



Welcome to **Aspec Engineering**

2008

## About Aspec

ASPEC Engineering is an award winning and leading multidisciplinary Engineering Firm, with offices based in Brisbane, Mackay, and Newcastle, dedicated to three key areas being; materials handling machines, structural integrity and Engineering projects.

ASPEC is distinguished by its innovative approach, that fosters a positive culture amongst the team whilst delivering impeccable services to clients in the mining, ports, and heavy industrial sectors.

Established in 2003 by directors Richard Morgan and Frank Gatto, ASPEC now employs over 30 dedicated personnel comprising of structural, mechanical engineers, designers, project control and support staff nurturing an environment committed to further education, travel, remote employment opportunities, career development and financial returns.

ASPEC works extensively with clients that includes; BMA, Rio Tinto, Gladstone Ports Corporation, and Bluescope Steel just to name a few, managing and taking the projects from concept to completion. ASPEC can look after everything from layout through to detailed design and implementation.

ASPEC has proven expertise using a range of design tools in particular 3D tools that allows for quick views of various project design options, similarly, structural performance designs can be evaluated by transporting the 3D geometry directly with FEA software thereby gaining valuable feedback early in the design phase.



### Materials Handling

ASPEC has an impressive track record in undertaking audits of materials handling machines such as stackers, reclaimers and ship loaders for mining companies and ports. We conduct design audits on new machines to Australian Standard AS4324.1 as well as compliance audits on existing machines, inspections, specialist studies and retrofit projects. In our 5 years of operation, ASPEC has been involved with over 40 machines. A recent project awarded to ASPEC is the design audit for a new 6,000 Tonnes per Hour Stacker Reclaimer for Westshore Terminals in Vancouver Canada. ASPEC principals have detailed knowledge of the Australian Standard AS 4324.1-1995 for rail mounted machines and have been closely involved with the Standard since its first introduction.

ASPEC uses a flexible, cost effective methodology for carrying out machine investigations, tailored to match the requirements and equipment of individual plant owners and operators.

We specialise in, but are not limited to:

- Design Audits of New Machines
- Compliance Design Checking of Existing Machines
- Upgrade Feasibility
- Retrofit Detailed Design



### Structural Integrity

ASPEC is heavily involved in assisting client to monitor and improve the structural integrity of their facilities. ASPEC conducts ongoing structural audits for a number of the coal preparation plants for BHP Billiton Mitsubishi Alliance and for Ports facilities of Ports Corporation of Queensland and is developing structural integrity systems for Rio Tinto Coal Australia. In addition, ASPEC undertakes specialist investigations for life extension of structures and mechanical components involving finite element analysis, strain gauging, fracture mechanics and engineering design.

We use a risk based methodology following Australian and International Standards. Our assessment is based on:

- Inspection
- Asset Management
- Design Standards Conformance Checking
- Structured Risk Assessment
- Retrofits and Repairs
- Structural Vibration Assessment





# Projects Spotlight

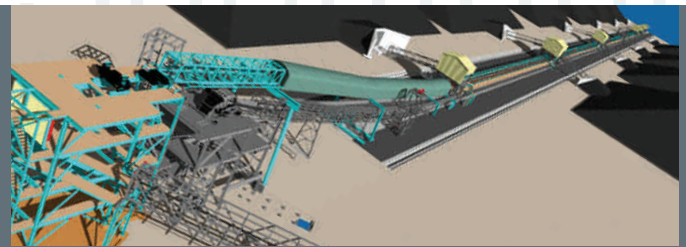


## Engineering Projects

Our experienced team undertakes the design of specialist projects for mines and ports. Projects have predominately been brownfield retrofits to improve capacity or safety. ASPEC's specialties include unloading stations, bins, conveyor systems and ship mooring systems. One recently completed project was the installation of a new reclaim conveyor system for the Port of Gladstone RG Tanna Coal Terminal which won the 2007 Bulk Materials Handling Society Award for innovative engineering.

We specialise in multidisciplinary engineering and undertake the majority of design in-house. As part of offering a complete service we also coordinate input from specialist sub-consultants and have an extensive network of world class experts to assist. The types of jobs we undertake include:

- ROM and rail dump stations
- Bins, bunkers and silos
- Conveyor systems
- Reclaim tunnels
- Crane and machine runways
- Supports for vibrating machinery
- Throughput upgrades & retrofits
- Marine structures
- Mine buildings & workshops



## SPOTLIGHT | Ship loader configuration

ASPEC is the industry leader for engineering associated with Materials Handling Machines for Australian Coal Handling Ports. We are currently undertaking the pre-feasibility study for the port for Waratah Coal in Central Queensland which is for an initial throughput of 50 million tonnes. This is the first green-field coal port project in Australia for 25 years and has involved investigation of a number of shiploading options. ASPEC is also currently involved in a study for Gladstone Ports Corporation to develop the shiploader configuration for the Wiggins Island Coal Terminal.

In its 5 years of operation ASPEC has been involved with over 40 machines with clients such as BHP Billiton Mitsubishi Alliance, Rio Tinto, BBI Infrastructure, Port Waratah Coal Services, Ports Corporation of Queensland, Gladstone Ports Corporation and Bluescope Steel. The most recent projects awarded to ASPEC are the design audit for new stacker reclaimers for the Abbot Point Coal Terminal for the X50 expansion, upgrading and replacement options for ship loader SL2 at the Hay Point Coal Terminal, design audit for BMA Caval Ridge Stackers and Reclaimers and design audit for new Stacker Reclaimer at Westshore Terminals in Vancouver Canada.

ASPEC has worked closely with all of the major machine suppliers currently operating in Australia and has an intimate understanding of the design standards applicable to this type of equipment.

## **Aspec Engineering Pty Ltd**

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