



U N I V E R S A L
— ENERGY —



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COMPANY PROFILE



COMPANY DETAILS

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COMPANY OVERVIEW

Universal Energy Australia is an established industry leader in multiple disciplines within the energy sector. Initially specialising in testing, commissioning and maintenance of high voltage equipment and installations, UEA has expanded their offerings over the last decade to now include general E&I commissioning, mechanical commissioning, and a wide range of electrical and mechanical installations.

The company directors have many years of experience in the industry working for some of the largest companies in the world. Their experience gained over the last three decades has provided UEA with the ability to provide a diverse service to a wider client base. Additionally, UEA has established long-term agreements and shared resources with partners spanning across Australia and Asia.

Our mission is to execute our work with the utmost precision, adhering rigorously to the highest safety standards. We take pride in our ability to cater to the needs of both large and small clients across various industries, ensuring consistently exceptional service delivery.

UEA has a wide network of the very best managers, supervisors, electrical engineers, protection technicians, and various other roles, capable of providing complete solutions for any commissioning, maintenance, installation or testing project of any size.

KEY CAPABILITIES

UEA is dedicated to providing a complete, competent and professional team that can undertake the full spectrum of works from design engineering and protection studies through to the actual installation and safe energisation of equipment. We can also follow this up with a planned maintenance program that will ensure maximum safety and a reliable lifespan of both new and existing equipment. As a company, UEA has taken on many challenges and continues to deliver a first-class end product on-time and on-budget.

EXPERTISE

HIGH VOLTAGE TESTING AND COMMISSIONING

- Protection relay programming and testing
- Generator testing and commissioning
- Protection studies and grading
- Switchboard testing and commissioning including GIS
- Protection scheme testing, primary and secondary including differential and distance
- Transformer testing, oil sampling, oil filtering
- HV cable testing including VLF
- Partial discharge testing
- Thermal imaging
- Full functional scheme testing of any high or low voltage installation
- Transmission systems and substation commissioning
- CT and VT testing
- Earthing system testing
- Step and touch potential testing
- Equipotential rise testing and reporting
- Soil resistivity testing using Wener 4 probe method
- Solar farm testing, including string test, IV curve testing, inverter cold and hot commissioning, PCU HV testing, switching and energisation, load testing
- Test equipment hire (long or short term)
- Circuit breaker, transformer, switchgear maintenance and repairs
- Transformer tan delta testing
- SF6 gas filling and analysis
- Remote end-to-end secondary injection testing
- Automatic transfer scheme testing
- TX diff and REF primary injection testing
- Remote job specific test plan/file design, HV procedures, testing procedures, switching procedures, work method statements and ITP's

COMMISSIONING (ALL AREAS)

Universal Energy Australia specialises in all types of commissioning and can adapt a versatile commissioning team to fulfill all site commissioning requirements including:

- Project management and supervision (all trades)
- Completions systems teams
- Electrical and instrumentation technicians
- Mechanical commissioning tradespersons
- SCADA and PLC engineers
- Greenfields and Brownfields commissioning including complex cutovers
- Factory acceptance testing





HV PRIMARY AND SECONDARY PLANT INSTALLATION

Universal Energy Australia can provide a team of qualified personnel including supervision, electrical and mechanical installation teams, and full commissioning and completions teams for all aspects of the power industry. Our expertise extends to power stations, HV/ MV/LV switchyards, substations, and large transformers, including all primary, secondary plant and equipment.

UEA is diverse company offering services to oil and gas, power generation, mining, renewables and heavy industrial projects across Australia and Asia.

At UEA, we have a team of completions experts who are highly trained in a variety of industry-standard completions programs. We ensure all necessary documentation for handover of a completed system is correctly filled in and signed, and all supporting documentation is in place.

Our team is familiar with systemised completions packages which involve systems, sub-systems, A, B and C ITRS's, mechanical completion certificates, punch lists and NOE's, right through to handover and commissioning.

We provide highly skilled personnel all for HV/MV/LV switchyard and substation installations and commissioning. This includes circuit breakers, transformers, CT's, VT's, bus bar systems and auxiliary equipment. Our completion systems experts are adept at managing projects from construction through commissioning to the final operational stage, ensuring a seamless transition and successful project delivery.





RENEWABLES

High voltage electrical engineering for wind, solar, hydro, waste to energy and other renewable projects

Australia is on track to achieve its net zero emissions target by 2050. The renewables sector is continuing to see an unprecedented expansion to help meet this target. This notably growing market is set to reshape the nation's energy agenda, and UEA has a significant role to play.

As the contractor of choice for many leading solar power developers, UEA has successfully commissioned some of the largest solar projects in the country. Our experience in this complex field and our ability to deliver safe, professional turnkey services has helped us secure these major projects.

With our extensive experience, there are virtually no requirements in wind power, solar energy, hydro, waste-to-energy, or electrical infrastructure that we cannot fulfill. Our highly skilled electrical and management teams offer a range of services, including:

- Grid connections from 6.6kV to 330kV
- Electrical design, supply and installation, switchgear, transformers, cable infrastructure, earth systems and SCADA cabling
- Solar farm testing, including string test, IV curve testing, inverter cold and hot commissioning, PCU HV testing, switching and energisation, load testing
- All testing and commissioning



ELECTRICAL AND MECHANICAL INSTALLATION

UEA can also provide highly trained personnel for specialised installation work for mining, oil and gas, power generation, renewables and heavy industrial projects:

- Full HV switchyard equipment installation
- Power transformer installation
- Pressurised bus duct installation
- Substation and switchgear installation up to and including 132kV GIS
- Retro-fitting of a wide range of HV/LV switchgear
- Protection relay upgrades and replacement
- Custom designed control and protection wiring scheme modifications
- HV cable installation
- HV cable terminations and jointing including IR, VLF and PD testing
- Back up power generation, UPS and battery systems, all balance of plant equipment.

PROJECT SPECIFIC ROLES AND COMPETENCES

UEA also has the ability to provide project specific roles for many areas of the industry:

- Project management and supervision all trades
- Completions systems teams
- Electrical and instrumentation technicians
- Mechanical commissioning tradespersons
- SCADA and PLC engineers
- Permit to work officers, permit authorities and isolation officers
- HV switchers
- Electrical/instrument QC/QA HA inspectors
- Instrument tube fitters

TEST EQUIPMENT HIRE

Universal Energy Australia is constantly reinvesting into our equipment inventory. We believe in growth through company assets. We take pride in our extensive range of equipment, sourced from industry-leading manufacturers and distributors. The following is a list of some of our assets, with numerous other items of test equipment available upon request.

- Omicron CMC356 Secondary Injection Set
- Omicron CPC100 Primary Injection Set
- Megger SMRT Secondary Injection Set
- Megger TR20 Transformer Tester
- Megger MCT CT Tester
- Megger Ingvar Primary Injection Set
- Primary Differential Tester
- 10kV Megger IR Tester
- 5kV Megger IR Tester
- 60kV VLF Cable Tester
- 50kV Hi-Pot Tester
- Omicron Tan Delta Test Set
- SF6 Gas Analysis Test Set
- 600A Ductor
- Megger Handheld TTR
- SF6 Gas Filling and Vacuum
- Cibano Circuit Breaker Timing Test Set
- Omicron CU1 and HGT Earth Testing Unit



GIS SWITCHGEAR PROTECTION TESTING WITH OMICRON CMC 356

PAST PROJECTS

Universal Energy Australia has established itself as an industry-leading supplier for some of the largest companies in Australia. We take great pride in our esteemed reputation for delivering high quality services, and our impeccable record of zero incidents and injuries. Over the years, we have successfully participated in and completed numerous projects. Below, you'll find a selection of both ongoing and past projects undertaken by UEA and our trusted alliance business partners.

CLIENT	PROJECT DETAILS
Tallawarra B Power Station NSW, GE and Clough, 2022/2024	Installation and commissioning of 420MVA 21/132kV step transformer, installation and commissioning of 21kV bus duct system, installation and commissioning of 132kV switchyard, including 132kV circuit breakers, disco earth switches, protection relays, functional testing, transformer diff, bus zone diff, testing and commissioning of 6.6kV switchgear including primary and secondary injection and full functional testing, testing and commissioning of all 21kV to 6.6kV aux transformers, testing and commissioning of all battery charger systems, UPS systems, SCADA signal testing, earth grid testing, and all auxiliary equipment associated with the power station
Pilbara Minerals, Pilgangoora Operations, WA	Supplying of full commissioning team including superintendents, supervisors and technicians for electrical, instrument and mechanical commissioning. Greenfields and Brownfields tie ins.
Roselle Interchange, JHG, NSW	Supply protection engineers and HV Ttchnicians for all primary and secondary testing of substations, switchgear, transformers, HV cables and all SCADA systems.
Waitsia Gas Plant Donagra, Clough, WA	Supply HV commissioning team and completions engineers
RVS Rio Tinto Mesa A and Mesa J Expansion, Calibre, WA	Supplying of full commissioning team including superintendents, supervisors and technicians for electrical, instrument and mechanical commissioning. Greenfields and Brownfields tie ins.
Chichester Ranges, Alinta Network Upgrade, Downers, WA	Full commissioning / testing and energisation of 220kV HV switchyard equipment, 60km transmission line and associated protection relays and SCADA systems.
Albemarle Kemerton Lithium Plant, SCEE, WA	Protection relay testing, HV switchboard testing and commissioning, SCADA testing.
South Flank BHP, E20, WA	Protection relay testing, HV switchboard testing and commissioning, transformer and RMU testing.
Crudine Ridge Substation, Downers, NSW	Full commissioning/testing and energisation of HV switchyard equipment and associated protection relays.
Darlington Point Solar Farm, Signal Energy, NSW	HV testing and commissioning, LOTO and permit coordination, string and array testing, PCU HV testing, energisation and load testing.



CLIENT	PROJECT DETAILS
Garden Island Naval Base Power Network Upgrade, Fredon/Doric, WA	Full commissioning/testing and energisation of HV switch rooms, RMU's and associated equipment, protection relay testing and SCADA systems.
Numurkah Solar Farm, Downer, VIC	HV testing and commissioning, LOTO and permit coordination, string and array testing, PCU HV testing, energisation and load testing.
Port Moresby Power Station, Clough, PNG	Full commissioning/testing and energisation of HV switchyard equipment and associated protection relays.
Limondale Solar Farm, Downer, NSW	HV testing and commissioning, LOTO and permit coordination, string and array testing, PCU HV testing, energisation and load testing.
Beryl Solar Farm, Downer, NSW	HV testing and commissioning, LOTO and permit coordination, string and array testing, PCU HV testing, energisation and load testing.
Clough, Ichthys CPF and FPSO Hook Up Project	HV cable splicing, terminations, VLF testing plus HV commissioning assistance as requested by the client.
Pilgangoora Lithium Plant Project, SCEE, WA	Responsible for the site instrumentation testing and the 11KV HV testing, commissioning and energisation.
Emu Downs Solar Farm Project, SCEE, WA	Tasked with full commissioning supervision and strategic energisation of assets.
Ross River Solar Farm Project, Downer, QLD	HV testing and commissioning, LOTO and permit coordination, string and array testing, PCU HV testing, energisation and load testing.
Mandurah Aquatic Centre Project	Power quality measurement application and results interpretation.
Woodside Offshore	Partial discharge testing of cables and full report breakdown.
Cockburn Cement	HV cable fault finding services and HV cable replacement.
Tianqi Lithium 132KV Switchyard Project	Full commissioning/testing and energisation of 132KV switchyard and associated protection relays.
Chevron Wheatstone LNG Project	Responsible for the pre-commissioning of the HV and LV distribution network.



CLIENT	PROJECT DETAILS
BHP Jimblebar	Factory acceptance testing of high voltage switch-rooms.
Woodside Pluto Train 5	Full site acceptance testing of new HV switchgear and associated protection systems.
Rio Tinto and UGL Yandi	Protection testing and full commissioning of 220kV switch-yard upgrade.
Rio Tinto Alma Canada 132kV GIS Expansion Project	Installation testing and commissioning of new ABB 132kV GIS switchgear panels and associated protection relays.
BHP Worsley Expansion Project	Full site acceptance testing of new HV switchgear and associated protection systems.
Kahramma Phase 4, 5, 6, 7, 8 and 9, West Bay Qatar	Testing and commissioning of cable differential protection.
Kahramma Phase 4, Qatar	Testing and commissioning of DCS system (horizontal communication with protection devices).
PHCN, Abuja, Nigeria	Testing and commissioning of 132/33kV switchyard equipment and all protection relays.
PHCN, Yola, Nigeria	Testing and commissioning of 330/132kV switchyard equipment and all protection relays.
EEPCO, Ethiopia	Retrofitting of feeder protection and transformer protection systems.
MSETCL, (Beed Dt) Parli, India	Testing and commissioning of 220 kV new Parli switchyard unit – 8.
KPTCL, Devarapalli, India	Testing and commissioning of 445MW generator protection.
PGCIL, Seoni, India	Testing and commissioning of 765 kV distance protection.
PGCIL, Salem, India	Testing and commissioning of 400 kV S/s – retrofitting line protection system.

SERVICES

UEA's primary objective is to provide an unrivalled service to our clients in a safe and professional manner. Our proficiency and dedication to excellence have earned UEA widespread recognition for its outstanding performance in the electrical industry. As a result, we have emerged as one of the fastest-growing providers of testing and commissioning services in the region.

With a 24/7 total commitment to the servicing of our clients, UEA has the experience, ability and resources to provide total electrical maintenance and service solutions for all systems at any time.

We provide tailored technical service maintenance and commissioning solutions to suit each client, ensuring a personalised approach for every project. It is our policy to engage closely with each client to accurately determine the maintenance and testing requirements for each site to ensure cost-effective and continuous operation of all electrical systems.

Our process begins with thorough consultation to understand the client's objectives, followed by the development of a customised maintenance regime. This includes the development of maintenance checklists tailored to the client's specific requirements, ensuring meticulous attention to detail and adherence to industry standards.



SAFETY, ENVIRONMENTAL & QUALITY MANAGEMENT SYSTEMS

OHS MANAGEMENT SYSTEM

Universal Energy Australia subscribes to a zero harm at work policy. We see value in having effective management systems in place to ensure our employees and sub-contractors return home each day injury free, to ensure that workplace injuries are managed to minimise lost time, and to return employees to work as soon as possible.

Our Occupational Health and Safety Management System has been designed and implemented in line with the requirements of:

- Occupational Health and Safety Management Systems AS/NZ 4801:2001

ENVIRONMENTAL MANAGEMENT SYSTEM

Our Environmental Management System has been designed and implemented in line with the requirements of:

- Environmental Management Systems ISO 14001:2004

QUALITY MANAGEMENT SYSTEM

UEA currently adopts a Quality Management System to assist with the streamlining of the management of maintenance requests. This has led to a greater client satisfaction and efficiency by eliminating time-consuming and ineffective methods. In addition, the quality information stored within our system allows managers to recognise and address recurring problems; identifying potential service issues and helping them make informed decisions about long-term maintenance or capital improvements.

Our Quality Management System has been designed and implemented in line with the requirements of:

- Quality Management Systems ISO 9001:2008



DIRECTOR PROFILES



PAUL LEDGER
GENERAL MANAGER

Paul has been part of the testing and commissioning industry in Australia and internationally for 30 years. He has worked on many of the largest mining and oil and gas projects in Western Australia in senior roles of supervision. Paul's skills and industry experience are instrumental in his ability to manage some of our largest projects, making him an integral part of the UEA management team.



SIMON WILLIAMS
TECHNICAL MANAGER

Originally from Tasmania, Simon moved to Perth in 1998 after working for the Hydro Electrical Commission and has 25 years of experience in the industry. Simon's skills and sound technical knowledge of high voltage and protection systems has seen him rise to senior positions on some of the largest mining, oil and gas projects in Australia and overseas.



DARYL WADE
BUSINESS DEVELOPMENT MANAGER

Daryl immigrated to Australia in 2005 from Ireland, and has over 18 years of industry experience. He joined UEA in 2014 and has gone on to hold project manager positions on-site. Having worked on some of the largest projects in Australia, Daryl's technical approach and management skills have seen him become a key member at UEA. He is currently pursuing an MBA degree in Business Management from AIB University.

GENERAL

Universal Energy Australia employs skilled professionals. All of our staff are fully trained and competent to carry out their individual job roles.

PROJECT MANAGEMENT AND SUPERVISION

UEA employs full time project managers and site supervisors. Our project management team have undergone extensive training and are experienced across the full spectrum of electrical services and installations. They are entrusted with total project control from conception to completion.

The project management team is responsible for:

- overseeing the engineering review and equipment approval
- managing the drafting process
- equipment procurement
- sub- contractor engagement
- SHE & QA requirements
- project finances
- liaising with onsite supervision and labour
- coordinating the electrical installation with the client and services sub-trades
- communicating and co-operating with the design team
- managing the commissioning process in conjunction with our specialist team
- supervising the transition from project completion to service and maintenance.

Our single point of contact approach results in clear and concise project communication and efficient dissemination of project information. The project management team is supported by our internal project administration department responsible for project document control and SHE and QA documentation. Our stringent quality assurance system results in high quality, consistent outcomes for all projects undertaken by the firm, regardless of size, location or complexity.



PRIMARY INJECTION ON AN OVERHEAD 132KV LINE USING 3 OMICRON CPC'S CONTROLLED BY AN OMICRON CMC



UEA TECHNICIAN PERFORMING A CIRCUIT BREAKER TIMING TEST

ue



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