

ROBERT J. CHISHOLM, P.ENG.

767 Parkland Drive, Suite 403
Halifax, NS
B3S 1T1
Phone: (902) 817-2611
E-mail: asgconsultingltd@gmail.com

EDUCATION HISTORY

Bachelor of Science, Chemical Engineering, Technical University of Nova Scotia (1984)
Certificate in Leadership and Management from Dalhousie University in 2008.

PROFESSIONAL AFFILIATIONS

Association of Professional Engineers of Nova Scotia
PAPTAC – Past Chairman - Mechanical Pulping Committee

Author of two Published Papers with PAPTAC
Environmental Law and You, Abitibi Consolidated, TO
Emergency Response and Spill Handling Training
Leadership and Innovation, Roundhouse Inc.
Problem Solving and Decision Making, Nalco Inc.

CAREER OBJECTIVE

To direct the technical efforts of a large organization, acting as the liaison between the Technical, Operations and the sales and service groups.

KEY STRENGTHS:

- Technical skills in chemical engineering
- Leading work groups
- Planning strategies, budgets and resources for projects
- Trouble shooting processes and analyzing problems

Thirty Years Total Experience with involvement in a Project Management, process design, equipment specification and selection, Hazop studies, mass and energy balances, construction and operation of production facilities.

Key Competencies

-  Learning and Improvement Oriented
-  Goal and Achievement Oriented
-  Community and Service Oriented
-  Have Excellent People Skills
-  Good Communication Skills
-  Thrive at Solving Problems
-  Personal Effectiveness
-  Committed to my Profession
-  A Team Player

CAREER HISTORY

Project Management

Ian J. Tate Plumbing and Heating

Oct. 1, 2018 – March 1, 2019

Project Manager - Piping for a variety of project ranging from School renovations, School and Condo construction, Grow-ops expansion and a number of small projects. Duties included budgeting, proposals, cost control, material purchasing, delivery and scheduling. This was a contract position.

Siemens Canada – St F.X. University

June 2016– May 2018

Project Manager for the Phase 1 of Facility Improvement Measures affecting HVAC systems in various buildings on the St Francis Xavier Campus, as well as various energy upgrades and lighting improvements.

I also participated in the Phase 2 Design Feasibility Study (DFS), a major infrastructure renewal targeting the dated Central Heating Plant and high pressure steam campus distribution system along with a fuel conversion from Bunker C to gas for the Campus heating system.

Duties included safety, cost control, installation, manpower, contractors, scheduling, communications and overall co-ordination of the project.

Nova Scotia Power – Trenton

July 2014 – May 2015

Provide services to support NS Power in the execution of several projects including the Installation, commissioning and start-up of an Analytical Skid, installation, commissioning and start-up of a Caustic Injection Skid, installation of a Low Pressure Injection Skid for Ammonia and DEHA, Installation of Continuous Mercury Monitoring System and several smaller jobs as they arose.

Duties included safety, cost control, chemical awareness, scheduling, communications and overall co-ordination of the project on behalf of NS Power.

Nalcor – St. John's NL

2012-2014

Responsibilities included services to support Nalcor in the design and preparation of technical specifications and fabrications drawings, tender evaluation, site visits, review of fabrication drawings, O&M Manual complete as-built drawings for replacing the Bulkhead Gate at Star Lake. Other duties included safety, cost control, scheduling, communications and overall co-ordination of the project.

Nova Scotia Power – Trenton

2012

Responsibilities included services to support NS Power in the execution of the Chemical Cleaning of Trenton's No 5 boiler including coordination between the project team, chemical cleaning suppliers and Babcock and Wilcox, Other duties included safety, cost control, chemical awareness, scheduling, communications and overall co-ordination of the project on behalf of NS Power.

Nova Scotia Power – Trenton

2012

Responsibilities included overall project management including safety, cost control, environment, public awareness and coordination between NS Power personnel and various contractors for the cleaning and inspection of two caustic tanks and one sulphuric acid tank.

Conventional Power

SaskPower Boundary Dam Integrated Carbon Capture Facility – Process Lead 2011 - 2012

Responsibilities included services to support SaskPower in the execution of the Boundary Dam Integrated Carbon Capture and Sequestration (BD ICCS) Demonstration Plant. The Capture Island work generally consists of three major EPC contracts (CO₂ Capture, CO₂ Compression Balance of Plant, and Heat Rejection) and associated flue gas and utility interconnections, site works and E&I balance of plant. Also to provide technical support for the main EPC contracts, and detailed design services for balance of plant scope of work.

SaskPower Reference Plant for CO₂ Capture – Process / Mechanical Lead 2009

Working with SaskPower and University of Regina, the team developed the preliminary concept and process design for this facility, a 1000 TPD CO₂ capture facility study sponsored by the Crown Investment Corporation (CIC) of Saskatchewan. It is intended to be used as a testing facility for different amine solvents. Project scope included site selection (Shand Power Station), design of the flue gas slip stream condition to the amine stripper, coordination with the amine / compression process team. Responsibilities included management of the process and mechanical team, coordination of the integrated SaskPower / University of Regina project group, balance of plant process design, preparation of capital cost estimated and final technical report.

Energy Conservation

Plant Wide Energy Audit – Project Manager 2010

Conducted a high-level energy audit for the facility to establish energy end-use profiles along with identifying energy efficiency opportunities. Also included were Technical and Management Best Practices.

Mill Wide Energy Audits – Project Manager 2009

Energy Audit of Corner Brook Pulp and Paper. Development of an excel model detailing the facilities electrical loads, its current state, operation mode, duty cycle, potential savings, life of replacements and age of existing equipment, including motors, pumps, lighting, etc. Provide preliminary economic analysis estimates of what it would cost to implement the energy efficient options and what their returns will be and Overall summary of the facility showing what can be achieved in terms of energy efficiency, what it will cost, and expected life of new energy efficient options.

Eco-Efficiency Study, Farmers Dairy – Project Manager 2008

Assessed financial viability and environmental benefits of installing electrically driven pumps to maintain the same vacuum conditions as is currently achieved by the steam ejectors. Also assessed financial viability and environmental benefits of using bio-gas as a supplementary fuel to the existing boilers.

Bio-Energy Opportunities for Nova Scotia Study – Project Manager 2009

Led the development of a business case analysis decision support tool to assess biomass cogeneration projects. The model supplemented the capabilities of the existing Combines Heat and Power Module for RETScreen. The new system provides the user with a means to select a specific boiler and turbine combination that can be cost estimated by means of a new subsystem. It also identifies how much wood fuel will be needed to achieve the requisite annual power output and the ROI for the potential project.

Bio-Energy Opportunities for New Brunswick Study – Project Manager 2009

This study examined three small-scale biomass installations in New Brunswick. Cases included power generation, district heating, and commercial building heating. Responsible for project management, GateCycle™ analyses, opinions of probable cost, background research, details on emissions and green incentive programs, payback analyses, and process flow and general arrangement drawings.

Energy Performance Benchmarking & Best Practices in the Nova Scotia Industrial and Manufacturing Sectors, Multiple Sites – Project Executive 2008

Managed the industry-wide study and prepared report addressing the energy management potentials assessment and industry-wide energy performance benchmarking assessments. Provided plant specific assessments and reports for each of the companies and participated in the on-site surveys.

Food & Beverage

Upgraded Effluent pH Control System – Project Manager 2010

Provided a preliminary design of an upgraded effluent pH control system for a carbon dioxide injection system with diffusers in the underground collection pit to meet discharge regulations.

Forestry / Pulp & Paper

Operations and Thermal Energy Audit – Project Manager 2009

Conducted an operations and thermal energy audit at a Bowater Maritimes mill. The audit identified operating chances and apparent opportunities to reduce energy consumption with special emphasis on thermal energy efficiency in the TMP plant and at the paper machines.

HAZOP Study - Facilitator 2009

Facilitated the HAZOP on a new chlorine bypass line in the Chlor-Alkali plant.

Pinch Analysis Study and Water Conservation – Project Manager 2008

Updated a pinch analysis study and developed a multi-year plan to recover and reduce water consumption within a mill environment. Updated the computer-based mass and energy balances and developed opportunities to optimize heat recovery and water reduction.

Letter of Intent and Proposal for the Atlantic Innovation Fund – Project Manager 2008

Prepared letters of intent and project proposals on behalf of client for a stand-alone project to identify a distinct scientific and technological basis for the development of a product, process or service that is technologically innovative and commercially viable.

Evaluation of Thermo-Mechanical Pulp Operations – Project Manager 2008

Advised client of opportunities to reduce energy consumption for TMP operations at the NewPage mill. Provided independent evaluations of plate trails.

Thermo-Mechanical Pulp Plant Operations – Plant Superintendent 2001 - 2005

Provided planning and direction to TMP, de-inked / plant and woodroom processes. Led operations crews to safely, efficiently, and cost-effectively operate these sections of the plant as part of a pulping and newsprint operation. Was responsible for achievement of operating budgets (cost and production) and maximized human resource effectiveness in the Woodroom and TMP

through open and capable union / management / employee relations, a participative approach to managing, effective coaching and mentoring, accountable leadership and systematic training.

Development of New Thermo-Mechanical Pulp Plant – Senior Process Engineer *1999 - 2001*

Participated in the development, design, equipment selection, construction of state of the art \$125M thermo-mechanical pulp (TMP) plant. Identified, developed, implemented and monitored changes in process operating methods of the pulp manufacturing processes including steam, energy and water reduction programs. Continually improved the capability, efficiency and resources of pulping processes including groundwood, high yield sulphite and de-inked pulp.

Mill Process Optimization – Technical Control Superintendent *1990 - 2007*

Coordinated technical resources from various Abitibi-Consolidated mill operations to optimize pulp, paper and environmental processes. Developed technical strategies and implemented new technologies to optimize key pulp and paper processes. Worked with production departments by coordinating trials to optimize retention and drainage aids, clay fillers and colored grades. Developed new products and paper grades through scoping trials, working closely with the technical service groups and customers.

Mill Operations – Process Control Engineer *1989 - 1990*

Monitored quality on a day to day basis to ensure quality specs were met and provided quality reports to the sales and technical service group. Provided technical assistance to production group regarding production of new grades, polymer and clay addition, production improvement and other trials. Conducted studies in the pulping department, varying such parameters as species, specific energy and reject rate and using the studies to improve quality and performance.

Shift Foreman – Process Engineer / Shift Foreman *1987 - 1989*

Responsible for scheduling, supervising and safety of employees on shift basis. Daily production reports including quality, performance, paint consumption, production and painting operations of brown board, siding and door skins.

Mill Operations – Process Engineer *1984 - 1987*

Mill effluent monitoring and reporting, air quality control, environmental correspondence, governmental reports, boiler feed water treatment and handling procedures for chemicals. Implementation of programs to improve fiber loss, effluent control and product quality.

Oil & Gas

Powerformer Optimization Project – Lead Process Engineer *2006*

Design specifications and detail engineering for complete installation of a gas compressor in the Powerformer unit of the Imperial Oil petroleum refinery. This 5000 cfm gas compressor will run with a 4160 volt, 2250 hp electric motor and will be installed in an existing PFID operating unit. This work included process simulations (HYSYS), equipment sizing (heat exchangers, pumps, safety valves, etc.) and generations of technical specifications, overall process design, and P&IDs.

Oil & Gas Pipelines

Enbridge Line 6B Pipeline Restart *2010*

Was part of the restart team providing technical overview and measurement and verification expertise for US Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA).