

THOMAS ZINK

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SUMMARY:

A commercially astute mechanical engineer with some 30 years experience in project management and business development including working in design office, construction site, plant commissioning and operating environments within the mining, electricity generation, pollution control, and pulp and paper industries in New Zealand, Australia, Germany, Canada, and Malaysia. Has successfully developed and/or delivered several large (NZ\$ 100m plus) electricity generation projects.

Active in all facets of the project lifecycle, from concept and business case development, resource consenting, tendering and contracting, construction and commissioning, through to reporting overall progress up to Board level.

Self-employed, trading as Verso Consulting Ltd a New Zealand registered company, providing project development and project management services to industry.

Chartered Professional Engineer (CPEng – Management), New Zealand
Bachelor of Engineering, Mechanical
Project Management Professional (PMP)

Seeks assignments that will make a tangible impact to the business and benefit the community through either individual contribution or leading a team of professionals.

COMPETENCIES:

Commercial Awareness

- Worked for a consultant, contractor, and a principal. Accountable for the commercial interests of each.
- Assessed and included the full project life cycle costs in the economic evaluation of developments.
- Managed multiple stakeholders and resolved their conflicting drivers in order to deliver value to shareholders and manage project risk.
- Developed, negotiated, managed, and enforced the commercial and technical aspects of major contracts, and appropriately apportioned risk between the parties.

Technical Competency

- Hands on experience in design office, site based construction and commissioning, project development and project delivery roles.

- Broad appreciation of the requirements of most engineering disciplines and the technical aspects of multiple forms of electricity generation and industrial processes.
- Managed consultants and major equipment suppliers through contract development, plant design, and project delivery.
- Able to use knowledge and experience to make judgement based decisions to deliver the required outcomes.

Management of Teams

- Selected and managed teams of professionals to deliver the required outcome.
- Consulted widely and sought specialist advice as input to decision making.

Outcome Focussed:

- Time is money; can make risk based decisions even when there is incomplete information in order to ensure the momentum of a project is not lost.
- Challenge the status quo; can develop and implement task/project specific approaches in order to expedite achievement of an outcome.

Personal Values and Attributes

- Diligent, delivers on promises.
- Thorough, transparent decision making.
- Integrity, focussed on “best for project” outcomes.
- Flexible and versatile, demonstrable ability to work in a variety of organisation structures, cultures, and countries.
- Self aware.

WORK HISTORY:

Period	Employer	Job Title
July 2013 -	Verso Consulting Ltd (self employed)	Director
Feb 2000 – June 2013	Contact Energy Ltd, Wellington	Project Manager Project Director Generation Manager
Oct 1998 – Jan 2000	Contact Operations Australia Ltd, Queensland	Project Manager
Jan 1994 – Sept 1998	Tasman Pulp and Paper Ltd, Kawerau	Senior Project Engineer
(Nov 1995 – May 1996)	Malaysian Newsprint Industries, Kuala Lumpur	Project Engineer
July 1992 – Dec 1993	Noell KRC Umwelttechnik GmbH, Canada	Commissioning Manager
Feb 1991 – June 1992	Tasman Pulp and Paper Ltd, Kawerau	Project Engineer
Dec 1987 – Dec 1990	Noell KRC Umwelttechnik GmbH, Germany	Commissioning Engineer
Nov 1985 – Aug 1987	Beca Carter Hollings and Ferner Ltd, Auckland	Design Engineer

- **Verso Consulting Ltd., Wellington, New Zealand**

October 2013 – June 2014 Engineering Manager, Trans-Tasman Resources Ltd, Wellington.

A full time contract role, working through Fitzroy Engineering Group Ltd, supporting TTR with development of its Bankable Feasibility Study (BFS) for an offshore iron sand extraction project. Focussed on developing the basic design and selection of equipment located on the integrated processing vessel including the iron sand processing, power generation, and desalination plant equipment. This entailed liaison and development of engineering solutions with naval architects, process designers and equipment vendors. The assignment came to an end before the BFS was completed due to the marine consent application for the project being refused by the EPA.

- **Contact Energy Ltd., Wellington, New Zealand**

February 2000 – June 2013

Contact Energy is an integrated energy company with operations across New Zealand and previously also in Australia. It owns and operates gas and liquid fuel fired thermal, geothermal, and hydro generating facilities and is a retailer of gas and electricity. The role in the Generation Development team was to establish the business case for either the building of new, or refurbishment of existing, generation plants and then delivery of the projects without harm to people or the environment and within the agreed budget and schedule.

January 2013 – June 2013

Relieving Generation Manager - Taranaki

A secondment to the Operations group during a period of organisational change within the business, leading the team of approx. 40 people at the Stratford Power Station site, which consists of a 370 MW gas fired combined cycle gas turbine plant and 2 x 100 MW open cycle aero derivative gas turbines.

Responsible for ensuring the safe and reliable operation of the plant to meet the requirements of Contact's generation portfolio and the electricity market, oversight of the timely and cost effective performance of maintenance outages on each of the turbines, reporting of costs against budget, management of risks, implementing the learnings from incidents, and management of staff performance and culture at the site.

January 2011 – December 2012

Project Director – Te Mihi

Integration Manager – Te Mihi

Developed the initial business case and project outline for replacement of the Wairakei geothermal power station with a new station called Te Mihi in 2004. Others subsequently developed this project and secured Board approval for the NZ\$ 750 million programme of works in early 2011. Appointed to the role of Project Director for the overall programme including the power station and steam field development from early 2011 through to mid 2012. This role included overseeing project managers who were delivering all aspects of the programme works (well drilling, steam field surface works, power station) and reporting on

the overall programme cost, schedule, and safety performance to a project steering committee.

Transitioned to the role of Integration Manager for the latter part of the period, responsible for coordinating activities between Construction and Operations teams in preparation for commissioning and then on-going operation.

By the end of this assignment the project the drilling works had been successfully completed, steam field surface works were substantially in place and tested to support power station commissioning, the power station construction was well advanced, and the Operations team had completed class room training and were supporting power station commissioning activities.

February 2000 – December 2010 **Project Manager – Generation Development**

The Generation Development team at Contact was responsible for the initial scoping and concept development of new and refurbished power generation assets, preparation and securing of the necessary land and resource consents, preparation of the business case and securing funding approvals from within the organisation, equipment procurement and construction contract document preparation and tendering, and management of the design, construction and commissioning activities through to hand over to the Operations team.

Instrumental in a number of significant projects:

- Otahuhu C Power Station – 1 x 400 MW gas fired combined cycle gas turbine (a brown fields project).
 - ◆ Managed a project to obtain resource consents for the development. Prepared key technical documentation for the Assessment of Environmental Effects. This included the preparation of evidence regarding the construction and operation of the proposed power station, review of evidence from others for the consent hearing and subsequent appeal, and presentation of evidence at the hearing. The consents were granted in September 2002.
 - ◆ Engaged and managed Transpower to develop the grid connection concept and undertake the initial system studies.
 - ◆ Prepared full tender documentation (technical and commercial) for the power station EPC contract. Developed a draft set of commercial terms based on FIDIC and in-house documents, working closely with Contact's legal advisers.
 - ◆ Contact chose not to proceed with this project due to, amongst other things, uncertainty over long term gas supply and cost in the mid 2000's.
- Whirinaki Power Station – 3 x 55 MW diesel fired open cycle gas turbines (a brown fields project built on behalf of the New Zealand Government). Overall cost approx. NZ\$ 150 million.

Contact's Project Manager for the overall project and key interface with the Government's representatives, all contractors and consultants, and Transpower (the grid owner).

- ◆ Managed preparation of full technical and commercial documentation, and negotiated the EPC contract for the power plant.
- ◆ Project managed construction, through to performance testing and Take Over of the plant by Contact's Operations Team
- ◆ Reported progress and costs to the Government's representatives under the terms of a Project Management Agreement.
- ◆ Engaged consultants and contractors as required to undertake work that was outside the EPC contract scope.
- ◆ Coordinated and managed work streams of approx 6 – 8 others within Contact to execute all aspects of the project, including modification of resource consents, grid connection, water supply, site control room establishment, and installation of remote control facilities at Contact's Otahuhu power station.
- ◆ The project was completed in June 2004 on time, on budget, and to the required power station performance.
- Wairakei Binary Plant – 14 MW geothermal power plant (a brown fields project). Overall cost approx. NZ\$ 45 million.
 - ◆ Led the development of the technical and commercial documentation for the EPC contract for the supply and construction of the power plant, and the preparation of the business case for the project up to the time of Board approval to proceed with the project.
 - ◆ The detailed design and construction phase was managed by others. The station was successfully commissioned in mid 2005 and met the targets set out in the business case.
- Te Huka - 23.6 MW geothermal binary plant (Tauhara Stage 1 – Centennial Drive, a green fields project). Overall cost approx. NZ\$100 million.
Contact's Project Manager for the overall project and key interface with all contractors, consultants, and Unison (the network owner). The project included well drilling, steam field surface works, power station, and network connection.
 - ◆ Led the development of the technical and commercial documentation for the EPC contract for the supply and construction of the power plant, and the preparation of the business case for approval by Contact's Board.
 - ◆ Engaged consultants and contractors as required to undertake work outside the scope of the EPC contract.
 - ◆ Coordinated and managed work streams of approx 6 – 8 others within Contact to execute all aspects of the project, including modification of resource consents, network connection, water supply, steam field, and installation of remote control facilities at Contact's Wairakei power station.
 - ◆ Completed in May 2010 on time, on budget, and to the required power station performance.
- Tauhara Stage II Geothermal Development (power station up to 240 MW, including steam field, a green fields project).

- ◆ Led the concept design and managed a number of internal and external parties to obtain resource consents for the project. Consents were granted through a Board of Enquiry process in early 2011.
- ◆ This project won a number of industry awards for the specialists involved in the consenting process.
- Refurbishment Projects:
 - ◆ Prepared applications for funding and managed design and construction contracts (with on-site management by others) of various projects including:
 - a) Refurbishment of low level diversion gate at Roxburgh hydro station (NZ\$ 2.5 million).
 - b) Seismic Strengthening of Roxburgh hydro dam spillway structure (NZ\$ 6 million).
 - c) Refurbishment of 8 x 40 MW generators and turbines at Roxburgh (NZ\$ 50 million).
 - d) Refurbishment of two gas turbines and generators at Otahuhu A for voltage support service (NZ\$ 1.5 million).
 - e) Developed the business case, secured Board approval, and negotiated the main contract to upgrade the hydro power station control system (NZ\$ 10 million).
- Investigations and Studies:
 - ◆ Investment appraisal for various new generation options including combined cycle gas turbine, wind, hydro, cogeneration, and geothermal with presentation of results and recommendations to senior management team and/or Board.
 - ◆ Technical input for due diligence on potential power station acquisitions in Australia.
 - ◆ Led the preparation of technical and commercial proposals for two cogeneration plants, shortlisted for one in Australia.
 - ◆ As part of the early work on the Te Mihi development, lead the investigation and pilot trials of a biological treatment process to control hydrogen sulphide discharges from the Wairakei Power Station. The full scale plant was brought into operation in 2012.
 - ◆ Initiated Contact's Clutha River hydro development study. Updated the scope and business case for known large hydro generation projects at Luggate, Queensbury, Beaumont, and Tuapeka. Identified preferred development options and reported the findings to management. This study was subsequently progressed further by others, but Contact chose not to proceed beyond the feasibility stage of the development.

- **Contact Operations Australia Pty Ltd., Queensland, Australia**

October 1998 – January 2000

Project Manager – Oakey Power Project

Contact Energy was part owner of the Oakey Power Station in Queensland, Australia. This is a 2 x 150 MW gas and diesel fired open cycle gas turbine plant, with a total project value of approx. AU\$150 million. Contact had project management responsibility for the construction phase, and then ongoing operations and maintenance responsibility. This was a project-financed development, with a power purchase agreement to the Queensland

Government.

Joined the project after the key contracts had been let, but prior to site works commencing, to act as the Owner's Project Manager for the construction phase. The project was delivered on time, within the approved budget, and to the performance required by the power purchase agreement.

- ◆ Worked within the bounds of a Project Management Agreement as Owner's Representative, including complying with the Owner's obligations under the Power Purchase and Credit Agreements
- ◆ Administered an EPC Contract (A\$100 million for 2 x 150 MW gas turbines) and a Connection and Access Agreement (A\$12 million), and coordinated fuel and water supply contracts.
- ◆ Prepared and presented monthly reports to the Oakey Power Board of Directors, the Queensland Power Trading Corporation (QPTC, the power purchaser), and the Banker's Engineer.
- ◆ Engaged and supervised local consultants and contractors for provision of works outside of the main EPC contract, e.g. site security systems, site landscaping, and raw water supply and wastewater disposal systems.
- ◆ In consultation with the Environmental Protection Agency, amended the licence conditions to suit the power plant performance parameters that were revised during the detailed design phase.
- ◆ In consultation with the local Shire Council, amended the power station wastewater disposal authorisations to suit the concept that was developed during the detailed design phase.

- **Tasman Pulp and Paper Co. Ltd., Kawerau, New Zealand**

June 1996 – September 1998

Senior Project Engineer, Engineering Group

At this time Tasman it was an integrated pulp and newsprint paper mill. Worked within the engineering group. Active in various roles within the engineering partnership between Tasman and Beca Simons. Primarily focussed on projects in the chemical pulp mill and energy plant.

- ◆ Developed the project scope, business case, and prepared applications for funding for capital projects up to NZ\$ 10 million. Engaged external consultants to assist as required.
- ◆ Engaged and managed construction contractors and equipment suppliers to deliver approved projects.
- ◆ Provided technical support to a strategic study to determine if outsourcing the ownership and operation of the mill energy plant was feasible and of benefit to Tasman. In conjunction with the study team, selected preferred local and international candidates and established alliance relationship objectives. The study concluded that the case to outsource was not sufficiently compelling.

November 1995 - May 1996

Mechanical Engineer, Seconded to Malaysian Newsprint Industries, Kuala Lumpur

Assisted with the feasibility study of a 250,000 - 300,000 tpa green fields newsprint machine in Malaysia in which Fletcher Challenge had a 20% ownership stake. Total project value US\$ 450 million.

January 1994 - October 1995

Mechanical Project Engineer, Pulp Division

4 months

Projects Manager, Pulp Division

8 months

Project Manager, Beca Simons Kawerau Ltd.

10 months

February 1991 - June 1992

Design Engineer, Engineering Department

Undertook the planning, budgeting, design, and project management of capital expenditure projects in the pulp mill and steam plant.

- **Noell-KRC Umwelttechnik GmbH, Würzburg, Germany.**

(now Babcock Noell GmbH, part of the Bilfinger Group)

July 1992 - December 1993

Commissioning Manager, Canada

Responsible for the on-site start up and commissioning activities of the first flue gas desulphurisation plant at a Canadian utility (450 MW Belledune Power Station, New Brunswick, wet scrubbing process), including preparation of O&M manuals and operator training. Contract value: CAN\$ 70 million.

December 1987 - December 1990

Commissioning Engineer/Manager, Germany

Performed the on-site start up and commissioning activities for several flue gas desulphurisation and denitrification plants at coal-fired power stations in Germany. Typical contract values: DM 50 - 120 million.

- **Beca Carter Hollings and Ferner, Auckland, New Zealand**

November 1985 - August 1987

Design Engineer, Building Services Section

Undertook the design and specification preparation of HVAC systems for industrial and commercial buildings.

EDUCATION AND TRAINING:

- ◆ 1982 - 1985 University of Auckland – New Zealand, Graduated with Bachelor of Engineering (Mechanical), First Class Honours

ADDITIONAL PROFESSIONAL DEVELOPMENT:

- ◆ 1997 Finance for Business Administrators, 2 semester Massey University post graduate extramural course 25.700, “A” pass.
- ◆ 2002 Presented paper to the ANCOLD conference (Auckland) on the modification of a diversion sluice gate at the Roxburgh Hydro Dam
- ◆ 2007 Presented paper to the Hot Rock Energy conference (Adelaide) on Contact’s geothermal energy activities at Wairakei
- ◆ 2014 Project Management Professional (PMI Certification)

PROFESSIONAL MEMBERSHIPS:

- ◆ Institute of Professional Engineers of New Zealand (IPENZ) – Member No. 144337
- ◆ Verein Deutscher Ingenieure (VDI - German Engineers Society) – No. 19460011
- ◆ New Zealand Geothermal Association
- ◆ Project Management Institute – Member No. 3245116

COMMUNITY INVOLVEMENT: School Board of Trustees: Member/Chairman – 10 years
Junior Soccer Club: Treasurer/Secretary/Funding – 7 years
Photographic Society: Treasurer – 4 years

LANGUAGES: German - intermediate level of reading and speech

HOBBIES: Tramping/Mountaineering, Cycling, Swimming, Photography

NATIONALITY: New Zealander and German