical system change-overs and upgrades to expansions and full electrical fit-outs of new constructions, we have the capabilities and experience in personnel across the country to handle projects of any size in any location.

Some of the recent and current projects that we have been working on include Fiona Stanley Hospital (Perth), Royal Darwin Hospital, Epworth Hospital redevelopment (Melbourne), Orange Hospital project, Robina Hospital (Gold Coast) and the Queensland Medical Research Institute. The scope of works and particular parameters include:

- Installing electrical, IT and communication systems, including LV switchboards, UPS systems, distribution and high voltage reticulation, lighting projection, medical earthing and leakage protection, substations, standby generator sets, security systems and intelligent lighting control.
- Installing ELVS systems that integrate nurse call, duress and paging, IT and communication.
- Lighting efficiency, luminous efficacy and reducing power consumption by approx. 50% with replacement of several thousand fluorescent light fittings with T5 lighting, involving changing of luminaries as well as ballasts.
- Expansions with resulting upgrades to substations required.
- Completing works allowing normal operations, and therefore electrical supply, to continue as normal, thus requiring multiple cut-overs.
- Carrying out works in medical research facilities while observing the strict laboratory isolation standards as prescribed by the Federal Department of Health and Ageing.

An artist's impression of the new RAH which will be staffed, in part, by robots. The hospital is scheduled for completion in 2015.

Townsville Hospital – Nilsen understands the demanding operational requirements of working in a hospital environment.

Royal Darwin Hospital – Nilsen is working to increase lighting efficiency and reduce energy costs by as much as 50%.

In the last issue of the Nilsen Review, we featured a story on Nilsen's participation in the construction of four coal stacker/reclaimer's at Ports Corporation of Queensland's Abbot Point. Nilsen's Morwell Division – that specialises in the movement of bulk raw materials – construction participation included the electrical design, supply, installation and commissioning of the electrical machinery and control systems. Through an editorial oversight, illustrations of Sandvik machines were incorrectly used and we wish to apologise unreservedly to any parties impacted by the use of that illustration.

Nilsen (SA) Pty. Ltd.
100 Regency Road, Ferryden Park, SA 5010
Phone:+61 (08) 8440 5300
Fax:+61 (08) 8347 0347
Email: nilsensa@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

Nilsen (VIC) Pty. Ltd.
43 Sheehan Road, Heidelberg West, VIC 3081
Phone:+61 (03) 9450 1300
Fax:+61 (03) 9457 5261
Email: nilsvic@nilsen.com.au
Lic. No. REC 6

71 Princes Drive, Morwell, VIC 3840
Phone:+61 (03) 5136 9500
Fax:+61 (03) 5134 4631
Email: nilsmwl@nilsen.com.au

Nilsen (WA) Pty. Ltd.
12 Efficiency Way, Bibra Lake, WA 6163
Phone:+61 (08) 9434 2311
Fax:+61 (08) 9434 2322
Email: nilsenwa@nilsen.com.au
Lic. No. EC000982

5/1 Halifax Drive, Bunbury, WA 6230
Phone:+61 (08) 9726 0800
Fax:+61 (08) 9726 0866
Email: nilsenby@nilsen.com.au

Nilsen Resources Pty. Ltd.
4 Park Place, Bibra Lake, WA 6163
Phone: +61 (08) 9434 6773
Phone: +61 (08) 9434 9083

Nilsen (NSW) Pty. Ltd.
Unit 26/38 South Street, Rydalmere, NSW 2116
Phone:+61 (02) 9898 9355
Fax:+61 (02) 9638 0343
Email: nilsensw@nilsen.com.au
Lic. No. 186489C

Nilsen (QLD) Pty. Ltd.
379 Thynne Road, Morningside, QLD 4170
Phone:+61 (07) 3899 8866
Fax:+61 (07) 3899 8766
Email: nilsenq@nilsen.com.au
Lic. No. 66226

Unit 4/12 Bassett Street,
Gladstone, QLD 4680
Phone:+61 (07) 4972 5207
Fax:+61 (07) 4972 5294
Email: Gladstone@nilsen.com.au

Cairns
PO BOX 1112, Cairns QLD 4870
Phone: +61 (07) 4034 9255
Fax: +61 (07) 4034 9155
Email: cairns@nilsen.com.au

Mackay
PO BOX 5034, QLD 4741
Phone:+61 (07) 4944 0068
Fax:+61 (07) 4944 0131
Email: mackay@nilsen.com.au

Townsville
PO BOX 7191, QLD 4814
Phone:+61 (07) 4775 4326
Fax:+61 (07) 4779 0957
Email: townsville@nilsen.com.au

Nilsen (NT) Pty. Ltd.
41 Berrimah Road Berrimah NT 0828
Phone:+61 (08) 8947 1134
Fax:+61 (08) 8947 3173
Email: nedarwin@nilsen.com.au

Nilsen Networks Pty. Ltd.
Unit 4/3-5 Gilda Court, Mulgrave, VIC 3170
Phone: 1300 734 766
Fax: 1300 735 466

Oliver J Nilsen (Australia) Ltd
37 Sheehan Road, Heidelberg West, VIC 3081
Phone: +61 (03) 9457 5566
Fax: +61 (03) 9459 5966

www.nilsen.com.au