



EDCelectrical
design&construction

20 Trafalgar Street, Wodonga Vic 3690

PO Box 5006, Wodonga Plaza Vic 3690

Phone: (02) 6024 6044

Fax: (02) 6024 6055

Email: admin@edcelectrical.com.au

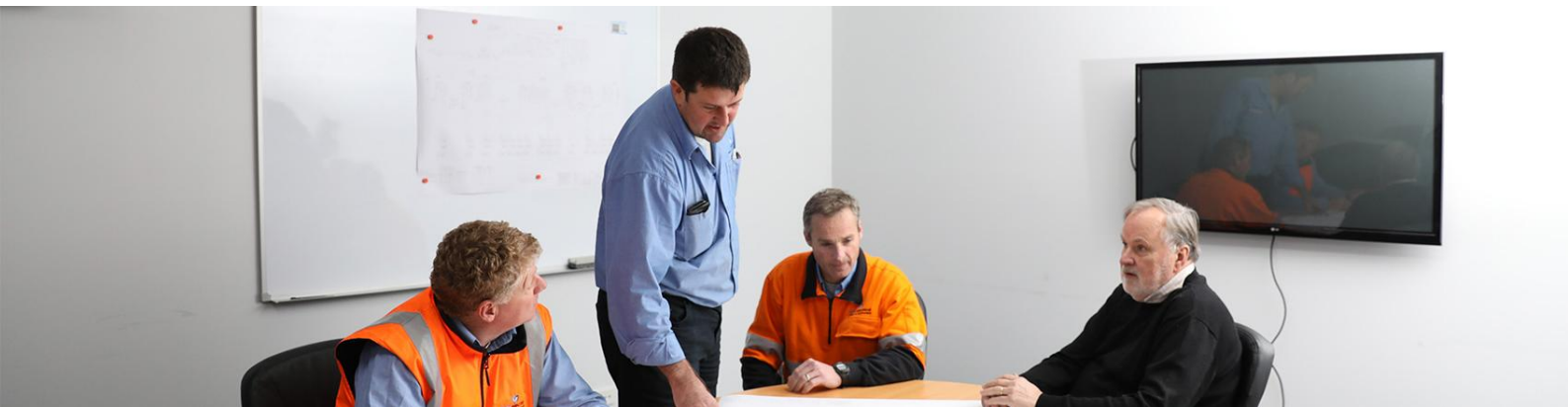
Web: www.edcelectrical.com.au

ABN 31 085 651 314

REC VIC 13763 / NSW 110946C

QLD 76316

CAPABILITY STATEMENT



ACCREDITED
MASTER
ELECTRICIAN

Contents

Overview	2
Engineering Team.....	2
Why Electrical Design and Construction?	2
Your Partner	3
Design & Engineering Services.....	3
Company Management.....	3
Equipment Procurement	5
Financial Transparency.....	5
Employee Support.....	5
OH&S - Master Electrician and CM3 Compliant.....	5
Structured Data Cabling & Fibre Optic.....	6
Bulk Grain Handling.....	7
Food Manufacturing Facilities	8
Petro-Chemical/Explosive Gases and Hazardous Area Experience.....	9
Base Metal and Gold Mining Operations	10
Water and Wastewater Division	11
Network Switchyard Construction.....	12
Project Management.....	13
High Voltage Works.....	14
Reference Project - Controls Upgrade / HV Cable Installation.....	16
Reference Project - Continuous Improvement Project	17
Reference Project - Pet Food Capacity Upgrades	18
Key Staff.....	19

Overview

Electrical Design and Construction Pty Ltd. (EDC) is an Electrical Industrial Engineering Company established in 1998. With an Office in Wodonga we service clients throughout Victoria, NSW, South Australia, Queensland, Western Australia and Tasmania, International works have included projects in New Zealand, Indonesia and Malaysia.

EDC specialises in Industrial Electrical Automation projects, High Voltage Installations, Control Systems Safety Design and Assessments, Detailed Electrical Design, Hazardous Area Zoning and Installation, Turnkey Automation Engineering solutions and Industrial Data.

EDC provides a complete range of services to its customers in the Electrical and Data Installation streams. Our team includes Project Managers, Electrical Engineers, Electrical Design and Drafting personnel, Industrial Installation Electricians, Hazardous Area Accredited Electricians, High Voltage Cable Jointers, Authorised High Voltage operators and Data Cabling Installation workers.

Engineering Team

Team Members		Years of Industrial Experience
John Robertson	Senior Electrical Engineer / Estimator	45
Peter Lade	Project Design Engineer	26
Glenn Monte	Senior Project Manager / Estimator	29
Mark Edwards	Senior Designer / High Voltage / Director	37
Darren Stephens	Design Draftsman	30
Pat Beattie	Design Draftsman / Project Manager	28
Wendy Peters	Design Draftsperson	25
Mark Pfeiffer	Design Draftsman / Project Manager/ Director	19
Jason Flower	General Manager / Director	32
James Thomas	Project Manager	25
Robert Gollan	HV / Data Manager / Director	24
Shane Wardrop	Project Manager	21

Why Electrical Design and Construction?

EDC is a recognised industry leader in the Electrical field with a strong reputation for establishing the clients need, developing a strategy, implementing a plan and following through to project completion, on time, and within budget. We offer technical expertise and experience in a wide range of industries such as:

- ▶ Water and Wastewater
- ▶ Recycling
- ▶ Mining
- ▶ Manufacturing
- ▶ Food and Beverage
- ▶ Dairy
- ▶ Packaging
- ▶ Plastics
- ▶ Process
- ▶ High Voltage
- ▶ Power Generation
- ▶ Terminal Stations



► Grain Handling and Feed Mills

Your Partner

At Electrical Design and Construction Pty Ltd. our aim is to provide a professional service in the Industrial Electrical field by developing long term partnerships and growth.

We are geared to achieve results for our clients through commitment, passion, combined knowledge and experience.

Design & Engineering Services

Electrical Design and Construction Pty Ltd has the facilities available to meet the clients Industrial electrical engineering design, documentation and software integration needs.

Utilising both our internal resources and when required our alliance partners, EDC provides all of the engineering services for project related works or alternatively the periodic updating of drawings, policies and procedures with the associated documentation that may be required as ongoing plant maintenance.

Some of our Engineering services include:

- Project electrical & automation design
- Detailed main power distribution design
- High Voltage operating procedures
- Distribution Earthing Systems Design software
- Cable selection via automated software packages
- CAD generated electrical documentation
- Standard electrical schematics for clients
- Generation of tender documentation
- Machinery Safety interlock design & validation
- Power Quality surveys & reports
- Hazardous Area electrical installation and dossier compilation

Completed design works include:

- Leed Engineering- Orange Macquarie Pipeline Project E & I Design
- Schweppes – Mountain H2O Process Upgrade Projects E & I Design
- Schweppes – Plastics Processing Plant – Design & Tender Package
- Cargill – West Wyalong Grain Handling System Upgrade E & I Design
- Nestle – Project Utopia Packaging & Process Upgrade E & I Design
- Ridley – Wellsford Feed Mill Project E & I Design and Hazardous Area Assessment
- Master Pet – Dry Kibble Plant
- AGL – Hydro and Gas Generation

Company Management

Our company management focus on several strong beliefs:

- Employee safety
- Providing quality and value for money
- Maintaining excellent client relationships
- Listening to clients' needs

-
- Providing support and knowledge through years of combined industry experience
 - Structuring resources tailored to the individual project

Equipment Procurement

Electrical Design and Construction can source any electrical component that is requested by a client. We have many direct accounts with manufacturers and distributors. This gives us the ability to control traceability, delivery schedules, quality, guarantees and technical support.

Through direct business with manufacturers and distributors we can generally provide better cost options to clients. We source the best prices that the current market has available and pass these onto the client without holding back supplier rebates.

Financial Transparency

EDC is entrusted continually with projects based on "Cost Reimbursement" from our existing clients. These have always been beneficial to all parties concerned. Clients receive exactly what they want without the burden of scope changes. EDC usually provides a "Budget Estimate" of the proposed works with cost tracking to any requirement requested, whether this is weekly, fortnightly or monthly. Supplier purchase invoices are provided complete with access to all associated job files from our "Sybiz" business software for any auditing that forms part of this type of agreement.

Employee Support

Electrical Design and Construction are proud of the employees that form our organisation as an entity. We highly regard the skills, commitment and loyalty our people possess and understand they have always been the reason our company is able to provide such a quality product. We in turn make a commitment to provide ongoing employment, training and flexible conditions in recognition of this support.

Within our organisation, we have staff from numerous industry fields, providing a diverse experience base to educate our apprentices. We are also proud of the fact that many employees have been part of our team for more than ten years, some since the formation of the company.

OH&S - Master Electrician and CM3 Compliant

Master Electrician

EDC is both Master Electrician and CM3 compliant with regards to our Safety management system (Safety Connect). By choosing to implement the Safety Connect Australia Safety Management system into our business we have made a strong commitment to the safety of our business, staff and clients. The system has been developed by leading industry safety experts and complies with the highest levels of electrical safety. By implementing this program, we will ensure a safe environment for our clients and staff through the delivery of best practice safety techniques.

Safety Connect Australia assists our staff with maintaining the competency and skills so we can understand the latest regulatory requirements. With regular audits we ensure overall compliance with company policies and procedures.

CM3

EDC has been awarded another year of CM3 Registration. CM3 accreditation is conducted by Noel Arnold & Associates Risk Management Services who, on behalf of their clients, conduct a third-party review of company procedures. CM3 certification allows EDC to prequalify for projects by assuring the requesting company that all of its sub-contractor's safety systems are in order.

Structured Data Cabling & Fibre Optic

EDC specialise in the design and installation of industrial network systems including structured Cat 5/6 data cabling, Fibre optic and coaxial cables. EDC are a Panduit Business Partner, industrial Ethernet accredited.

Services:

- Management and delivery of turnkey communications network projects
- Design of fibre optic network installations
- Project management of cable installation, termination and maintenance
- Emergency breakdown and repair work
- Testing and certification
- Cable identification systems tailored to clients' expectations
- Patch panel layout and interconnection schematics



Bulk Grain Handling

EDC have been involved in modernising control systems and capacity upgrades on various grain handling facilities in Queensland, Southern NSW, Victoria and South Australia.

Other works include:

- Pre-harvest preventative maintenance programs
- Total refurbishment of numerous Paddy transfer shuttles at SunRice bulk storage facilities
- Plant upgrades at SunRice Leeton and Deniliquin rice mills
- Milling upgrades at Nestle / Uncle Toby's
- Grain transfer upgrades for Cereal Partners worldwide



600 TPH DOH (drive over hopper) West Wyalong NSW

Food Manufacturing Facilities

EDC staff have worked hand in hand with many of Australia's largest food manufacturing companies, Mars, Nestlé (Aust and Indonesia), Danone, Cargill and SunRice (Australia and New Guinea). Works undertaken on these sites have included either initial installation or operating plant upgrades.

EDC recently completed a pet food production plant for Mars Petcare located in Bathurst, Central NSW. This involved the logistical challenge of managing and commuting long-term employees from our Wodonga base, combined with local staff, for the expenditure of 35,000 hours of work, LTI free. EDC was also nominated by Mars for their internal excellence awards in the category of "Providing Excellence in Value for Money". These awards had companies nominated from the Pacific region with EDC making the final.



Mars Petcare Bathurst meat additive bin control panels.

EDC was also the major electrical contractor for the construction of two new Ridley Agriproducts Feed Mills in Westbury, Tasmania and Bendigo, Victoria and at Baiada's feed mill in Hanwood NSW with refurbishment works lifting the capacity to 15,000 Tonnes per week .

Currently EDC is involved in the design and construction of Masterpet's Pet Food factory in Parkes, NSW and V2 Food's new plant-based processing plant in Wodonga.

These projects similarly involve EDC taking the lead in electrical design and installation, then providing the expertise to complete the projects, combined with involving local contractors so as to integrate the required skills and have local contractors site familiar at project completion .

One of EDC's long-term valued clients is Wodonga Meats (Abattoir and Rendering plant), where we have provided numerous installation services for more than 15 years. Over this period, we have completed:

- New 2MW Tri-generation plant
- Blast freezers
- Killing floor modernisation
- Chillers
- Rendering plant automation and safety system upgrades

Petro-Chemical/Explosive Gases and Hazardous Area Experience

Electrical Design and Construction have been involved in hazardous area installations for over 15 years.

Some projects that we have successfully completed in that time have been.

- Munitions manufacturing
- Liquefied natural gas pipeline compressor stations
- Bio-Diesel production facilities
- Food bases oil manufacturing plants
- Livestock Feed Mills

EDC previously managed over 75,000 hours with zero LTI's to complete the entire E&I installation for Riverina Oils, Bio Energy Seed processing plant just north of Wagga Wagga in Southern NSW.

This operation uses canola seed as the base to produce food grade cooking oil and has the capacity to process 25% of New South Wales entire canola seed crop.



\$120M Riverina Oils and Bio Energy Seed Processing Plant, Wagga Wagga NSW, during construction

EDC has also been responsible for Hazardous Area zoning and safety assessments for multiple production facilities, including Ridley Feed Mills, Cargill Malt, Grainflow, Baiada and Nestle. Using data collected, EDC worked to complete an entire hazardous area zoning of the production facilities, complete with hazardous area safety dossiers detailing the required actions to ensure total safety of the plant from dust explosions.

Base Metal and Gold Mining Operations

EDC staff have worked hand in hand with many of Australia's largest mining companies, Newcrest, BHP, Rio Tinto, CBH Resources just to highlight a few.

Some of these mining locations have been:

- Cadia Valley Operations
- North Parkes
- Endeavour Cobar
- Peak Gold Cobar
- Olympic Dam
- Gosowong, Gold Indonesia
- Indominco, Coal Bontang Indonesia
- Lake Cowal Gold

Works undertaken on these sites have included either initial installation or operating plant upgrades to.

- ROM crushers and stockpile feeds
- Reclaimers/mill feed and recycle circuits
- Primary and secondary grinding
- Cyclone and gravity concentration
- Carbon in Leach and base metal flotation
- Tailings treatment and process water re-circulation.
- Reagent chemical dosing systems



Stockpile feed conveyor CV-0. Typical installation of out feed ore handling from a ROM cone crusher.

Water and Wastewater Division

One of Electrical Design and Construction's specialised area's is in the water and wastewater industry. We have staff with many years of experience, which have been involved throughout the full implementation of these types of projects, incorporating detailed electrical design, instrumentation selection, site installation, PLC code, SCADA graphics and commissioning.

Our "Water Team" consists of project managers, design engineers, site supervisors, software engineers, instrumentation technicians, experienced tradesman, apprentices and commissioning engineers.

We have completed works in metropolitan areas, as well as remote locations consisting of:

- Raw water to potable water plants
- Pipeline pumping stations
- Wastewater treatment plants
- Factory trade waste treatment facilities
- Recycled water plants
- Reverse osmosis plants for boiler water feeds.



Raw water treatment plant DAF filter constructed from high grade stainless steel.

Network Switchyard Construction

EDC are regularly contracted to assist in the construction of network zone substations. Task for these works consist of:

- Placement of 132kV/66kV/22KV transformers
- Erection of voltage transformer, current transformer and circuit breaker structures
- Construction of connecting aerial tube busbar conductors
- Installation and wiring of primary high voltage switchgear and associated secondary control cables that interrogate yard protection and control equipment.

Typical clients have been:

- Powercor
- AGL
- Beon
- SP AUSNET
- Essential Energy
- Zinfra
- Transfield



Burwood 132kV to 22kV zone substation showing VT's in the foreground followed by isolation switches and circuit breakers.

Project Management

EDC has had extensive experience in project management in the industrial sector through involvement at all stages of project design and installation from start to finish. Listed below are some of the specific areas we have been involved with:

Design Aspect:

- Working with potential Customers to generate and compile the required supporting documentation to enable cost efficient procurement and delivery
- Design and implementation of project installation program to enable a timely and successful completion
- Develop OHE&S policies and procedures tailored to site specific requirements.
- Develop Quality Assurance checks to comply with any relevant standards
- Provide documentation for project progress reporting
- Develop commissioning implementation program

Installation:

- Ensure timely delivery of items of plant and equipment
- Organization of multi trades to enable a cost-efficient installation
- Provide onsite supervision and support for a safe and organised installation
- Organise and chair weekly site progress meetings
- Ensure project site OHE&S compliance
- Monitor and check all Quality Assurance documentation
- Compilation of documentation for client handover

High Voltage Works

EDC continues to have a large involvement in works relating to High Voltage installations. Listed below are some of the specific areas we have been involved with:

Design Aspect:

- Working with potential High Voltage customers to generate and compile the required supporting documentation to make application to the respective electricity distributor for new High Voltage connections.
- Working with our Client and the respective electricity distributor during the initial design phase to ensure that the proposed equipment selection, HV distribution design and site reticulation layouts are reviewed and agreed to for a smooth installation & commissioning implementation.
- Generation of “High Voltage Safety Plans” including the generation of all associated single line diagrams, protection curves, HV equipment layout drawings and switching instructions including the completion of “Operating Protocol” documentation with the electrical distributor (Requirement of Service Installation Rules in VIC and NSW).
- Detailed design of High Voltage substation equipment layout including the requirements for oil containment, soil resistivity tests, fire protection and substation earthing design (step and touch potential considerations) in line with both the applicable state Service Installation Rules and Australian Standards.

Installation:

- We coordinate both the civil and electrical installation of High Voltage substation installations for either “open-type” or “kiosk” type substation installations on the customers site. This includes the procurement (where required) of all High Voltage switchgear, transformers, HV cabling, fencing, signage and associated equipment required to complete the High Voltage installation.
- We have a team of 4 High Voltage terminators of which 3 are trained in terminations up to 33kV and one is trained for up to 66kV terminations. These workers not only carry out HV terminations for our new installations but are also often utilised by other clients for specialised terminations such as in-line joints to older types of cables or upgrade works to existing legacy substations throughout various states.
- We undertake the installation of U/G High voltage cables either in trenches or utilising under boring techniques on Clients sites carrying out the mandatory tests and completing cable test reports for submission to the customer and electrical inspector / authorities (Where required).
- Frequently we are requested to supply a team of workers to various Electrical distribution companies to undertake Substation upgrades where our workers may work away for several weeks to complete the required upgrade installations.

Maintenance:

At present several of our Clients who are “High Voltage Customers” utilise our company to coordinate High Voltage Maintenance Shutdowns. Dependant on the Clients requirements during these planned shutdowns, maintenance works coordinated may include:

- Generation of proposed timeline and safety plan including HV switching plans.

- Systematic site power isolations/earthing and issue of required High Voltage access permits.
- Servicing of various types of High Voltage Switchgear (metal enclosed/open type)
- Power transformer checks (Oil level, Silica gel breathers, oil sampling & analysis)
- Protection system testing (Primary/secondary injection testing)
- Micro-Ohm testing of HV bus, circuit breakers, isolators etc.
- Report generation detailing all finding as and any recommendations to the client
- Thermographic surveys and generation of subsequent reports/recommendations

Some Completed Projects

Client	Location	Project overview
Carter Holt Harvey	Myrtleford	Supply & installation of 3 new 6.6kV/433V Kiosk Substations including LV main switchboards and associated HV U/G ring main, civil works, HV terminations, circuit breaker protection setting implementation and all required HV switching, permits and generation & submission of test reports and supporting documentation.
Renewed Metals Technologies (RMT)	Wagga	Coordination and installation of 2 new 11kV/415V "Open-type" transformer substations and associated HV metering circuit breaker and ring main unit. This included the generation of all required supporting design drawings & documentation for submission to the Electricity Distributor for submission for the client to sign a "High Voltage Customer" agreement with Essential Energy.
Carter Holt Harvey Sites (3)	Tumut Sawmill Treatment Panels	Audit of 3 CHH sites and generation of all required supporting documentation, policies & procedures for new "High Voltage Safety Plans" specific to each site and submission of completed manuals to Essential Energy for the generation of "High Voltage Customer Operating Agreements" between each site and Essential Energy.
Carter Holt Harvey	Myrtleford	Coordination of upcoming HV planned maintenance shutdown, Updating of HV Operating procedure & protection curves.
Visy	Smithfield	Provision of HV Terminator for new HV C/B Installation.

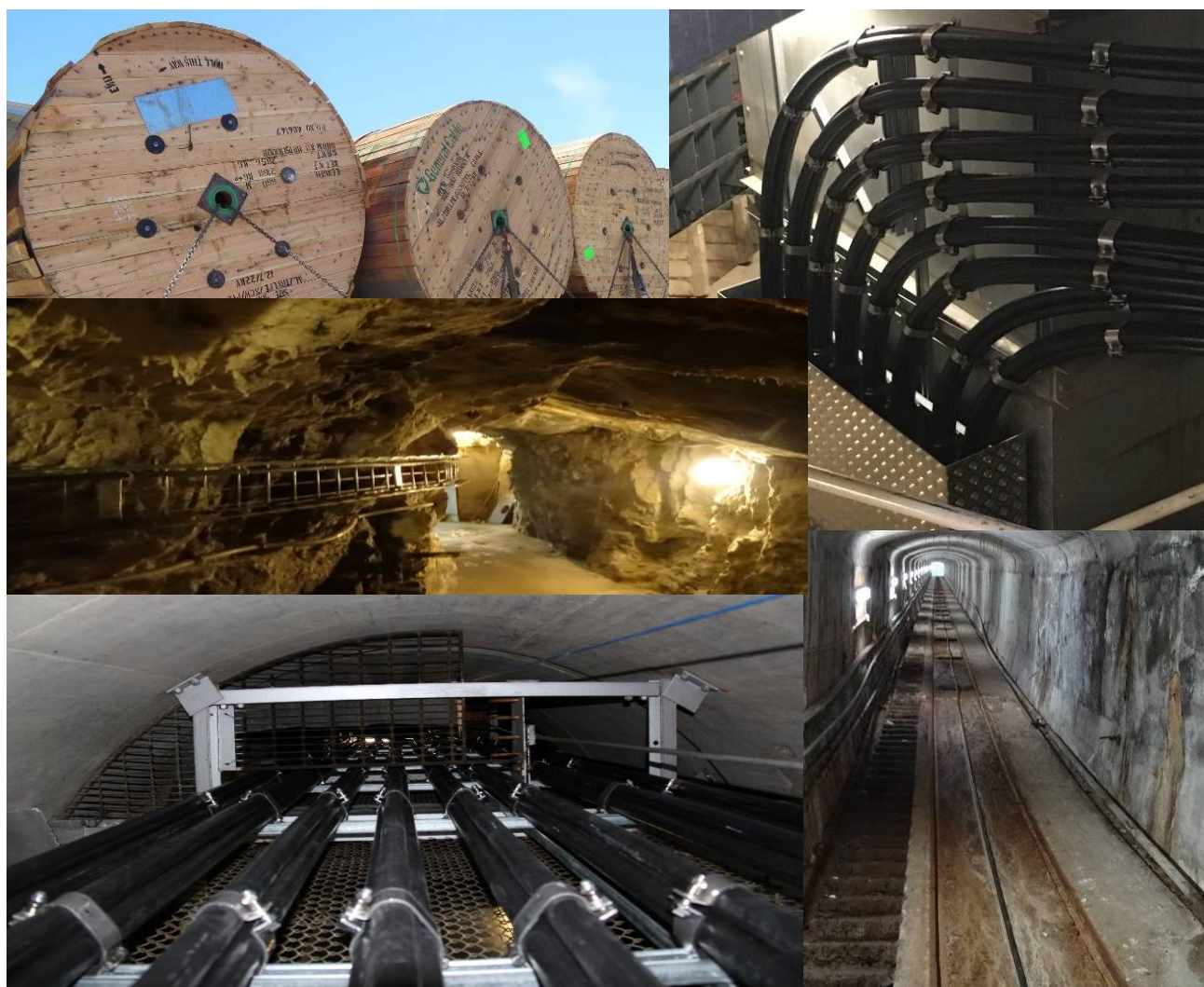
Current Clients / Ongoing works:

Listed below are Clients that we do HV work for periodically:

Client	Location	Project overview
AGL	Mt Beauty	Various ongoing HV works on a regular basis on various power station upgrades.
Powercor	Victoria	Various ongoing HV works on a regular basis.
Beon	Various	24/7 First response coverage for Distribution Terminal yards
Nestle	Wahgunyah	HV Operating / HV works when requested.
Great Southern Electrical	Wagga	Assistance with HV cable joints for them or their Clients when requested.

Reference Project - Controls Upgrade / HV Cable Installation

Project:	Controls Upgrade / HV Cable Installation	
Location:	Eildon / West Kiewa Hydro Power Schemes	
Client:	AGL	
Reference:	Michael Turney	
	Project Value: \$2.6M	Year of Project: 2016 / 2017
Scope of Services:	• Supply, installation, Termination and VLF testing of 5200m of 22kv 500mm² cabling from the four 20MW Hydro Generators to the Switchgear. • Installation of cable support infrastructure. • Removal of over 20T of control cabling and 30T of power cabling from the lift shaft that extended 120m below ground. • Full thermography survey and report at the completion of the project.	
Unique Features of Project:	• The generators are located 120m below ground. • The cable drums had to be rotated onto their side and lowered down to the generator floor by winch. • The cable infrastructure and cabling were installed without any unplanned downtime to the power station. • The 14-day planned shut was completed and commissioned 2 days early.	



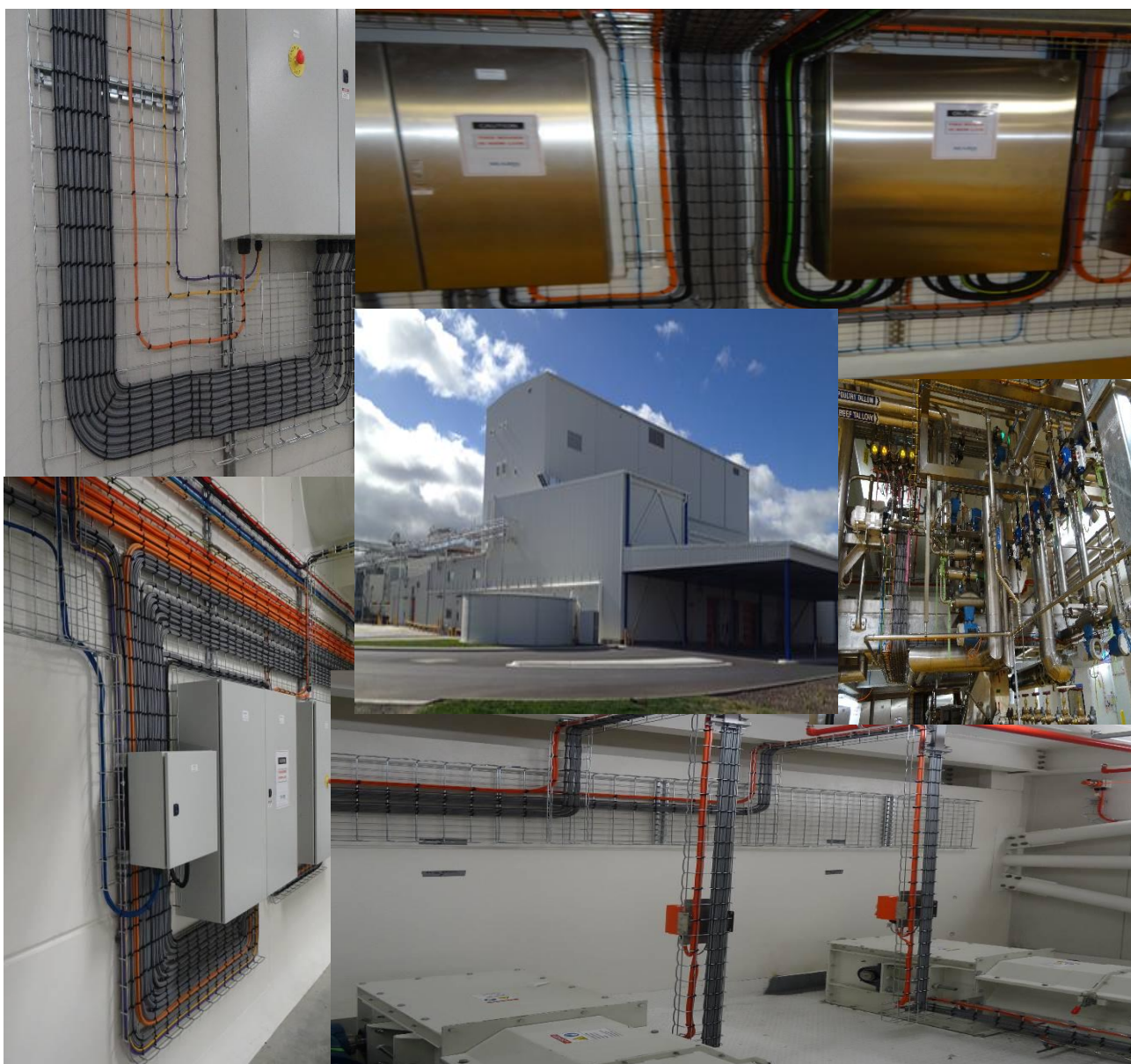
Reference Project - Continuous Improvement Project

Project:	Continuous Improvement Project	
Location:	Wahgunyah	
Client:	Nestle	
Reference:	Mark Brendel	
	Project Value: \$4M	Year of Project: 2018
Scope of Services:	• Electrical, Instrumentation, Data and Pneumatic Installation. • Network installation including Data, Profibus, Safetybus and Wi-Fi. • Installation on tray support infrastructure • Installation and commissioning of control panels, switchboards and PLC cubicles.	
Unique Features of Project:	• All work performed in fully operational factory with minimal disruption to production.	



Reference Project - Pet Food Capacity Upgrades

Project:	Pet Food Capacity Upgrades	
Location:	Bathurst / Wodonga	
Client:	Mars Petcare	
Reference:	David Stanford	
	Project Value: \$7.1m	Year of Project: 2018
Scope of Services:	• Electrical and Instrumentation Installation. • Pneumatic Installation • Network installation including Data, Profibus, Safetybus and Wi-Fi. • Installation on tray support infrastructure • Installation and commissioning of control panels, switchboards and PLC cubicles.	
Unique Features of Project:	• Installation completed on both new and operating plant • Project was completed on a cost reimbursement basis resulting in the electrical installation being completed on time and under budget.	



Key Staff



JASON FLOWER
MANAGING
DIRECTOR



ROB GOLLAN
SERVICE MANAGER



MARK EDWARDS
ENGINEERING
MANAGER



GLENN MARTIN
SITE SUPERVISOR



PAT BEATTIE
PROJECT MANAGER



GLENN MONTE
SENIOR PROJECTS
MANAGER



JAMES THOMAS
PROJECT MANAGER



SHANE WARDROP
PROJECT MANAGER



DARREN STEPHENS

DRAFTSMAN
ELECTRICAL
DESIGNER
TUV CERTIFIED



MARK PFEIFFER

DRAFTSMAN
ELECTRICAL
DESIGNER
PROJECT MANAGER
TUV CERTIFIED



PETER LADE

ELECTRICAL
ENGINEER