

# TURNKEY SUBSTATION SOLUTIONS

## POWER INFRASTRUCTURE CONSTRUCTION SERVICES

**power**tx

Capability Statement

[www.powertx.com.au](http://www.powertx.com.au)

# COMPANY PROFILE

*PowerTx Pty Ltd specialises in the design and construction, modification and testing of High Voltage electrical systems and related LV reticulation/ infrastructure. RPEQ certified design can be provided by our inhouse engineering and engineering consultants.*

- Turnkey Substation Solutions
  - *Transportable, Modular & Fixed Design*
  - *Skid Mounted Switch Gear*
  - *Skid Mounted Substations*
- Design & Construct
- Construct Only
- Selection & Procurement of High Voltage Switchgear & Equipment (VT's, CT's, CB's, ABS, ES, Surge Arrestors & Transformers)
- Provision of Switchrooms & Switchgear (HV/ LV/Coms)
- Lightning Protection, Study, Design & Construction
- Site Survey, Profile & Drainage
- Civil Design, Construction, Earthworks, Crushed Rock /Asphalt, Fencing & Signage
- Trenching, Conduits, Pits & Cabling
- Cable Support Systems (Including Cable Ladder, Cable Tray, Conduit Etc)
- Cabling (Including Major Cable Winching Operations)
- High Voltage Terminations & Testing
- Fibre Optic Terminations & Testing
- LV & HV Power Reticulation
- Structural Design, Fabrication & Erection
- Soil Resistivity Testing
- Earth Grid Construction
- HV System Testing & Commissioning
- Secondary System Commissioning
- Temporary Power Supply (Industrial & Mining)
- Dry Ice Blasting Service for the cleaning of HV & LV Switchgear
- High Voltage and Low Voltage Primary Plant Detailed Design & Drafting Capability
- Protection and Control System Detailed Design & Drafting Capability
- High Voltage and Low Voltage Power Cable Trenching, Pit & Conduit Bank Design
- Development of Cable Schedules, Schematic Diagrams, Termination Diagrams
- Specification, Review and Procurement of High Voltage Primary Plant
- Specification, Review and Procurement of Protection and Control Systems Equipment
- Lightning Protection Hazard Assessments and Lightning System Design & Analysis
- Earthing Grid/System Design, Modelling & Reporting Using Latest Xgslab Grounding Software
- Earthing System Off Frequency Injection Testing Including Step, Touch & Transfer Potential Verification
- Power System Modelling & Fault Studies
- Motor Starting Studies
- Lighting Study, Design & Specification
- Protection System and Setting Design Using Latest SKM PTW Software Packages
- High Voltage & Low Voltage Ampacity and Temperature Rise Calculations for Power Cable Installations
- Protection Relay Programming, Testing & Commissioning Including IEC61850 Communication Systems
- Development of Function Specifications for IED and SCADA Systems
- Civil and Structural Design Including Profile and Drainage Design, Foundation Design, Skids and Support Structures
- RPEQ Certification - Electrical, Civil, Structural





# INDUSTRY SECTORS:

**MINING & RESOURCES**

**RENEWABLE PROJECTS:  
SOLAR FARMS / WIND FARMS**

**INFRASTRUCTURE**

**POWER STATIONS**

**WATER & WATER TREATMENT**

**UTILITIES**

**OIL & GAS**

**power**tx

# INDUSTRY ASSOCIATIONS

PowerTx foster strong and lasting relationships with other construction industry leaders and OEM suppliers. This brings synergies and economies producing a broader scale of capabilities and resources, capturing all installation & commissioning requirements including MDR's and critical spares

- MV & HV Primary & Secondary Equipment Providers
- Switchroom Providers
- Civil Contractors
- Overhead Powerline Contractors
- National Electrical & Communications Association

## MAJOR PROJECTS COMPLETED BY POWERTX



**CLIENT: RAVENSWOOD GOLD**  
**SITE: RAVENSWOOD GOLD**

**66kV METERING STATION, 66/11kV (20MVA) SUBSTATION & 66/11kV (10MVA) SUBSTATION**

Design, manufacture, and installation of three separate 66kV stations, undertaken on both greenfield and brownfield sites. Design and implementation of N.E.R compliant revenue metering. Design, installation, and commissioning of Point on Wave switching and Inter Substation IEC61850 GOOSE communications.



**CLIENT: PERSAL & CO FOR STANWELL CORPORATION**  
**SITE: MEANDU MINE**

**66/66kV ISOLATION SUBSTATION**

Design, manufacture, and installation of a 66/66kV (12.5MVA) Isolation substation. Including 66kV 25A Neutral Earthing Resistor to limit the step, touch, and transfer potentials to acceptable limits at the downstream substation and dragline earthing systems. IEC61850 Sampled Values and GOOSE messaging implementation for protection, control and monitoring of Isolation substation and associated 66kV OHPL.



**CLIENT: PERSAL & CO FOR KESTREL COAL**  
**SITE: KESTREL SOUTH MINE**

Design, Construct & Project Management of a 66/11kV 25 MVA Substation & associated mine site HV reticulation for the VSA2 Vent Fan & Underground Power Project.



**CLIENT: PERSAL & CO FOR KESTREL RESOURCES**  
**SITE: KESTREL MINE**

Scope of work covered the complete design, supply, installation, and commissioning of 11 kV borehole compound, earthing & termination & testing of cables.



**CLIENT: PERSAL & CO FOR FITZROY AUSTRALIA RESOURCES**  
**SITE: CARBOROUGH DOWNS MINE BOREHOLE CABLE**

Scope of work covered the complete design, supply, installation, and commissioning of 11 kV borehole compound, earthing & termination & testing of cables.



**CLIENT: PERSAL & CO FOR ANGLO AMERICAN**  
**SITE: AQUILLA MINE BOREHOLE CABLE**

Scope of work covered the complete design, supply, installation, and commissioning of a fenced compound, 11kV link box and associated cable tray and an 11 kV borehole compound, earthing & termination & testing of cable to the underground working of the mine.



**CLIENT: PERSAL & CO FOR ANGLO AMERICAN**  
**SITE: AQUILLA MINE RMU & TRANSFORMER COMPOUND**

Scope of work covered the complete design, supply, installation and commissioning of a fenced compound, 11kV Ring Main Unit and associated cable tray, 11 kV Transformer and all associated 11kv cabling for the mine air compressor installation.



**CLIENT: ADANI RENEWABLES**  
**SITE: RUGBY RUN SOLAR FARM**

Construction and commissioning of the 33/132kV 100MVA export substation.



**CLIENT: PERSAL & CO FOR ANGLO/CAPCOAL**  
**SITE: GRASSTREE UNDERGROUND MINE**

Design, Construct & Project Management of a 66/11kV 20 MVA Substation for the Longwall Extension feeder.



**CLIENT: PERSAL & CO FOR ANGLO/CAPCOAL**  
**SITE: GERMAN CREEK OPEN CUT MINE**

Augmentation of the 66kV Boundary Substation to include 2x 66kV Switching Stations.



**CLIENT: PERSAL & CO FOR ANGLO/CAPCOAL**  
**SITE: GRASSTREE UNDERGROUND MINE**

Design, Construct & Project Management of a Temp 66/11kV 8/10 MVA Substation.



**CLIENT: PERSAL & CO FOR AMPCONTROL**  
**SITE: EAGLE DOWNS JV MINE**

Construction of a 132kV to 11kV 15MVA Temporary Substation.



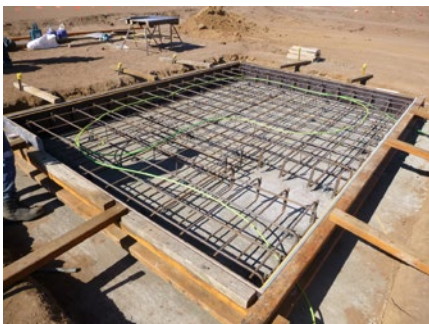
**CLIENT: PERSAL & CO**  
**SITE: SARAJI MINE BMA**

Construction of a 66kV Switching Station.



*Projects senior personnel having had and direct involvement in from estimation, construction to project management during employment with i.Power Solutions Pty Ltd*

- Oaky Creek Mine 66/11kv main substation and site power reticulation including 11kv vent fan substation
- Kemmis Creek 132/11kv temporary power substation for Hail Creek Mine
- Hail Creek Mine 66/22kv main substation and site power reticulation
- Newlands North Mine 66/11kv main substation and site power reticulation including 11kv vent fan, MIA and in-pit portal substations
- Crinum East Mine 66/11kv main substation and site power reticulation including 11kv generator, MIA and in-pit portal substations
- Curragh North Mine 66/22kv main substation and site power reticulation
- Carborough Downs Mine 66/11kv main substation and site power reticulation including 11kv vent fan, MIA and portal substations, subsequent augmentation of the substation to facilitate 2 x 25MVA transformers
- Isaac Plains Mine 66/11kv main substation
- Millennium Mine 66/11kv main substation and site power reticulation
- Yarrabee Mine 66/11kv main substation and site power reticulation
- Goonyella/Riverside Mine 66/11kv main substation
- Norwich Park Mine 66/11kv main substation and site power reticulation
- Ergon Energy Aramara 132 kV Switching Station
- Ensham Trial Underground Mine 66/11kv main substation and site power reticulation
- Kestrel Mine Expansion site HV Reticulation
- Xstrata George Fisher Mine 132/11kv Main Switchyard extension
- Daunia Mine 66/11kv main substation and site power reticulation
- Caval Ridge Mine 66/11kv main substation



# CABLE MANAGEMENT SYSTEMS



**CONCRETE CABLE DUCT**



**CABLE MANAGEMENT & SEGREGATION SYSTEMS**



**CONDUITS & PITS**







## POWERTX EQUIPMENT

PTX have their own fleet of mine site compliant equipment

- Light Vehicles (5\* AnCap)
- Telehandler
- Excavator/Track Loader
- Tilt Tray Truck
- Dual Axle Trailers
- Diesel Compressor
- 4x4 Tipper Truck
- Percussion Hammer Drill Rig
- Dry Ice Cleaning

## TESTING & COMMISSIONING

We complete our own inhouse testing

- HV Primary Plant Testing & Commissioning
- Secondary System Testing & Commissioning
- Primary & Secondary Injection Testing
- Ductor Testing
- IR & HI Pot Testing
- VLF Testing
- Soil Resistivity
- Earthing system off frequency injection Testing , including step, touch, & transfer potential verification

## HEALTH, SAFETY ENVIRONMENTAL QUALITY

- Safety Management System (Site Specific)
- Environmental Plan - PowerTX Pty Ltd (Site Specific)
- Quality Management System Plan - PowerTX Pty Ltd (Site Specific)
- Comprehensive library of ITP's & ITR's (Site Specific)
- Project Execution Plan
- Construction Methodology
- Site Management plan
- Subcontractor Management Plan
- Commissioning Plan
- Legislation Compliance Management

**ISO 9001:2015 - Quality Assurance**  
**ISO 14001:2015 - Environmental management systems**  
**ISO 45001:2018 - Occupational health and safety**



# CLIENTS:

**BMA // GLENCORE // STANWELL CORP //**  
**PEABODY // KESTREL COAL RESOURCES //**  
**ABB // EAGLE DOWNS COAL //**  
**ANGLO AMERICAN // ADANI RENEWABLES**  
**Q COAL // EPSA // TERRACOM //**  
**RAVENSWOOD GOLD // FITZROY RESOURCES**





# powertx

## CONTACT DETAILS

**Doug Legge**  
Managing Director  
M: 0455 187 162  
mail: [doug.legge@powertx.com.au](mailto:doug.legge@powertx.com.au)

**Richard McGrath**  
Manager - Projects & Services  
M: 0400 447 446  
mail: [richard.mcgrath@powertx.com.au](mailto:richard.mcgrath@powertx.com.au)

**Administration**  
Administrator - Projects & Services  
Phone: 07 49576284  
mail: [admin@powertx.com.au](mailto:admin@powertx.com.au)

**POWERTX PTY LTD**  
Unit 13, Site Business Park,  
30-36 Margaret Vella Drive, Paget QLD 4740,  
PO Box 4280, SOUTH MACKAY QLD 4740

Licence no: 75802  
ABN 66 162 632 224

[www.powertx.com.au](http://www.powertx.com.au)