



Company Profile

TEMEC Engineering Group Ltd.

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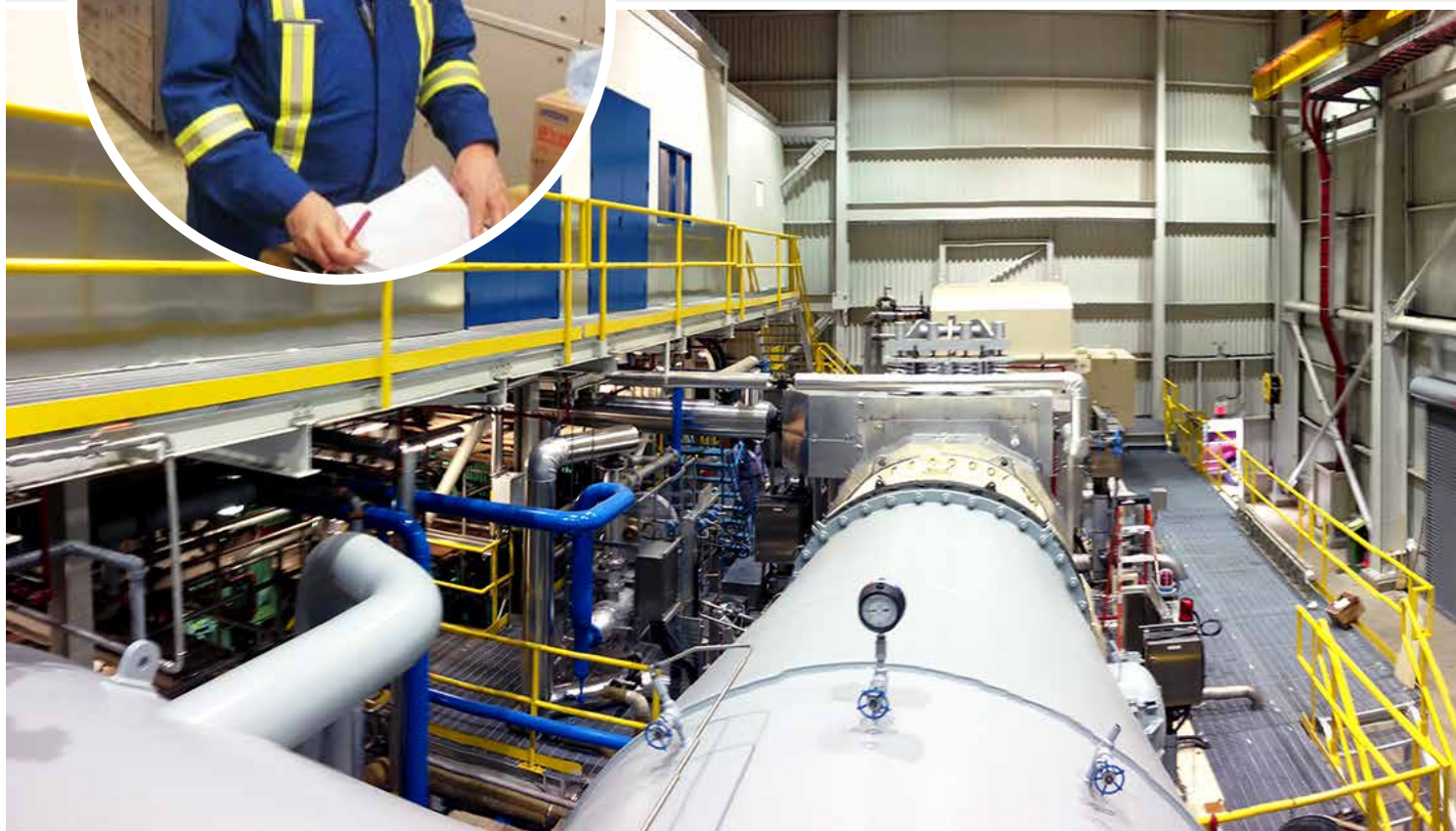
We are integrators: Our strengths & skills in Thermal Energy, Fluid Transfer and Project Management allow us to deliver complete solutions to complex problems.



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Our clients tell us that one of the best things about working with us is that we are able to **adapt to the business needs and information flow of the companies we work for**, meaning we can offer value and services at any point in the engineering process.



Introduction

PROJECTS

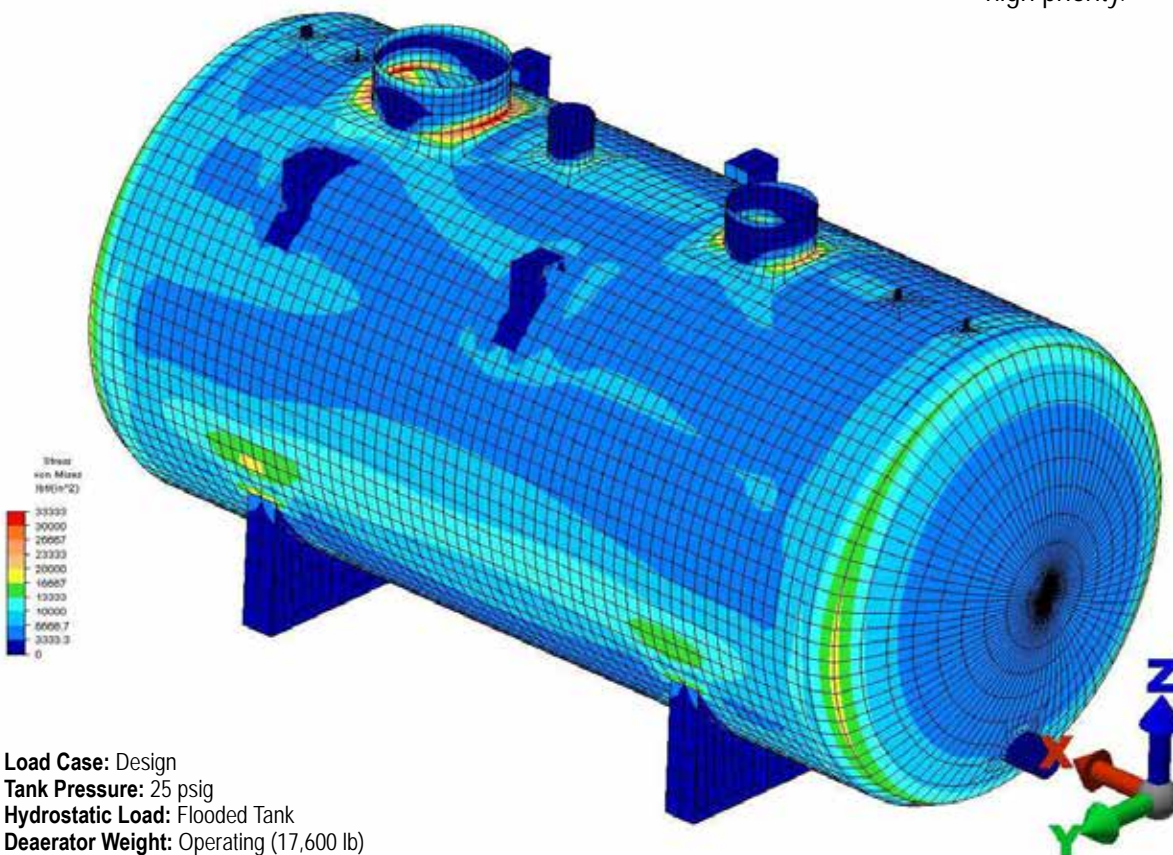
The TEMEC Engineering Group has provided multi-discipline engineering services to industrial clients since 1985. Our company fosters an innovative problem-solving environment that presents fast and flexible responses to client needs. The highly qualified team at TEMEC can offer complete engineering services from the project feasibility phase through to detailed design and construction management.

PEOPLE

At TEMEC we believe that the ultimate success of any project hinges primarily on the quality of the people involved. We have therefore made recruiting and retaining talented personnel a corporate priority. Our group of dedicated personnel are second to none.

PRIORITIES

Since 1985 the TEMEC Engineering Group has been building long term relationships with customers through a commitment to on-time and on-budget delivery of services. Most of our assignments are repeat business or come through referrals. We recognize that even though superior customer service is more than desirable, customer service alone cannot replace technical ability and experience in the consulting engineering field. As such, investment in personnel training and professional development is another high priority.



Load Case: Design
Tank Pressure: 25 psig
Hydrostatic Load: Flooded Tank
Deaerator Weight: Operating (17,600 lb)
Temperature: 270°F
Maximum Stress Concentration Around Nozzle: 44,746 psi
Maximum Stress: 27,497 psi

Services

PROJECT MANAGEMENT:

- + Procurement
- + Project Scheduling
- + Project Management
- + Project Cost Estimating
- + Business Case Development
- + Feasibility and Strategic Studies

MECHANICAL / PIPING ENGINEERING:

- + Auxiliary Steam
- + Pump Barge Design
- + Pipe Stress Analysis
- + Finite Element Analysis (FEA)
- + Process Plant / Equipment Layouts
- + Power and Process System Design
- + Pipe and Pumping System Analysis
- + Detail Mechanical and Piping Design
- + Computational Fluid Dynamics (CFD)
- + Thermal Power Generation System Design
- + Water Hammer and Fluid Transient Analysis
- + 3D Modeling/Rendering/ Virtual Walk-throughs
- + ASME Pressure Part
- + Pressure Piping Design and Registration

PROCESS ENGINEERING:

- + Water Balances
- + Opportunity Studies
- + Process Calculations
- + Emissions Calculations
- + Energy Audits and Studies
- + Steam and Power Balances
- + Pump & Slurry System Calculations

ELECTRICAL ENGINEERING:

- + Layouts
- + Module Design
- + Area Classification
- + Power System Studies
- + Electrical Buildings Design
- + Low and Medium Voltage Power Distribution

DOCUMENT CONTROL:

- + Document Management
- + Manufacturer Record Books

INSTRUMENTATION AND CONTROLS ENGINEERING:

- + HMI Design
- + Detail Design
- + Loop Diagrams
- + Instrument Specifications
- + Control System Architecture Development



CIVIL / STRUCTURAL ENGINEERING:

- + Design Reviews
- + Dynamic Analysis
- + Constructability Reviews
- + Structural Steel Design and Analysis
- + Equipment and Building Foundations
- + Existing Structure Analysis and Review
- + Structural Steel Detailing and Shop Drawings
- + Complete Concrete Above & Below-Ground Design Services

MARINE ENGINEERING:

- + Naval Architecture
- + Stability Analysis
- + Wind Load Analysis
- + Anchor Design
- + Launching Design
- + Marine Survey

PROCUREMENT AND CONTRACT SERVICES:

- + Expediting
- + Tender Evaluation
- + Project Tendering Documentation
- + Construction Contract Preparation
- + Equipment Specification and Procurement

QUALITY ASSURANCE / QUALITY CONTROL:

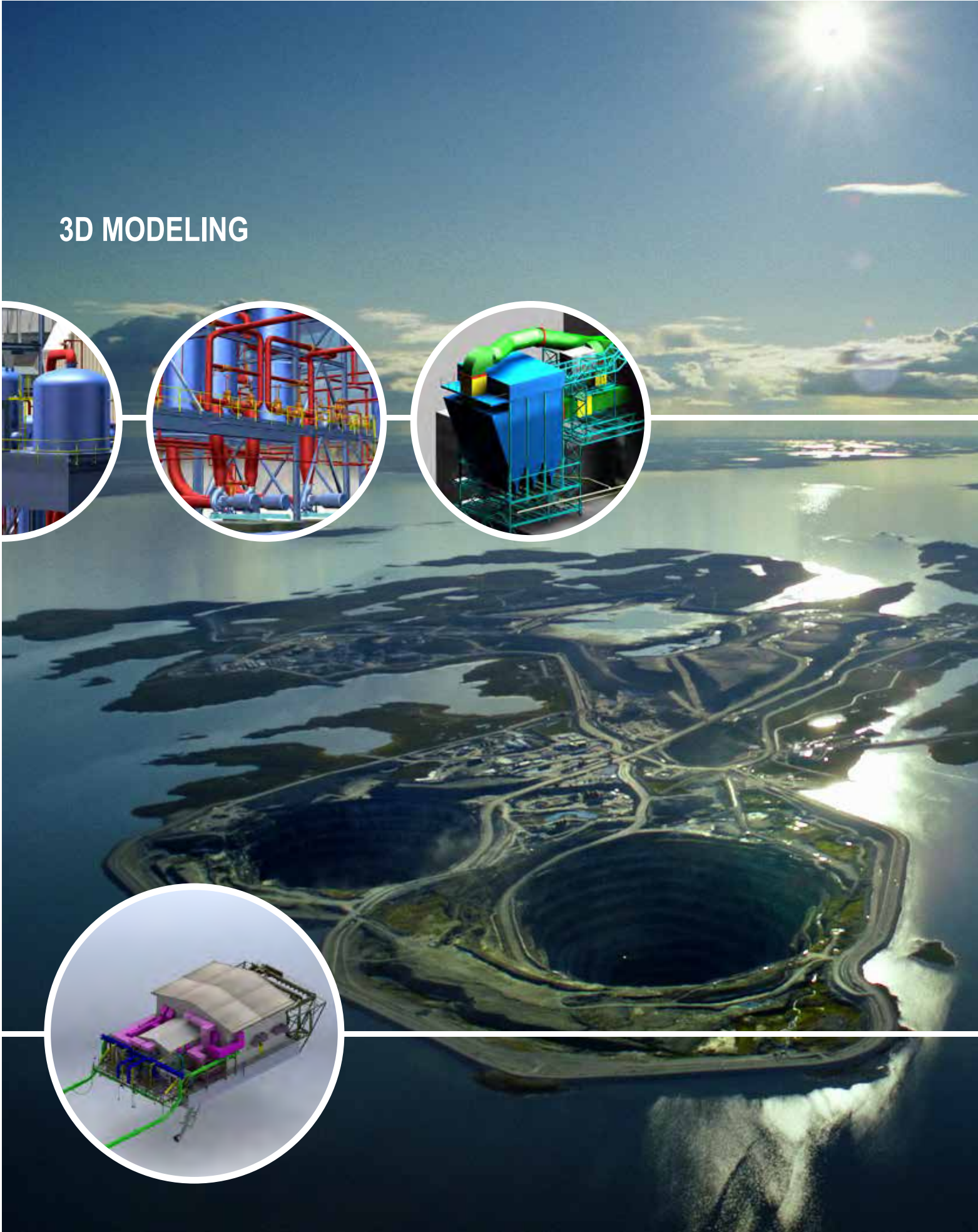
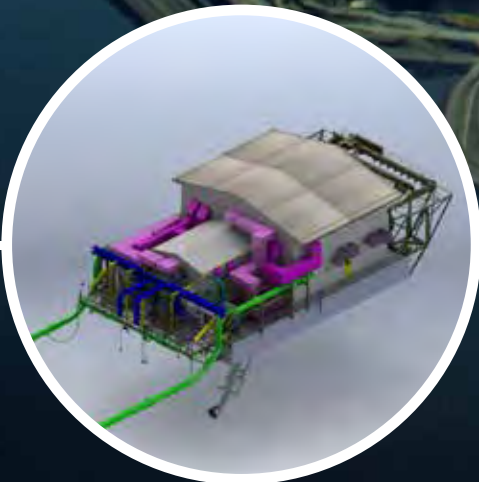
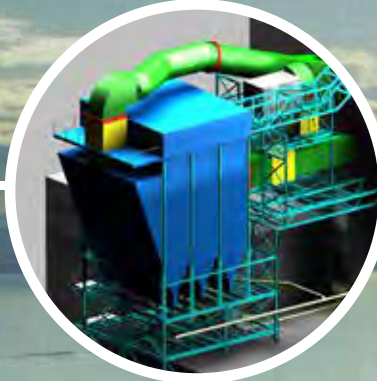
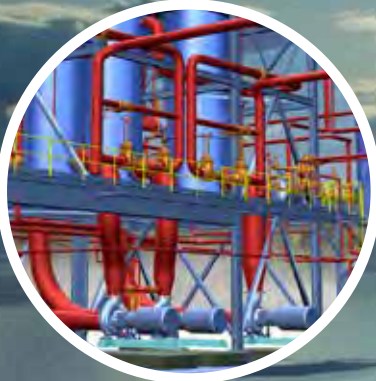
- + Quality Audits
- + Quality Planning
- + Inspection and Test Plans
- + Inspection Program Coordination

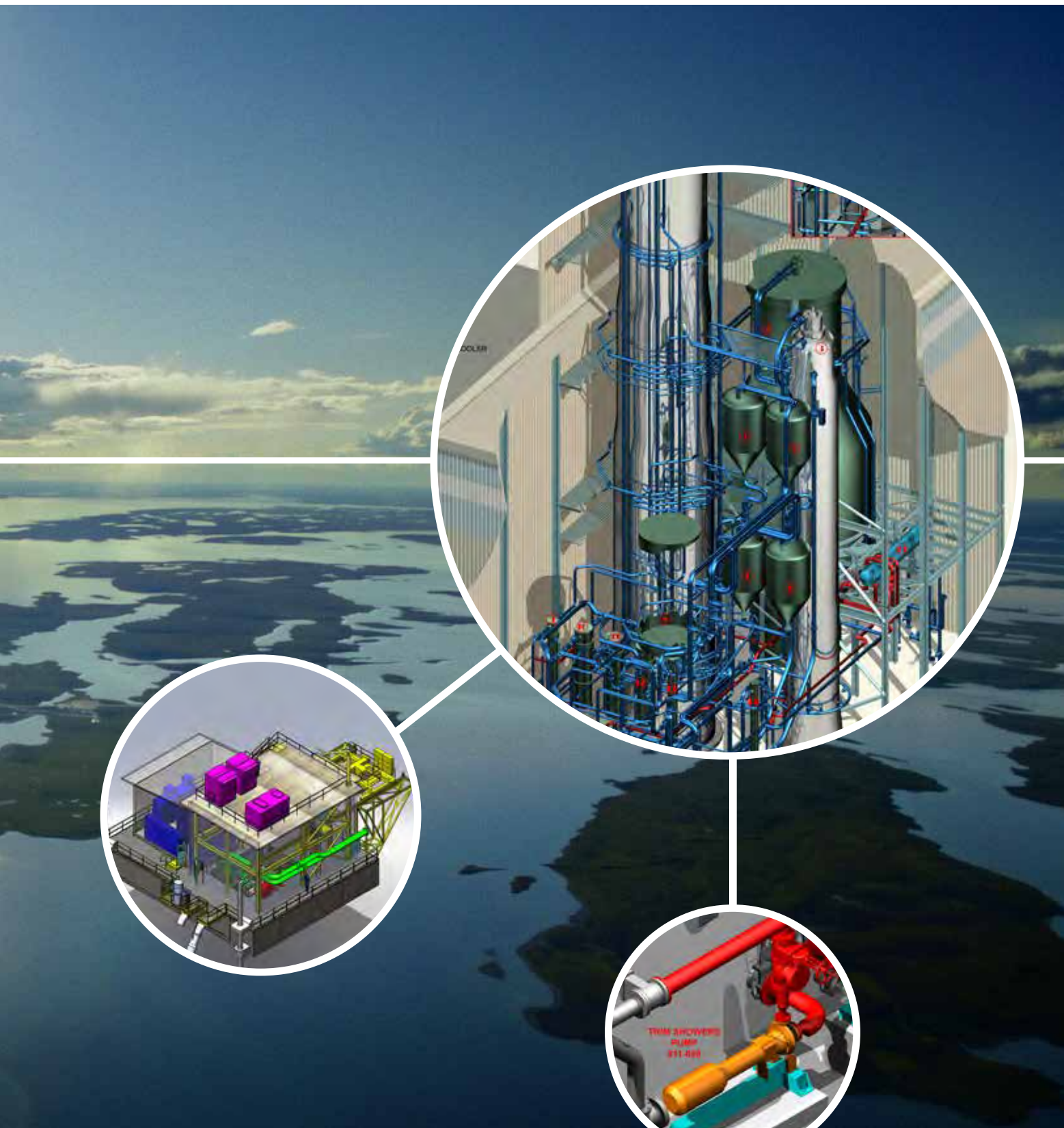
CONSTRUCTION MANAGEMENT:

- + Turnover
- + Construction Management
- + Construction Field Support
- + Commissioning and Start-up Support



3D MODELING





OIL & GAS | MINING | PULP & PAPER | POWER GENERATION | & MORE

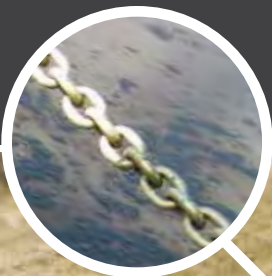
History

OIL & GAS

- + **Suncor Energy:** Fort McMurray, AB
Turnover: Document Turnover Services for Tailings Reductions Operations (2012/13)
Studies: Tailings pond discharge piping, piers and access walkway design review (2012)
Studies: Backup Tailings Pond Surface Water Recovery Pumping System Review (2012)
DBM/EDS: SPA8 Pond Temporary Pier, Discharge Piping & Walkway design (2012/13)
DBM/EDS: SPA8 Pond Permanent Pier, Discharge Piping & Walkway design (2012/13)
- + **Canadian Dewatering:** Edmonton, AB
Detailed design: Tailings Pump Barges for Suncor Energy (2010 – 2012)
Detailed design: Pump skids for Syncrude (2011)
Detailed design: Various pumping installations across Western Canada (2009 – 2012)
- + **Spectra Energy:** Taylor, BC
Feasibility Study: Amine Cooler Replacement and Cooling Water Loop Analysis
- + **Artek Exploration:** Fort St. John, BC
Detailed engineering: Gas Meter Addition station at Inga site
- + **Husky Energy:** Prince George, BC
Detailed engineering: LPG Tanks

MINING

- + **BHP Billiton Ekati Mine:** Northwest Territories
Detailed Engineering: Beartooth Tailings Pipeline (2011 – 2012)
Detailed Engineering: Incinerator Building HVAC (2010) and PLC (2011)
Detailed Engineering: Densifier Circuit A & B Upgrade (2011)
Detailed Engineering: Stair Tower (2011)
Detailed Engineering: Pump Replacement (2011)
Pump Study: Underground Dewatering Systems (2009)
- + **Alcan Primary Metals BC:** Kitimat, BC
Detailed Engineering: Installation of No 5 Boiler (2001)
Preliminary Engineering: Relocation of No 5 Boiler and Utility Bridge Revisions (2008)
Pre-Feasibility Study: Steam heating alternatives for the facility (2008)
Detailed Engineering: Replacement of cooling water piping at Kemano power station (2008)



PULP & PAPER

- + **Nanaimo Forest Products, Harmac:** Nanaimo, BC
Process Definition Study and Detailed Design: Biomass Power Generation Project (2011 - 2013)
- + **Daishowa-Marubeni International Peace River Pulp Division:** Peace River, AB
Preliminary Engineering and Project Management: Recovery Boiler and Precipitator Upgrades (2011)
Detailed Design Balance of Plant: Steam Turbine (2010 - 2011)
Preliminary and Detailed Engineering: Digester Downflow Lo-Solids Conversion; White Liquor Pressure Filter Installation
Detailed Engineering: Headbox pH Control
Detailed Engineering: Capital Upgrade Projects (2005 - Present)
- + **Slave Lake Pulp:** Slave Lake, AB
Detailed Engineering: Low Consistency Refining (2011)
- + **Kruger Products:** New Westminster, BC
Engineering Study: Boiler economizer upgrade (2007)
Engineering Study: Temporary boiler installation (2007)
Engineering Study: Boiler feed pump relocation (2007)
Detailed Engineering: New waste wood boiler gas burners (2006)
- + **Tembec Pulp Group:** BC
Pre-Feasibility Study: Cogeneration opportunity (2006)
Engineering study: Wood waste boiler capacity increase using CFD analysis (2005)
- + **Eurocan Pulp and Paper:** Kitimat, BC
Definition Engineering: New over-fire air system for a wood-waste boiler (2008)
Detailed Engineering: New 25 MW extraction condensing steam turbine generator (2006 - 2007)

POWER GENERATION

- + **Covanta Energy:** Burnaby, BC
Feasibility Study: Cooling Water System Upgrade (2009)
Boiler PSV's Piping (2010)
- + **Green Wing Energy Management:** Boardman, Oregon
Owner's Engineer: New gas turbine fired combined heat and 200 MW power generation facility (2008 - 2009)
- + **Epcor Major Projects Group:** Edmonton, AB
Owner's Engineer: New gas turbine fired combined heat and power generation facility (2007)
- + **Bayside Power:** St. John, NB
Study: Plant performance analysis for 260 MW gas turbine combined cycle plant (2007)
- + **BC Hydro**
Various energy studies at sites across British Columbia (2007 - 2012)
- + **Pristine Power:** Calgary, AB
Owner's Engineer: Duke Point Power Generation Project, 252 MW combined cycle (2004 - 2005)

OTHER INDUSTRIES

- + **Swiss Water Decaffeinated Coffee:** Burnaby, BC
Feasibility Study: GCE Heat Recovery (2009)
Pipe Stress Analysis and Design: Boiler Piping (2010)
- + **Ellett Industries:** North Vancouver, BC
Tank design finite element analysis (2009)
- + **Fraser Surrey Docks:** Surrey, BC
Detailed Engineering: Canola Terminal (2011)
- + **Fraser Valley Refrigeration:** Aldergrove, BC
Pipe Stress Analysis and Design Registration for various projects (2004 - 2011)



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This year General Electric is delivering a number of steam turbines to Canada. Temec Engineering's project at Nanamio Forest Products is the only project ready to take delivery of the turbine and generator on schedule.



