

Mining Substation



NEPEAN Power provides engineering services to provide design, project management, manufacturing, commissioning, training and ongoing lifestyle management services. Our extensive experience in engineering and design as well as the ability to manufacture quality equipment, allows us to provide solutions from minor projects through to large turnkey infrastructure.

Available in various combinations of input, output and size, NEPEAN Power's Substations can be configured to suit most situations dependant on our customers requirements. Mining substations are typically used for longwall, development, distribution and pumping application. And are manufactured in either flameproof and or ingress protected (IP66) variations.

Typical Designs

Underground mining substations can be manufactured up to 7.5MVA with primary voltages as high as 22kV.

High Voltage

The high voltage end is constructed from sheet steel that has been fully folded and welded to a certified IP design. The design incorporates NEPEAN type tested arc fault containment. Safe touch potentials are maintained via separate compartments for all system voltages including operating and metering.

Transformer

Transformers may be gas, liquid filled or dry type, ranging from 50kVA in various combinations of primary and secondary voltages dependent upon customer specific needs.

Low Voltage

The low voltage end fabricated from sheet steel, fully folded and welded to a certified IP rating. Construction depends on customer needs and requirements. Standard substation protection includes earth fault limitations on the star point of all secondary windings, earth leakage tripping is provided back to the high voltage circuit breaker. Each outlet can be protected by moulded case circuit breakers, fuses and or contactors, earth leakage protection, cable fault lockout protection, earth continuity, loss of vacuum, frozen contactor, overload, short circuit, with visible break isolation if specified etc.

Skid Base

NEPEAN Power's substation includes a skid base that by default is constructed to a very robust and proven design ensuring they are capable of being towed or pushed into position in adverse conditions. The base is usually hot dipped galvanised and can be provided with towing bollards, floating axles, removable rubber wheels and fully plated bases to provide catchments of transformer oil.

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Typical Design Parameters			
	Distribution	Development	Longwall
Primary V	1.0 - 11kV	6.6 - 11kV	11kV
Secondary V	0.4 - 6.6kV	1.0kV	3.3kV
IP Rating	56	56	56
Transformer	ONAN GNAN ANAN	ONAN GNAN ANAN	ONAN GNAN ANAN
Power Rating	Up to 3MVA	2.5MVA	7.5MVA
Enclosure HV/LV	S/S - Painted Mild Steel	S/S - Painted Mild Steel	S/S - Painted Mild Steel

Benefits of NEPEAN Designs

Local Experience

- Australian designed with local knowledge
- Capability to manufacture locally or globally increases price competitiveness

Flexible

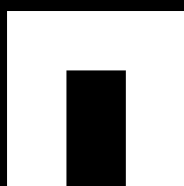
- Adaptation is possible using the latest technology in SCADA control
- Available in various combinations of input and can be configured to suit any situation
- We focus on listening to our customers and asking the right questions to continually reach better outcomes
- Shorter lead times with a full in-house capability to manage the project from concept to commissioning
- Adaptable in design to incorporate individual specifications

Built Safe Compliant & Easy to Use

- Manufactured to comply with mining and EASY TO USE power authority regulation requirements as well as relevant Australian Standards
- Fan interlocking and safety rated (SIL) isolation and earthing systems can be incorporated
- Each substation upon completion follows through a process of Factory Acceptance Testing, Compatibility Testing (where necessary) and commissioning to ensure operational status on delivery. Manuals including flameproof dossier and drawings are provided and options are available for ongoing support for each product including life cycle management

NEPEAN IS AUSTRALIA'S LARGEST

70% of Australian mines have invested in NEPEAN equipment and services across our Longwall, Power and Conveyor product offerings. NEPEAN Power is the large scale electrical and electronic projects arm of NEPEAN Mining, NEPEAN Mining is a division of NEPEAN™, Australia's largest privately owned engineering, mining services and industrial manufacturing organisation. NEPEAN Conveyors, NEPEAN Power and NEPEAN Longwall provide an extensive portfolio of products and services to independently deliver unique, high quality results, or united, NEPEAN offers a one stop mining solution.



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For more information please contact:

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