Allan Bozek, P.Eng., MBA

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Summary of Qualifications

- 30 years consulting engineering experience
- Experience in business development, technical leadership, project management and electrical engineering design
- Project resume includes the design and construction of mining, manufacturing, municipal and onshore, offshore, upstream and downstream energy projects throughout the world

Key Accomplishments

- Industry recognized expert in hazardous area classification, hazardous locations products design and hazardous location protection and wiring methods.
- Development of several industry recognized training programs for Hazardous Area Classification, Hazardous Locations; Protection and Wiring Methods, Industrial Power Systems Design, Grounding, Motors and Generators, Power Systems Protection and Coordination.
- Development of an electrical engineering and instrument/controls department of 50+ Engineers and Technologists capable of executing $500 million dollar projects within the energy sector.

Business Expertise

- Proposal development
- Development of corporate specifications, standards and procedures
- Technical training

Technical Expertise

- Hazardous area classification
- Hazardous locations protection and wiring methods
- Design and certification support of hazardous locations products
- Intrinsic Safety and Non-incendive wiring design
- Canadian, US, Russian, and IEC codes and standards

Industry Sectors

- Cold weather and arctic facilities design
- Upstream Oil and Gas production facilities design
- Refinery and Crude Upgrader
- Midstream Gas Liquids
- Water Treatment
- Gas Utilities
- Mining
- International project experience

Education

University of Calgary — Calgary, Canada
Masters in Business Administration, Graduated 1999

University of Waterloo — Waterloo, Canada
Bachelors of Applied Science, Systems Design Engineering
Graduated 1986

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Professional Experience

2004 – Present EngWorks Inc. Calgary, Canada

Principal

Provision of Hazardous Area Classification Design and Hazardous Location Equipment Design and Certification Support services.

- Technical consultant to Rangeland Engineering Company Ltd., Cenovus Energy, StatOil, TECK, Suncor, Electrical Safety Authority (ESA) and Marex Canada.
- Provision of technical training services to COOP Refinery, Cenovus, ERCB, Fortis BC, NovaChem, Shell, ESA, Fluor, SNC Lavalin, and other major operating companies and engineering firms.
- Engineering support for Inspection Agencies involved in hazardous location product certification and electrical installations.
- Safety codes and product standards technical support to companies who are developing or marketing new products for use in hazardous locations

2001 – 2003 Gemini Engineering Inc. Calgary, Canada

Manager, Business Development

Corporate Responsibilities:

- Market Strategy Development
- Establish new business and joint venture contacts
- Liaise with client to determine their operational needs, requirements and project expectations

1993 – 2001 Tri Ocean Engineering Ltd. Calgary, Canada

Chief Engineer - Electrical, Instrument & Control Systems Group

Corporate Responsibilities:

- Identify project deliverables, plan manpower and allocate project resources
- Administrate and mentor engineering and design personnel

Technical Responsibilities:

- Develop and maintain corporate specifications, standards and procedures
- Lead Electrical, Instrument and Controls Systems Engineer on high profile projects
- Ensure quality of EI&C deliverables in accordance with ISO 9000

1991 - 1993 Applied Engineering Sciences Group Calgary, Canada

Senior Electrical Engineer

- Electrical and control systems design of oil and gas facilities

1989 - 1991 Kenonic Controls Ltd. Calgary, Canada

Electrical Engineer

- Electrical and control systems design of oil and gas facilities

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1986 - 1988 HH Angus & Associates Ltd. Toronto, Canada

Junior Electrical Engineer

- Electrical design of hospital and automotive manufacturing facilities

Professional Memberships

Registered as a Professional Engineer in Alberta (APEGA), British Columbia (APEGBC), Saskatchewan (APES) and Ontario (PEO) Canada.

Senior Member of the Institute of Electrical and Electronic Engineers (IEEE).

Member of Canadian Electrical Code Part I Subcommittee on Section 18 (Hazardous Locations)

Member of the CSA Integrated Committee on Hazardous Locations (ICHL) overseeing the development of product hazardous location standards for the Canadian marketplace.

Member of Standards Council of Canada Section 31J "Mirror Committee" providing technical comments to the on-going development of the IEC 60079 series of standards related to hazardous locations.

Other

1981 **Interprovincial Journeyman Electrician** Calgary, Canada

Completed a 4-year apprenticeship prior to obtaining journeyman qualification. Experience included residential, commercial and industrial construction projects.

IECEx Certificate of Personnel Competence, Ex 001 Basic Principles – IEC 60079 Series of Standards: Certificate No. IECEx CP QPS14.0003, April 10, 2014

Lead-author of the paper "The Use of Vapor-tight Barriers as a Basis for Hazardous Area Classification Design" presented at the 2015 PCIC Conference in Houston, TX.

Co-Author of the paper "Modular Integration of Process Equipment Packages for Oil and Gas Facilities" presented at the 2015 PCIC Europe Conference in London, UK.

Lead-author of the paper "Electrical Hazardous Area Classification Design as a Basis for Safer Operations" presented at the 2014 PCIC Conference in San Francisco CA.

Co-Author of the paper "Multi-cable Transit Devices, Application and Design Practices" presented at the 2014 PCIC Middle East Conference

Lead -author of the paper "The Use of Infrared Detection and Fugitive Emission Detection Technologies as a Basis for Hazardous Area Classification Design" presented at the 2013 PCIC Conference in Chicago IL.

Lead author of the paper "Flammable Mixture Analysis for Hazardous Area Classification" presented at the 2008 PCIC Conference in Cincinnati, OH. The paper was voted second best paper for the conference.

Lead author of the paper "Cellular Phones in Class I Division2/Zone 2 Hazardous Locations" presented at the 2006 PCIC Conference in Philadelphia PA and the 2007 PCIC Conference in Paris, Fr.

Presentation of a tutorial on Hazardous Area Classification at PCIC conferences in Denver, Colorado in 2005 and New Orleans, 2012

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Project Experience: (*Representative Overview*)

Metro Vancouver Annacis Island Wastewater Treatment Facility

Vancouver, BC

Hazardous Area Classification Design

Hazardous Area Classification Design of a wastewater treatment facility serving a population of 1M in accordance with NFPA 820 standards.

Metro Vancouver Lulu Island Wastewater Treatment Facility

Vancouver, BC

Hazardous Area Classification Design

Hazardous Area Classification Design of a wastewater treatment facility serving a population of 200K in accordance with NFPA 820 standards.

TECK Fording River Coal Operations

Elkford, BC

Hazardous Area Classification Design

Hazardous Area Classification Design for a Coal Processing facility using the Zone system of classification for combustible dust atmospheres.

Pembina RedWater Fractionation Addition (RFSII) Project

Redwater, AB

Hazardous Area Classification Design

Hazardous Area Classification Design for a 65,000 BPD Gas Liquids Fractionation plant handling NGLs

Kinder Morgan Edmonton Rail Terminal

Edmonton, AB

Hazardous Area Classification Design

Hazardous Area Classification Design for a 80,000 BPD Crude oil rail loading terminal

Cowan Point Wastewater Treatment Plant

Bowan Island, BC

Hazardous Area Classification Design

Hazardous Area Classification Design for a wastewater treatment plant incorporating a gravity collection system, a pump station, an equalization tank, a sludge handling system and a bioreactor.

Husky Sunrise Oil Sands Project

Ft. McMurray, AB

Hazardous Area Classification Design

Hazardous Area Classification Design for a $2.5B, 60,000BPD SAGD Central Processing facility.

Suncor Plant 31 Powerhouse

Ft. McMurray, AB

Hazardous Area Classification Design

Hazardous Area Classification Design for a 350MW coke fired power generation facility incorporating both flammable gases and combustible dusts.

AECL Chalk River Hydrogen Isotope Laboratory

Chalk River, ON

Hazardous Area Classification

Hazardous area classification design of a research laboratory incorporating hydrogen for experimental purposes.

Nexen-Opti Long Lake SAGD- Upgrader Project, Fort McMurray, Canada

Field Engineer

Responsible for providing field engineering support related to equipment certifications in hazardous locations of a $5.5B SAGD Heavy Oil Upgrader Facility.

PetroCanada Mackay River, Fort McMurray, Canada

Hazardous Area Classification Design

Review and update of the existing area classification design. The design review incorporated the use of Non Dispersive Infrared (NDIR) and gas quantification technology as a basis for the area classification design. This was an industry first.

ARCO Alpine, North Slope, Alaska

Lead Electrical, Instrument and Controls Engineer

Responsible for the conceptual, preliminary and detailed design of a 100,000 BPD arctic oil and gas facility. The Alpine project was first facility in the United States to incorporate the zone method of area classification.