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PROFILE

Professional Mechanical Engineer with over 30 years of experience in rotating equipment design, selection, and packaging for gas plant projects. Specialized in compressor sizing, optimization studies, and selection for hydrogen, sour gas, acid gas, CO_2, and propane applications. Extensive expertise with a wide range of compressor drivers including gas turbines, steam turbines, engines, and electric motors. A proven leader and team player, consistently delivering technically sound solutions while managing complex mechanical engineering scopes. Known for attention to detail, adaptability, and effective communication. Committed to continuous improvement, as demonstrated by recent professional development at Ariel Technical School, Mount Vernon, Ohio.

EDUCATION

Bachelor of Mechanical Engineering, Cairo University, Egypt	1988

ROFESSIONAL ASSOCIATIONS

Association of Professional Engineers and Geoscientists of Alberta, Canada APEGA

PROFESSIONAL DEVELOPMENT

Ariel technical school, Mount Vernon, Ohio	2019

CAREER

Rotating Equipment Specialist, WSP Canada	2017-Present
Lead Mechanical Engineer – Equinox Engineering Ltd, Calgary, Canada	2014-2017
Senior Mechanical Engineer – Genivar, Calgary, Canada	2013-2014
Senior Mechanical Engineer – Worley Parsons, Calgary, Canada	2012-2013
Mechanical Engineer – Equinox Engineering Ltd, Calgary, Canada	2011-2012
Project Engineer – Tundra Engineering Associates Ltd, Calgary, Canada	2010-2011
Project Engineer – Solaris Management Consultant Inc, Surrey, BC, Canada	2009-2010
Senior Mechanical Engineer – Tri Ocean Engineering Ltd, Calgary, Canada	2006-2009
Project Engineer – Enerflex Systems Ltd, Calgary, Canada	2003-2006
Mechanical Engineer, Gulf of Suez Petroleum Co (GUPCO), Egypt	1994-2002
Mechanical Engineer, Ras Shukeir Gas plant, Ras Shukeir Egypt	1988-1994

RECENT PROJECTS

Gas Processing plant – Alberta, Canada

— Current Detailed Engineering Project: Providing rotating equipment engineering and technical support for a 400 MMSCFD sour gas processing facility, including reciprocating compressors (Ariel KBZ6, KBZ4, KBK6

and JGJ6), CAT 3616 drivers, electric motor-driven compressors, API 610 BB1 hot oil pumps, and numerous ANSI and magnetic-drive pumps, supporting equipment selection, package integration, and detailed design activities.

Compression Station – Alberta, Canada

— Current Detailed Engineering Project: Responsible for the design and engineering of two Solar Taurus 70 gas turbine-driven centrifugal compressor packages for a natural gas compression station.

Power Generation

— Current Project – Alberta, Canada (FEED Phase): Performed technical evaluation and review of a 62 MW ISO gas turbine-generator package, including auxiliaries, driver integration, and control interfaces.

— Current Project – Texas, USA: Providing rotating equipment engineering support for the installation of 12 Solar Titan 350 gas turbine generators, including selective catalytic reduction (SCR) ammonia injection and evaporative cooling systems.

— Current Project – Alberta, Canada: Supporting the relocation and detailed engineering of three Solar Taurus 60 gas turbine generators, including exhaust stacks, air intake systems, lube oil coolers, acoustic buildings, and balance-of-plant interfaces.

— Current Project – Alberta, Canada: Reviewed and supported the integration of a packaged Siemens SGE-SL natural gas reciprocating engine power generation system and associated auxiliary equipment.

Methanol and Diesel plant

— Current project in Alaska, USA – Detailed phase: Designed and engineered Methanol and Diesel plant, including Methanol and Diesel storage, Diesel and Methanol loading/off-loading stations and transfer pump module including 12 Meg-drive transfer pumps.

Gas lift

— Finnex- Alaska, USA - Detailed Phase, Design, and engineering of two (2) 300 hp gas lift - IMW CNG compressor packages and pumps in series for crude oil shipping

LNG Terminal

— CAP25, Grain LNG, KENT, UK - Lead rotating equipment for LNG terminal project, responsible for Engineering, design and installation of API618 BOG reciprocating compressors, API610 LNG cryogenic vertical high-pressure pumps and submerged combustion vaporisers.

H2 Compression

— Prince George refinery - Design and engineering of hydrogen service compressor, 1,200 hp Ariel JGJ/6 reciprocating compressor, electric motor driven.

— Pre-feed, H2 storage compression – compressor selection and hp optimization study for multiple API618 high pressure stick built reciprocating compressors.

Gas Processing Facilities

— Hythe Debottleneck Project, Pembina - Design and installation of Inlet compressor package 1,300 hp electric motor driven sour spec.

— Hythe Expansion Project, Pembina - Design and installation of Sales gas compressor 4,000 hp electric motor driven and De-Ethanizer overhead compressor 700 hp electric motor driven.

— Fox Creek gas lift and Gold Creek injection compressors, Shell Canada Energy, provided technical support during design and drawings review.

— Simonette Refrigeration Expansion – Train #4, Keyera - Design and installation of 2,500 hp Gas Compressor engine driven.

— Simonette Acid Gas injection, Keyera - Compressor selection and Design of 1,800 hp Acid gas compressor electric motor driven.

— Placid gas plant, Athabasca Oil Corp - Design and installation of Sour Gas Compressor Station, this project includes the de-sign and installation of new 3-phase separator, emulsion pumps, gas compressors, dehydration unit, and associated utilities stations for LPG and condensate and water injection pump packages.

— Kaybob phase 1, 2 and 3 (25, 25 and 75 MMscfd), EnCana - These projects include the design and installation of 5 trains 25 MMscfd each Sour in-let gas processing facility, along with a C2+ liquids recovery. Each train contains, Slug catchers, Liquid/liquid separators, Inlet separation, Inlet compression, refrigeration package, sales gas compression, condensate stabilizer, and recycle compression, Amine units and Acid gas compressor. The gas plants contain storage for produced water and condensate. And transfer pump stations for LPG and condensate and water injection pump packages.

— Wapiti gas plant (200 MMscfd), SemCAMS - Engineering, estimate and compression optimization of the plant gas compressors including feed, sales and acid gas compressors.

— Musreau - M2 Plant – Pembina. Engineering, procurement and installation of HCDPC plant and stabilizer package (100 MMSCFD plant).

— Musreau Gas Plant Phase II – Paramount Resources Ltd. Engineering, Procurement and installation of three Ariel reciprocating compressors driven by Cat 3616 engines and two Solar centrifugal compressors driven by Solar Mars gas turbines (180 MMSCFD plant).

— Blue Rapids Gas Plant – TAQA, Compression HP optimization and cost estimate study to increase the plant capacity from 24 MMSCFD to 60 MMSCFD.

— Groundbirch Montney 4 Gas plant – Shell Canada Limited, Engineering, Procurement and installation for three Ariel reciprocating compressors driven by Cat 3616 engines, twin tip flare stake, Flare K.O. Drum, metering skid and air compressor package.

— Cabin Gas plant – EnCana. Engineering, procurement and installation of two Ariel reciprocating compressors driven by electric motor and Recycle gas compressor (sour spec).

— Cabin Gas plant – EnCana. Prepared Engineering work packages for sales gas compressors installation

— Caroline water handling – Shell Canada Limited. Engineering, procurement and installation of fuel gas stripper package, 3 phase separator and plant piping modifications

— Gulf of Suez Petroleum Co (GUPCO), Egypt, Gas plant expansion project (Trans-Gulf), BP / EGPC, Key player in expansion projects, increase plant capacity from 30MMSCFD to 120 MMSCFD and increase horsepower from 10K to 50K. Involved in horsepower optimization, equipment selection, bid evaluation process, scheduling and project cost.

— Ras Shukeir Gas plant, Ras Shukeir Egypt - Maintenance Engineer in gas turbine department at Ras Shukeir field assigned for: - boosting station and powerhouse, responsible for the operation and maintenance of all rotating equipment.

Compression

— Shell, Montney, Define Phase, compressor electrification – Swapping gas engines with electrical motors and raising the power of 14 reciprocating compressors

— Pembina, Hythe, Canada - Detailed Phase, Design, and engineering of one (1) 5,000 hp Ariel KBC6/1 Sour gas compressor driven by Cat 3616 Engine.

— Pembina Hythe, Canada - Detailed Phase, Design, and engineering of one (1) 1,000 hp Ariel KBE4/3 Sour gas compressor driven by Electric motor

—Varennes, Quebec, Canada - Designed and engineering of two (2) 400 hp EMD Hydrogen compressors and 2000 hp water pumps for a large-scale electrolyser facility.

— Heidelberg, in Alberta, Canada - FEED Phase: Engineered a CO_2 compressor train comprising two centrifugal compressors driven by a 20 000 hp steam turbine, plus associated dehydration equipment

— Christina Lake SAGD Facility – Cenovus FCCL Ltd, Engineering, Procurement and installation of lift gas compressor, 400 hp, 2-throw reciprocating compressor, electric motor driven.

— Ferrier Central Processing Facility – Devon Canada. Engineering, procurement and installation of centrifugal compressor packaging (Solar centrifugal compressor driven by Solar Taurus gas turbine), air compressor packages, flare K.O. Drums and heat medium packages.

— Panther Junction 1 compressor – Shell Canada Limited. Engineering, procurement and installation of Dresser Rand reciprocating compressor driven by 3616 Cat engine.

— Enerflex Systems Ltd, Calgary - Led project teams to build over 25 reciprocating compressor packages with fully responsible on delivering the project technical scope of supply, includes generate drawings, verify equipment sizing/function, review customer specification.

Heavy Oil, Thermal

— Christina Lake SAGD Facility – Cenovus FCCL Ltd, Engineering, Procurement and installation of chemical injection packages and three produced gas coolers.

— OOOGURUK production and drilling facilities – Pioneer Natural Resources. Engineering, procurement and installation of chemical injection package, instrument air package, fuel filter, sea water pumps, vacuum pumps, progress cavity pumps and centrifugal pumps.