



Peter Benyon PhD BE(HONS)

Market Leader - Energy



Location

Sydney, NSW, Australia

Experience

29 years

Qualifications/Accreditations

- Bachelor of Engineering – University of Sydney – 1st Class Honours
- Doctor of Philosophy in Engineering – University of Sydney

Key technical skills

- Power generation
- Power project development and engineering
- Contract management
- Energy advisory

Memberships

- Chartered and Registered Professional Engineer (CPEng, NER, RPEQ)
- Managing Successful Programmes (MSP) Practitioner

Relevant experience summary

Peter Benyon has over 29 years of experience in the energy industry in various roles as a technical advisor, consultant, contractor, Owner's engineer and researcher. Since year 2000, Peter has been responsible for key roles on large power infrastructure development, design, construction, commissioning, testing and due diligence projects internationally. Since 2011, Peter has held energy business leadership team positions with responsibilities including technical management, client management, people management, risk management and financial success. In parallel with these roles, he has won and delivered several multidisciplinary and multinational energy projects involving power generation (thermal and renewable), transmission and distribution services.

Project experience

CCGT Pre Feasibility Study

Role: Project Manager

Client: Confidential

Location: NSW, Australia

Scope included site selection, combined cycle gas turbine (CCGT) power station concept, gas connection, transmission connection, environmental and planning.

Newcastle Power Station

Role: Project Manager

Client: AGL

Location: NSW, Australia

Owner's Engineer role on the 250MW dual-fuel (gas and liquid fuel) project responsible for environment and planning (Preliminary Environmental Assessment, EPBC referral and Environmental Impact Statement) and the development of the power station, gas connection and electrical connection (concept design, specification and geotechnical investigations). The power station concept utilised either reciprocating engines or gas turbines. The role included preparation of tender documentation, tenderer clarification responses and site visits plus tender evaluation.

OCGT Power Station EPC Bid Assistance

Role: Project Manager

Client: EPC Tenderer

Location: NSW, Australia

Assistance to an EPC tenderer for ultimate client and National Electricity Rule requirement compliance including review of PSSE model parameters, block diagrams, protection settings, project schedule and AEMO hold point testing plan for an open cycle gas turbine (OCGT) power station.

System Integrity Protection Scheme 2020

Role: Project Manager

Client: AEMO

Location: Victoria, Australia

Development of tender documentation for the 250 MW/125 MWh SIPS project.

Claim Assessment

Role: Project Manager and Lead Advisor

Client: Confidential Client

Location: NSW, Australia

Technical assessment of a claim related to a large solar PV facility in the NEM.

Hybrid Generation Study

Role: Project Manager
Client: Confidential Client
Location: Australia

Completed a study which advised on the potential benefits of adding solar PV and batteries to an existing 200+ MW wind farm.

Renewable Asset Compliance Registers

Role: Project Manager
Client: Confidential Client
Location: Australia

Development of statutory and contractual compliance registers for wind and solar assets

Marulan and Tallawarra B Power Stations

Role: Project Manager
Client: EnergyAustralia
Location: NSW, Australia

Owner's Engineer role on the Marulan and Tallawarra B open cycle gas fired power station development projects including environmental and planning services, tender documentation review, concept development, tender evaluation planning and works package development.

Thermal Plant Flexibility Study

Role: Project Manager
Client: Confidential Client
Location: Australia

Completed a study on the potential flexibility of coal-fired generation in the National Electricity Market (NEM) focusing on minimum load, ramp rates and start-up times.

Power Generation Technology Assessment

Role: Project Manager
Client: Confidential Client
Location: Australia

Completed a study that delivered information to the client for the formation of a strategy to become a NEM power generation participant. Technologies covered included gas to power firming (turbines and engines), batteries, waste to energy, compressed air, solar PV and pumped hydro energy storage.

Bayswater Turbine Upgrade

Role: Project Manager
Client: AGL
Location: NSW, Australia

Owner's Engineer role for the 4 x 25MW turbine upgrade project at Bayswater Power Station. Responsibilities included review of Toshiba documentation, witness inspections in Japan and China, performance assessment and metallurgical advice.

Turbine Failure Analysis

Role: Project Manager
Client: Confidential Client
Location: NSW, Australia

Project managed a root cause analysis of a turbine failure.

Thermal Power Plant Due Diligence

Role: Project Manager
Client: Confidential Client
Location: Australia

Technical and Environmental Due Diligence on two coal fired power stations (2 x 500MW and 2 x 660MW) and a gas fired cogeneration plant.

Endeavour Energy Due Diligence

Role: Project Director
Client: Confidential Client
Location: NSW, Australia
Project value: \$7.6billion

Technical and Environmental Due Diligence on the Endeavour Energy HV Network transaction.

TransGrid Due Diligence

Role: Project Director
Client: Spark Consortium
Location: NSW, Australia
Project value: \$10.26billion

Technical and Environmental Due Diligence on the TransGrid HV Network transaction.

Mt Piper Energy Recovery Project

Role: Project Director
Client: EnergyAustralia and Re.Group
Location: NSW, Australia

Owner's Engineer for the waste to energy plant which would produce steam for the adjacent Mt Piper coal fired power station, offsetting coal requirements. Responsibilities included technical specification preparation, preliminary environmental assessment and technical investigation report. The project was based on utilising refuse derived fuel (RDF) for ~30MWe.

Hallett Repowering Project

Role: Project Manager
Client: EnergyAustralia
Location: SA, Australia

Owner's Engineer, responsible for concept design, HAZOP and specification for repowering Hallett power station with an additional LM2500 gas turbine. A comparison of repowering with reciprocating engines was also made.

South Hedland Power Station

Role: Project Director

Client: IHI Engineering Australia

Location: WA, Australia

EPC Engineer role on the CCGT/OCGT 150MW project which included project management, technical management, design, power system modelling, procurement, contract management, FAT, scheduling, HAZOP, safety systems, construction supervision and network certification for the LM6000 based installation.

Power Station Contract Progress Assessment

Role: Independent Technical Adviser

Client: Confidential Client

Location: Indonesia

Responsibilities included review and reporting on construction matters including delay analysis for client contract completion negotiation with Chinese EPC Contractor. Power station was a 2 x 150MW coal fired circulating fluidised bed (CFB).

PLN IPP Procurement Programme

Role: Project Director

Client: HSBC

Location: Indonesia

Technical Advisor on PLN's Independent Power Producer (IPP) Procurement of Supercritical and Ultra supercritical (USC) coal fired power stations, including Sumsel 9 & 10 (3 x 660MW) and Jawa 7 (2 x 1000MW). Provided technical advice, request for proposal documentation, tendering support, tender evaluation and power purchase agreement (PPA) finalisation. In April 2016, the PPA was signed for the USC, 2 x 1000MW, Jawa 7 project. HSBC was the lead adviser.

DOE IPP Procurement Programme

Role: Project Director

Client: South African Department of Energy and National Treasury

Location: South Africa

Lead Technical Advisor for the IPP Procurement Programme covering 2,500MW of baseload coal fired generation capacity. Provision of strategic advice, request for proposal documentation, power purchase agreement and ancillary services agreement technical inputs. Close liaison with all stakeholders including IPP Office personnel, Legal Advisors, Financial Advisors, Economic Development Advisors and Eskom. Provided associated reports and papers on Clean Coal Technology including Ultra Supercritical (USC) Coal Fired Technology, Unconventional Gaseous Fuels, Carbon Capture and Storage, Flue Gas Emissions, Rooftop Solar PV and the South African Grid Code.

Delta Western Due Diligence

Role: Project Director

Client: EnergyAustralia

Location: NSW, Australia

Technical and Environmental Due Diligence on the Delta Western asset sale including Mt Piper (2 x

660MW) and Wallerawang (2 x 500MW) coal fired power stations. The role included risk mitigation, resourcing and review of the key deliverables to the client, EnergyAustralia.

NSW Generator Due Diligence

Role: Risk Manager

Client: NSW Treasury & NSW Generators

Location: NSW, Australia

Risk Manager for sale of NSW power generation assets whilst technical advisor for several clients on the buy side. For each asset sale managed the potential conflicts of interest in providing services to both the buyer and the utility being sold. This involved establishing project specific protocols and procedures to manage conflict of interest and confidentiality as well as monitoring compliance. Liaised with NSW Treasury's Probity Advisor and the key contact for the Utilities being sold, including Eraring Energy (4 x 720MW), Macquarie Generation (4 x 660MW and 4 x 500MW) and Delta Electricity (2 x 660MW and 2 x 500MW).

Yurralyi Maya Power Station

Role: Project Manager

Client: IHI Engineering Australia (IEA)

Location: WA, Australia

Project management assistance to IEA for the delivery of the 4 x 40MW LM6000 EPC project to Rio Tinto Iron Ore. Delivered a plan to improve schedule during the final four months of the project and successfully achieved Practical Completion of the final unit on time. The plan included implementation of a night shift for cabling and commissioning.

Bluewaters Power Station EPC Engineer

Role: Building Approvals Manager, Water Treatment Plant Contract Rep and Project Engineer

Client: IHI Engineering Australia

Location: WA, Australia

Managed the building approval process with Collie Shire Council, Fire and Emergency Services Association and Contractors. Was the Principal's Representative's Delegate for water treatment plant contract administration after helping with tender evaluation. Also assisted with the firefighting system design concept and specifications, model specifications and project scheduling.

Uranquinty OCGT and Cullerín Range WF

Role: Technical Adviser

Client: Origin Energy

Location: NSW, Australia

Provided regulatory compliance matrices for Uranquinty 640MW Open Cycle Gas Turbines (OCGT) and Cullerín Range 30MW wind farm assets.

Worsley Alumina Refinery Expansion

Role: Technical Adviser

Client: Financier

Location: WA, Australia

Technical review for potential financier on the Worsley Alumina Refinery Expansion, Multi-fuel (coal, gas, biomass) Cogen Project

Callide Oxyfuel Project

Role: Technical Adviser

Client: CS Energy

Location: QLD, Australia

Technical review of contracts and interfaces for the Callide Oxyfuel Project (Carbon Capture and Storage demonstration plant) - Air Separation Unit and Carbon Dioxide Purification & Compression Unit contracts.

Manjimup 40MW Biomass Power Plant

Role: Project Engineer

Client: Babcock and Brown

Location: WA, Australia

Fire system design review and building approval assistance on the Manjimup 40MW Biomass Power Plant as Owners Engineer.

USC Feasibility Study

Role: Technical Manager

Client: Xstrata

Location: NSW & QLD, Australia

Technical studies manager for two new 1500 MW Ultra supercritical (USC) coal fired power stations including site selection, plant design definition and concept design.

Energy Supply Options Study

Role: Technical Adviser

Client: BHP

Location: SA, Australia

Completed an energy supply options study for the Olympic Dam main expansion including CCGT, OCGT, gas engines and transmission.

Tarong North Project

Role: Project Engineer

Client: Pacific Power

Location: QLD, Australia

Seconded to Pacific Power (Subsidiary No. 1) Pty Ltd for completion of the Tarong North Power Station (1 x 450MW) EPC Contract between July 2003 and August 2005. Principal's Representative Delegate for the Integrated Control and Monitoring System (ICMS) Contract. Negotiation and resolution of outstanding issues and defects, particularly for the ICMS and fire protection contracts.

Tarong North Project

Role: Consortium Project Engineer

Client: Mitsui, IHI, Toshiba and PPI EPC Consortium

Location: QLD, Australia

Assisted with project reporting, project scheduling, commissioning and testing, quality assurance documentation and technical matters as required.

Duties included:

- Managed building certification for the Tarong North power station buildings and structures;
- Managed plant design registrations and plant registration submissions to the client;
- Coordinated plant classroom training and delivery of training materials; and
- Ensured the Mechanical Completion requirements of the EPC Contract were met on schedule.

Career history

2020 - Present	GHD, Market Leader - Energy
2011 - 2020	Aurecon, Energy Services Leader
2008 - 2011	Aurecon, Principal Engineer
2003 - 2007	Connell Wagner, Project Engineer
1993 - 2003	Pacific Power International: Project Engineer; Technical Adviser, Combustion/Gasification Consultant, Contracts Engineer, Engineering Consultant
1988 - 1993	Electricity Commission of NSW: Research Engineer, Cadet Engineer
