







# **OUR COMPANY**

BEC Engineering is a specialist electrical engineering consultancy providing professional services to the mining, utilities, materials handling, oil and gas, industrial and petrochemical industries.



Established in 1996, BEC Engineering has completed projects for major clients throughout Australia, North and South America, Africa, Asia, Europe and the Pacific.

With proven capabilities across all aspects of project management, power generation, power systems, control systems, automation, plant integrity and operations support, BEC holds a strong reputation within the industries that we support.

Steady growth has seen us develop into a respected partner of many of the world's premier companies.

'Applied expertise' is the difference – clients are supported by a team of dedicated people with the most appropriate and relevant experience for their project.

#### **Our vision**

To be the company of choice for our clients and employees.

#### **Our mission**

Engineering innovation and integrity in partnership.

#### **Our values**

Safe s ystems, employee recognition, continuous improvement, client satisfaction.

#### **Our philosophy**

We seamlessly integrate our services into total project delivery – it's our competitive advantage.

We are an engineering partner that exceeds client expectationswithinnovationandintegritybyemploying the highest standards of service and communication.

#### **Our Structure**

Each of our highly experienced management group has responsibility for dedicated line of business teams.

These teams support the business areas with in-house expertise and experience in a diverse range of industry sectors.

We offer our clients specialised teams with the knowledge and experience to deliver quality outcomes without the learning curve expense.

#### **Our People**

We take pride in attracting, retaining and developing the most talented and dedicated personnel.

Our Business Team leaders draw upon significant talent to create dedicated project teams selecting from the following as necessary:

- > Principal Engineers
- > Lead Engineers
- > Senior Engineers
- > Project Engineers
- > Commissioning Engineers
- > Project Managers
- > Design Draftspersons
- > CAD Operators
- > Site Construction Supervisors
- > Management and Administrative Support.



# OUR CAPABILITIES



#### **Project Management**

We have the project management capability and experience t o undertake all aspects of your next project.

Our experience across a range of industries and projects means we offer significant and valuable expertise at all project stages. Share the risk with us with an EPCM contract. Our Services portfolio includes:

- > Feasibility studies
- > Engineering design, drafting and CAD services
- > Constructionsupervision,commissioningandtraining services
- > Engineering, Procurement and Construction
- > Management (EPCM) contracts
- > Lump Sum EPC contracts
- > Alliance arrangements
- > Onshore, offshore, local, national and international project experiencers.

## **Power Generation**

Whether you need to increase your power capacity, maximise efficiency or design a new power station in the most remote location, we can deliver a turnkey solution for your existing plant or new project. We bring direct and relevant experience to bear on your requirements with a proven record on power station projects for mining companies and regional centres throughout the world. Contact us early to benefit most. If you are in the conceptual stage, let us do your feasibility study and identify the most effective solution.

- > Power generation plants
- > Power station audits
- > Generation control systems and operator interfaces
- > Automation and engine management systems
- > Project management

> Turnkey packages.

#### **Power Systems**

Our power Systems team is dedicated to providing total engineering services for your network, be it in the resources, industrial or public utilities sector. We keep abreast of technological developments which is reflected in our system designs that routinely lead industry standards and are always tailored to meet individual client needs.

- > Electrical power system design for generation, transmission and distribution
- > Power system studies and fault analysis
- > Protection schemes
- > Harmonic distortion analysis
- > Electrical safety audits
- > Energy management
- > Power factor correction
- > Insurance and accident investigation
- > Earthing system audits and design.

## **Control Systems**

Our reputation as a process controls systems specialist is the result of our expertise and track record in a variety of processes across a wide range of plants. This experience enables us to quickly evaluate your process, its variables and to apply our knowledge to optimise the response of your plant to changing conditions. Onshore or offshore – whether it's a new project or you simply need to optimise your existing production processes, we will deliver the improvement you require with simple and effective solutions.

- > PLC, DCS and SCADA technology
- > Advanced process control systems
- > Multivariable control for grinding mills
- > Plant control system audits
- > Process optimisation



# **Plant Integrity**

Our design teams ensure that power and control systems are correctly specified and engineered utilising equipment and materials that meet the highest standards, provide safety and reliability and the operational requirements of upstream and downstream oil and gas process plants - onshore or offshore. Our professional experience will ensure your next project or upgrade is engineered for maximum safety and reliability.

- > Local generation
- > Power systems
- > Control systems
- > Fault finding and commissioning
- > HAZOP risk analysis
- > Safety audits
- > Hazardous area classification
- > Instrumentation audits
- > Safety related systems

## **Operations Support**

We support our clients through the life of their assets by providing ongoing services to the Operations and Maintenance functions and seamlessly integrating our engineering assistance. For isolated needs or on an ongoing basis, we also provide practical, effective solutions.

- > Project engineering, construction supervision and commissioning of plant modifications
- > Maintenance planning
- > Optimisation of control systems on critical plant items
- > Electrical safety audits for surface and underground plant and equipment
- > Power station audits and corrective action
- > Training on plant and electrical control systems
- > Operating and maintenance manuals
- > On-site engineers, technicians, draftspersons and supervisors to undertake specific duties

> Insurance appraisals covering auditing claim assessment and accident investigations.

## Automation

Our experience encompasses all aspects of automation for existing and new plants. For mobile or fixed equipment using any proprietary system we use the latest technology to deliver customised automated systems where cost benefits are highly visible.

- > Instrumentation
- > Operator interface terminals
- > Retrofitting of PLC and SCADA systems
- > Automation feasibility studies
- > Field installation audits
- > Process control system optimisation
- > Remote site support

## Information & Communication Technology (ICT)

We provide specialist experience and capabilities covering:

- > Operating systems and network protocols
- > High level language programming
- > Database systems programming
- > Network design
- > Robotics and automated vehicle design
- > Data, satellite, mobile, fibre, RF and microwave communications
- > Site maintenance and support

## **Voice and Data Networks**

We are very experienced in providing specialist independent advice across all voice and data systems:

- > Corporate WAN, LAN and VLAN
- > Ethernet
- > CCTV
- > Security systems
- > Telemetry systems





# INDUSTRYGROUPS



# Mining

Gold, copper, nickel, iron ore and diamonds are just some of the commodities in which we have project experience.

We've travelled from the searing heat of the desert to the frozen tundra both north and south of the equator and handled the challenges of demanding projects and environments.

# **Materials Handling**

We specialise in the electrical design of materials handling systems for mining, grain, salt, and fertilizer plants. Our projects include conveying systems, mobile and fixed machinery, stockyard control, machine positioning and anti-collision control and material tracking.

## Utilities

We have been called upon to provide specialist engineering services for traditional power generation utilities, independent power producers, customer-owned generation, cogeneration, embedded generation and renewable energy companies.

We have ongoing involvements with water transport and treatment plants, gas transmission pipelines, compressors and delivery stations.

# **Oil and Gas**

Onshore, offshore, upstream, downstream, greenfield, brownfield – BEC has recent, relevant practical experience.

Our record in this sector is impressive at all levels with OEMs, operators and contractors.

We a reactive participants in the development of national and international technical standards for electrical equipment in hazardous areas to potentially explosive atmospheres..

## Industrial

Our experience covers a wide and varied range of electrical and control equipment used in industrial facilities.

This includes large rectifiers, furnaces, mills, kilns and welding machines with particular experience in overcoming associated power quality issues..

## Petrochemical

We have combined very successfully with other organisations in the petrochemical field at fuel depots, petroleum refineries, fertilizer plants and other facilities.

Our petrochemical industry experience includes engineering services such as: instrument engineering, emergency stop systems, vapour recovery switches, pressure switches, hazardous area audits, board design and wiring, electrical fault finding and booster pumps.



# OUR COMMITMENT





BEC is committed to attracting high-quality staff and offering opportunities that will exceed their expectations and challenge their abilities.

The company offers job satisfaction, a favourable working environment and stimulating work within a highly professional team.

We are committed to professional development, career progression and maintaining a balance between work aspirations and family needs.

We operate a graduate development program which creates a framework for accelerated career development.

#### **Our Commitment to Our Clients**

The BEC mission is Engineering Innovation and Integrity in Partnership.

We will achieve this by constantly improving our professional standards and technological sophistication.

Integrity and ethics are cornerstones to all we do – as indeed are communication and the highest standards of service.

Enter a relationship with BEC and you are beginning a partnership.

Throughout its duration we will constantly strive to exceed your expectations and deliver professional services that are seamlessly integrated with your operations.

# Contact

Level 2, 56 Ord Street West Perth, WA 6005 Australia

PO Box 846 West Perth WA 6872 Australia

**Phone +61 8 9472 4224** Fax +61 8 9472 4225 Email info@bec-engineering.com.au www.bec-engineering.com.au