

Projects & Systems Capability Statement

Our Capabilities

NEPEAN Conveyors is a wholly Australian owned company specialising in the design, in-house manufacture, installation and service of overland, underground and surface belt conveyor systems and bulk materials handling projects for over 25 years.

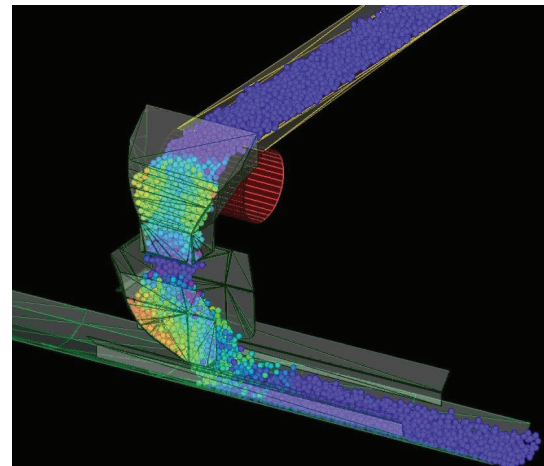
NEPEAN Conveyors as part of the Nepean group head office is located at Unanderra (NSW). NEPEAN has forged a solid reputation for robust, practical and reliable designs and quality manufactured equipment.

NEPEAN Conveyors has become the leading technology provider for materials handling in Australia through our group organisations such as NEPEAN Power (formerly M.I.Power), NEPEAN Longwall and NEPEAN Asia.



When dealing with NEPEAN Conveyors for conveying systems or individual component supply you gain access to:

- ♦ In-house specialist conveyor and materials handling designers (mechanical, process, civil/structural, electrical)
- ♦ OEM support for Order of Magnitude studies through Pre-feasibility studies and Bankable studies
- ♦ Modern in-house manufacturing
- ♦ Full life cycle support
- ♦ Global sourcing, including Asian sub-supply
- ♦ Single point accountability for your materials handling project



- ♦ Design, Engineering and Detailed Drafting
- ♦ Source, Supply + In-house Manufacture (mechanical, structural, process and electrical)
- ♦ Flexible engagement: e.g. EPC, EPCM, D+C Contracts,
- ♦ Performance Warranty: Single point accountability (all disciplines)
- ♦ Installation + Commissioning
- ♦ Sustainable technology: e.g. VVVF energy optimisation systems
- ♦ PMBOK accredited Project managers
- ♦ Life Cycle Services: Audits + Optimisation Studies + Spares + After sales service + Training

Specific experience:

- ◆ Downhill regenerative braking conveyors
- ◆ Truck and Rail loading and unloading stations
- ◆ Feeders / Sizers / Crushing stations
- ◆ Transfer stations / Material Placement solutions / port infrastructure
- ◆ Overburden removal/ Heap leach systems
- ◆ Power distribution and supply to 130kV. Earthing / Switchgear/ protection systems
- ◆ Complete drift, trunk and main gate solutions
- ◆ Splitters, Belt Winders, Clamping Stations, Belt Maintenance Stations
- ◆ Hazardous area systems e.g. hazardous area Exd solutions
- ◆ Functional safety systems to SIL2 and SIL3
- ◆ Control system design and functional specification design
- ◆ Conveyor Drives - BOSS, VVVF, CST, Fluid Coupling
- ◆ Loop Take Up and Belt Storage Units
- ◆ Constant Tension Winches – Eddy-Current, Hydraulic, VVVF, Electromechanical
- ◆ Jiffy/ Nifty/ Hefty Combination Drives
- ◆ Class A approved workshop for Exd equipment manufacture and overhaul
- ◆ Extensive software design tools (Catia, X-Steel, Tekla, MicroStran, Autodesk Inventor)
- ◆ In-house pulley design and manufacture, deadshaft/ liveshaft various types of lagging
- ◆ Comprehensive mechanical design facility e.g. DEM + FEA modelling

- ◆ 1200+ Employees
- ◆ Industry leading world class LTIFR
- ◆ > 80,000m2 manufacturing/ fabrication facility
- ◆ NEPEAN operates in the USA, Canada, Europe, Middle East, Africa, Asia, New Zealand and Australia
- ◆ Strong Balance sheet backed with significant fixed assets
- ◆ NEPEAN is one of Australia's largest privately held Engineering Businesses



Completed projects

Atlas Iron:	Port Hedland Utah Point Expansion to 15mtpa
Owner:	Atlas Iron
Project Type:	Turnkey
Completion:	2013
Value:	\$15M
Scope:	Major plant expansion consisting of overland transport conveyor



Vale:	Carborough Downs: ROM Stockpile Conveyor + Underground Coal Clearance System
Owner:	AMCL (now Vale)
Project Type:	Design + Construct
Completion:	2006
Value:	\$25M
Scope:	Design and supply entire coal clearance system on Greenfield site, including: 2500tph 1200mm Ramp conveyor / cross conveyor / eastern mains conveyor. Development phase =1600tph. Full production =2500tph

Ramp conveyor included covered gallery discharging onto 20,000m³ ROM coal stockpile. Project included civil design of footings and slabs and reduced speed conveying operation during development phase of operation.



Completed projects

Idemitsu	Boggabri Coal: Coal Terminal Upgrade
Owner:	Idemitsu Resources Australia
Project Type:	Turnkey – Fixed price Design and Construct
Timing:	2010
Value:	\$15M
Scope:	Design and Construct 1500tph Stockpiling System including: Conveyors, radia stacker, feeders, unloading station, loadout station, roadways, HV substation with PF correction, control system, dust control, earthworks:

Ramp conveyor included covered gallery discharging onto 20,000m³ ROM coal stockpile. Project included civil design of footings and slabs and reduced speed conveying operation during development phase of operation.



Above: Overview of the BCTU site



Above: Completed BCTU works showing CV02, CV03 and CV04 stacker conveyor in operation

Completed projects

KMG:	Ridges Iron Ore: Wyndham Barge Loading Facility
Owner:	Kimberly Metals Group
Project Type:	Design, Supply, Install, Commission
Completion:	2011
Value:	\$15M
Scope:	Design, Supply, installation assistance package for greenfield 1755tph barge loading facility site, incorporating: Jetty Overland Conveyor, Pivot Conveyor, substation and control system

Significant design criteria: The Pivot Conveyor was particularly challenging, with the head end positioned on a pontoon capable of moving significantly in all directions, loading into a rotating hopper, and accommodating an 8.5m tidal range and withstand cyclonic wind conditions.

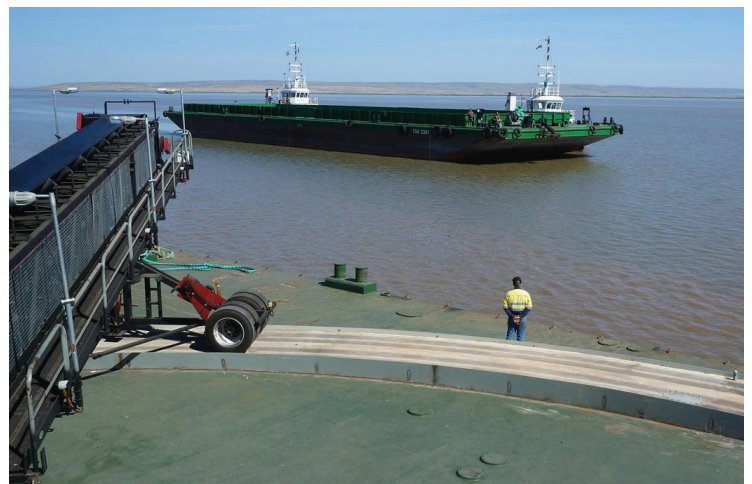
Design of the CV01 Jetty Conveyor was also very challenging in terms of the footing design to intertidal zone land, and over water. Management of differential settlement was paramount in ensuring system performance did not erode due to environmental conditions.



Above: KMG: Aerial photo of site showing overland/overwater conveyor installed over inter-tidal waters (differential settlement a key design parameter)



Above KMG: Overland/Overwater CV01 Jetty conveyor



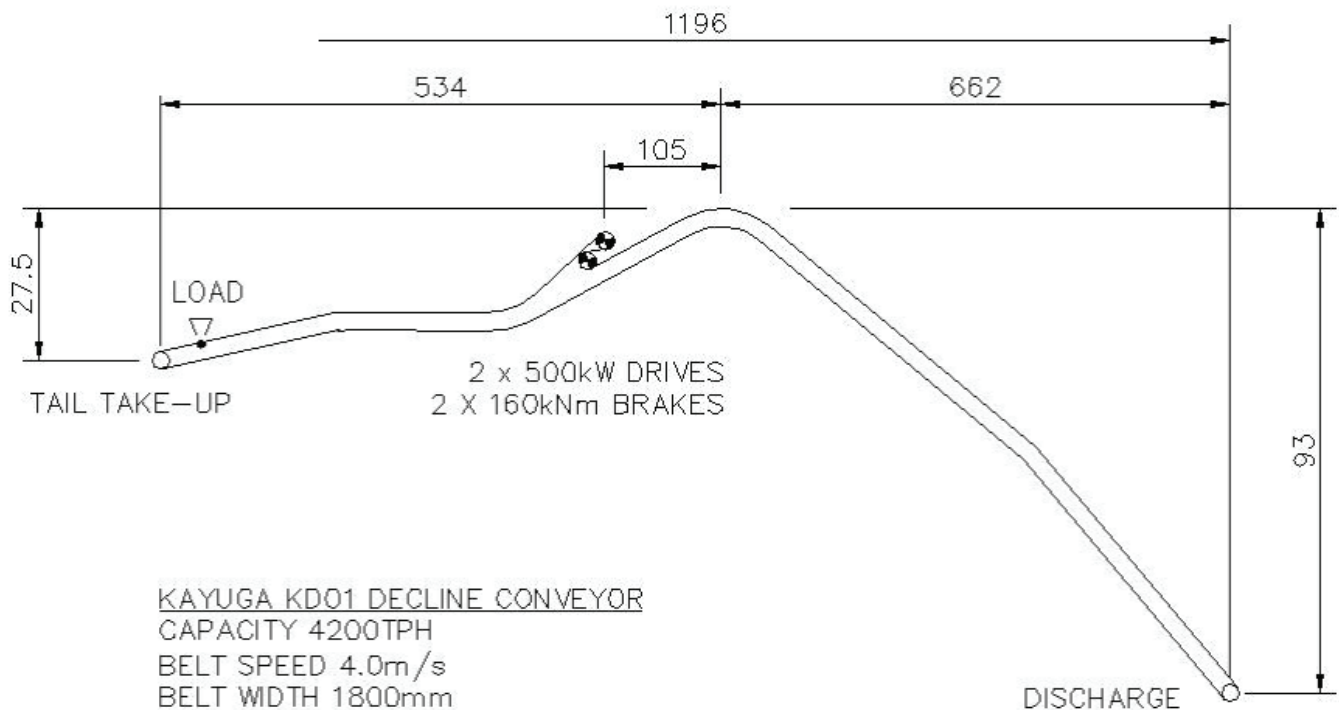
All ore is loaded onto barges via the Telestacker, which is mounted on the pontoon with the head end of CV02. These are then towed 1.2km to waiting ships in the Cambridge Gulf for delivery to sinter markets in China.

Completed projects

Anglocoal:	Kayuga Mine: KD01 Trunk Conveyor
Owner:	Anglocoal Australia
Project Type:	Turnkey (Design + Construct)
Completion:	June 2004
Value:	8 Million
Scope:	Design and supply 4200tph 1800mm Trunk conveyor for new mine - incorporating 500kW VVVF drives, regeneration system, 160kNm dynamic brakes, 11kV/415VAC substation starter

'One of the most technically challenging conveyor design projects undertaken in Australia'

Uphill/downhill configuration (inverted boomerang profile) ensures conveyor power demand varies from -800kW (ie regenerative) to +400kW when loaded on uphill sections only. Due to high risk of damage to plant and risk to safety of personnel in event of brake failure under any condition (including power-loss), multiple redundancies were designed into the operation and control of the braking systems to ensure controlled braking under any circumstance. Commissioning included deliberately flooding the conveyor under worst case load profile, then dropping power to the substation to mimic a power-loss condition under extreme loads, with one of the brakes disabled.



Completed projects

Whitehaven Coal:	Narrabri Coal: Drift and Skyline Conveyor System
Owner:	Whitehaven Coal
Project Type:	Turnkey (PFS development through to Design + Construct)
Completion:	2010
Value:	\$20M
Scope:	Turnkey design and construct package for greenfield 3600tph system, including: Drift Conveyor, Skyline Tripper Stockpile Conveyor 11kV/690V/415V Electrical Substation and Switchroom Installation, commissioning and training packages

The Drift conveyor was designed to be functional firstly as a drift development conveyor with a sacrificial belt and installation of 2 x 1000kW VVVF drives, and once tunnelling by the roadheader is completed to the coal seam, the conveyor shall be reconfigured for production by adding a third 1000kW drive, supplying a tail take-up system and pulling on the steel cord belt.

Stockpiling of ROM coal is via a travelling tripper mounted on elevated gantry structure with 30m spans, walkways fitted both sides. Stockpile height was limited by the mine development application and approval, and thus the client sought to maximise live stockpile area provided by the conveyor system. Rail clamps provide security against unwanted movement of the travelling tripper, which discharges either side of the gantry.



Above: Drift and Skyline conveyors



Above: (L) Skyline conveyor with tripper in operation and stockpile conveyor

For more information:

1800 NEPEAN | www.nepeanconveyors.com

NEPEAN® CONVEYORS IS AUSTRALIA'S MARKET LEADER

NEPEAN® Conveyors operates the most advanced, high tech idler production facility in Australia, we offer complete conveyor system solutions and support services to the mining and resource industries.

NEPEAN® Conveyors internally developed industry leading software and extensive manufacturing capabilities have allowed us to provide an extensive portfolio of products and services to independently deliver unique, high quality results. NEPEAN® Conveyors offers a one stop conveyor solution.

WITH MORE LOCATIONS, WE'RE NEVER FAR AWAY

We design and manufacture in multiple locations around Australia. We are strategically located close to major mining areas so we can service our iron-ore, coal, hard-rock and port customers.