

Professional Mechanical Engineer with over 30 years of diverse experience in the Oil and Gas, Power Generation, Electrical Manufacturing, Aerospace, and Insurance industries, with emphasis on high speed rotating machinery, and in particular gas turbines. Strong analytical, people and project management skills, with the ability to effectively communicate and negotiate with all levels of staff and external clients. Led small and large multi-disciplined teams, in small companies and large corporations, in the development and manufacturing of innovative products, using Six Sigma and Lean techniques. Managed many small and multi-million dollar projects in the Oil and Gas and Power generation sectors, established as a consultant in Project Management and Forensic Engineering.

PROFESSIONAL EXPERIENCE

Independent Engineering Consultant, Calgary, AB

2011 - Present

Continuing to operate as an independent consultant in the forensic engineering field for several insurance industry and legal clients, specializing in industrial gas and steam turbines, compressors and generators. Also applying his extensive project management experience on a contractual basis to:

- **Global ThermoElectric (now Gentherm)**, a manufacturer of customized remote power systems in Calgary, AB. Managed the engineering, procurement, and integration of power generation projects ranging in value from \$25,000 to \$3MM for on-shore and off-shore applications worldwide.
- **SeaNG**, a compressed natural gas (CNG) transportation system provider in Calgary, AB. Assisted in the development of a pre-FEED proposal for a major energy company.

Calgary Airport Authority (YYC), Calgary, AB

2015 - 2017

Project Manager, Mechanical Systems, International Facility Project

Based in the Authorities' PMO, managing mechanical aspects of the construction of the new \$2 billion International Terminal airport extension project, including new construction, change management, commissioning, troubleshooting and remediation of non-performing assets, prior to and following the opening of the new terminal building.

Enerflex Systems Limited, Calgary, AB

2013 - 2014

Project Manager, Compression and Process

Managed the engineering, procurement and production of customized natural gas compression and process packages for a variety of North American energy companies.

Accomplishments:

- Managed projects with values ranging from \$50,000 to \$8MM, within established schedules and budgets.
- Coordinated package design and manufacturing to both Enerflex and customer specifications with the customers and their EPC's and contractors.

Sintra Engineering Inc, Calgary, AB

2009 – 2011

Forensic Engineer

Specialized in the technical investigation of insurance losses for insurers and adjusters, and litigation for law firms, including failure analysis, equipment malfunctions, product liability, as well as the evaluation of engineering reports from other firms.

Accomplishments:

- Investigated the failures of several diesel-powered standby generators, gas turbines, HVAC systems, and a multitude of commercial and residential electrical and plumbing failures.
- Investigated an explosion and fire in a gas compression package which resulted in a multi-million dollar equipment and production loss. Proved that the origin and cause of the event was an operator error, but also identified many shortcomings in the company's maintenance and EH&S processes.

TransAlta Energy Corporation, Calgary, AB

2005 - 2009

Senior Wind Engineer, TransAlta Wind (2008-2009)

Managed a small group of engineers dedicated to the EPC project management of wind farm construction, operation and technology. Focus is on reliability and operational excellence through adoption of Condition Monitoring tools and processes, and development of the technical capabilities and knowledge of the group through working closely with the major OEM's. Also assisted in the project management of green field wind-farm construction.

Manager, Plant Engineering, Gas and Hydro (2007-2008)

Following a strategic re-organization, took over management of site-based plant engineering groups providing technical support to the company's hydro, and combined-cycle and cogen gas power plants in Canada and Mexico, with emphasis on introducing reliability and performance principles into the activities of these groups, and standardized project management methodologies.

Manager, Corporate Reliability and Performance (2005-2007)

Managed a group of 15+ professional engineers and technicians in the Generation Technology corporate office and distributed throughout the company's plants, focused on the reliability and performance of all of TransAlta's power generating assets. Operating from within TransAlta's PMO, the main priority was to develop common goals and operating standards, for plant-based teams and individuals originating from differing organizational structures.

Accomplishments:

- Developed a compelling business case for, and managed the selection and procurement of an on-line Condition Monitoring system for deployment in the company's wind turbines, with the aim of improving turbine availability through better condition monitoring and maintenance planning.
- Managed the development of the various analytical tools which formed the basis of TransAlta's Operational Diagnostics Centre, a new remote performance monitoring center based in Calgary.
- Managed several construction projects to completion in Hydro facilities, on time and within budget.
- Led the Root Cause Failure Analysis investigation into the multi-million dollar failure of the generator excitation system on a GE 7EA Gas Turbine unit at the company's LP/Husky plant in Lloydminster, Sask., identifying both mechanical and human factor contributing factors.
- Assisted in identifying, prioritizing and execution of Capital Projects aimed at improving the operating economics of Alberta cogen plants, utilizing business case studies and risk analysis.

Eaton Electrical (Cutler-Hammer), Calgary, AB

2000 - 2005

Engineering Manager, Product Development

Managed a team of 5-7 electrical designers and specialists involved in the development of industry-leading Surge Protection Devices for industrial, commercial and residential applications. As a member of the plant's Leadership Team and corporate PMO, assisted in the application of many corporate initiatives (eg Six Sigma) aimed at improving the operational and financial performance of the business.

Accomplishments:

- Strategized with the Engineering and Marketing team to influence changes to the UL testing standards to the benefit of the company, industry and the public at large, while simultaneously developing technologies that met the new standards.
- Introduced advanced prototyping techniques that shortened time-to-market and reduced the associated development time and financial risks by allowing compliance standards testing earlier in the development process.

- By employing Six Sigma design and Lean Manufacturing principles, completely revamped the SPD product line by developing and launching new and innovative products, which established the company as the market leader in industrial and commercial surge protection.
- Led the plant's EH&S activities, establishing scheduled safety inspections and audits, and simulated accident investigations.
- Co-holder of several US patents relating to electrical surge protection.

Enerflex Systems Limited, Calgary, AB

1999 - 2000

Project Manager, Product Development

Member of a newly formed team of Project and Design engineers involved in the development of innovative, standardized gas compression and power generation equipment.

Accomplishments:

- Pioneered the application of cyclone technology in an oil separator system that significantly improved performance over conventional gravity and mesh-pad separators, whilst lowering manufacturing and maintenance costs.
- Developed a spreadsheet tool that established the main cost drivers of 2 types of remote power generation units, helping to determine under what circumstances gas turbines could be employed as a viable, more cost-effective alternative to reciprocating gas engines.

Pratt & Whitney Canada Inc, Longueuil, Quebec.

Senior Technical Support Engineer, Development Manager, Project Manager, Project Engineer and Senior Project Engineer, of small military and commercial gas turbine aircraft engines.

Rolls-Royce Limited, Derby, UK

Graduate Apprenticeship programme, Development Engineer and Senior Development Engineer, of large military and commercial gas turbine aircraft engines.

FORMAL EDUCATION

University of Manchester, UK, Bachelor of Science, Aeronautical Engineering

LANGUAGES

English and French

PROFESSIONAL DEVELOPMENT

- Leadership in a Global Business Environment
- Herrman Whole Brain
- Kaizen Continuous Improvement Process
- Six Sigma for Design and Development
- Lean Manufacturing
- Fire and Explosions Investigation training.
- Ken Blanchard Legendary Service

ASSOCIATIONS

- APEGA
- National Association of Fire Investigators

PERSONAL INTERESTS

- Re-building, restoring and driving classic British sports cars, curling, skiing, golf, cycling, photography, home re-modeling, regular judge at annual Calgary Youth Science Fair.