

## Riskcore Ltd.

### Company Profile and Introduction

#### Introduction

Riskcore Ltd. is registered in 2016 and headquartered in Calgary, Alberta specializing in construction project risk management and analytics which includes Quantitative Risk Analysis (QRA) on project cost estimates and project schedule. To date, Riskcore has facilitated over 200 qualitative risk workshops from feasibility phase to Ready-for-Operations; performed QRA for projects worth \$70 Billion and conducted about 35 External Construction Readiness Reviews (ECRR) since 2005.

John Zhao, the founder, and principal consultant of the Company conceptualized in 2004 and has since developed a Monte Carlo simulation based **Riscor Model** to scientifically determine appropriate project contingency and escalation for investment project cost estimates by incorporating possible construction schedule delay.

Riscor Modelling process offers client an opportunity, prior to contractually committing to a project, of an investigative look at project schedule and cost estimate's risk profile, allowing adequate contingency funding and time to be considered for FID, AFE Sanction or Competitive but Profitable bidding.

#### Overview

**Information:** The following provides further information about the Riskcore and its current contact.

- Business Name: Riskcore Ltd. with GST#76999 1928 RT0001 (2016)
- Mailing Address: Suite 1507, 615 – 6 Ave. SE, Calgary, Alberta, T2L 1S2
- Phone & Email: Tel & Text: 587 352 6698; jzhao@riskcore.ca
- Website: [www.riskcore.ca](http://www.riskcore.ca); [www.riscor.ca](http://www.riscor.ca) (under construction)
- Business Type: Incorporated private company
- Insurance: WCB (Workers Compensation Board) & Commercial Liability
- Annual Revenue: \$100K - \$350K
- Consultants: Part-time and On-Demand operating model
- Business Type: Professional Consulting, Facilitation and Modelling
- Primary Audience: Construction Owners, EPC firms and Contractors

**History:** The Company was registered in Alberta and with the Federal Government of Canada for GST, to focus on specialized and niche QRA consulting services. Its Principal Consultant, John Zhao, has worked over 8 years for international contractors in Middle East, 7 years for renowned EPC firms in Canada and past 15 years for owner operating companies in both Europe and North America before he incorporated the Riskcore in May 2016.

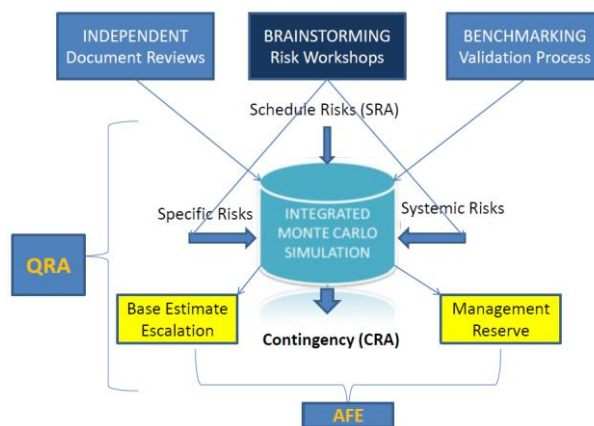
**Services Offering:** Riskcore offers, in most competitive rates and hours, following products and services to our clients for various types of projects in energy and infrastructure industries.

- Products: Proprietary intellectual property of Riscor Model
- Services:
  - Quantitative Risk Analysis for Cost Estimate & Forecast
  - Schedule Risk Analysis (SRA) for Completion & Drivers
  - Facilitating Project Risk Workshops & Risk Registers
  - External Construction Readiness Review (ECRR)
  - Providing Public and In-house PRM Training
- Pricing Structure: Hourly Rate with Estimated hours; Lump-sum Price

The Riscor Model is built based on Monte Carlo simulation technique following ACEi RP 41R-08 titled "RISK ANALYSIS AND CONTINGENCY DETERMINATION USING RANGE ESTIMATING" and ACEi RP 44R-08 titled "RISK ANALYSIS AND CONTINGENCY DETERMINATION USING EXPECTED VALUE" to which John Zhao is one of the contributors.

## Process

QRA methodology focuses on a team approach (1) to collectively identify key project risk drivers and assign appropriate "risk profiles" to the correlated "Specific" risky cost estimate line items; and (2) to quantify the singular, binary and uncorrelated "Systemic" risks that have overall impacts on project objectives. The subjectivity and heuristics are normalized and optimized via Delphi Technique. The QRA process is based on stochastic multivariate linear regression model, whose multiple probabilistic inputs are provided by relevant SMEs. The outputs include contingency amounts associated with probabilities and sensitivity analysis for top risk drivers, a.k.a. the Tornado Chart.



The QRA relies on "range estimating method" for specific risks on selected cost estimate line items and "expected value method" on identified systemic risks impacting the overall project objectives. In addition, the results of schedule risk analysis (SRA) are used as input to Riscor Model to capture the impact of construction schedule delay. Contingency is the function of the total impacts from systemic risks, specific risks, and schedule delay. Escalation and Risk Reserve are QRA's additional outcomes.

## Value Proposition

Riskcore shall be your choice of QRA Consultant in Canada for your capital investment projects because of its credibility, scientific approach, and convincing results. Our Promise and Expertise provide value-added Services to your Project Delivery.

- OUR GOALS: - To our clients, for our clients and by our clients.
- OUR PROMISE: - To provide our clients with value-added project risk management, quantitative risk analysis, data analytics & benchmarking services.
- OUR EXPERTISE: - To focus on specialty and niche skills in the field of QRA by providing science and risk-based solutions to client's problems.
- OUR SERVICES: - To timely deliver the results of the promised scope of work with competence for quoted budget and satisfactory quality.

## Achievements

Riskcore has received numerous acknowledgements, accolades, praises and constructive feedback from our clients. These comments and suggestions have encouraged the Riskcore to continue, do better and improve its process and modelling techniques. In addition to scientifically simulate project contingency, Riskcore is in the process of developing its prototype, innovative and integrated stochastic project cost forecasting model, with an intention to supplement or replace the outdated cost forecasting practices.

- John's QRA Work is Industry Leading for this pipeline mega-project."  
- Helen, Assurance Lead, KPMG
- "Riskcore's Risk Analysis and the Final Report is the best one in my career."  
- Denis, Project Director, CKPC
- "John's qualitative and quantitative risk analyses are the best practices."  
- George, Professor, University of Calgary
- "John is definitely qualified to do this complex work for our refinery."  
- Al, Project Leader, Sinclair Oil Refinery, Utah
- "The QRA done for the adequacy of remaining contingency made funding approval easier."  
- Jim, Uranium Mining Project, SK
- "The Board are interested in your perspective on the top risks and the impacts of tail risk."  
- Mike, A Transit Infrastructure Project, AB

## List of Projects:

John Zhao has either worked in the project teams as an employee or conducted independent risk analysis as the principal consultant of Riskcore Ltd. for the following projects over past 33 years in Middle East, Europe, and North America across various industries, ranging from \$50Million to \$20Billion.

### Oil Refinery

Irving Oil Refinery, St. John, New Brunswick (1997 - 1999) - Field Engineer  
 Shell Oil Refinery, Fort Saskatchewan, Alberta (2000 - 2002) - Senior Field Cost Engineer  
 Suncor Oil Refinery, Sarnia, Ontario (2006) – Risk Consultant (QRA)  
 ConocoPhillips Oil Refinery, Commerce City, Colorado, USA (2006) - Risk Consultant (QRA)  
 Rodeo Oil Refinery, California, USA (2002 - 2003) – Senior Cost Engineer  
 Sinclair Oil Refinery, Wyoming, USA (2017) – Senior Consultant (ECRR)

Suncor Voyage Bitumen Upgrader, Calgary, Alberta (2005) - Risk Consultant (QRA)  
Statoil Edmonton Bitumen Upgrader, Calgary, Alberta (2009) – Risk Manager  
Co-Op Oil Refinery, Regina, Canada (2019) – Risk Trainer and Consultant  
FCL Energy Roadmap Project, Regina, Canada (2022) – Risk Consultant (QRA)

### **Buildings / Infrastructure**

Raylo Chemical Pharmaceutical Plant, Edmonton, Alberta (1996 - 1997) - Field Contract Manager  
Federal Penitentiaries of Correction Services Canada, Edmonton, Alberta (2002) - Senior Project Officer  
Al Jazerah Sports Club and Football Stadium, Abu Dhabi, UAE (1986 - 1991) – Field Engineer  
City Water Pump Station & Seawater Desalination, Taweelah, UAE (1991 - 1994) – Project Manager  
Regional Hospital Electrical Subcontract Work, Northern Saskatchewan (2016) – Cost Engineer  
New Hospital Project, Vancouver Island (2022) – Risk Consultant (QRA)  
Light Rail Transit Project (Greenline), Calgary, Alberta (2021) – Risk Consultant  
Dundas Bus Rapid Transit Project, Toronto, Ontario (2022) – Risk Consultant (QRA)

### **Mining**

Suncor Oilsands Mine Expansion, Fort McMurray, Alberta (2007) – Risk Consultant (QRA)  
Uranium Mine, Saskatoon, Saskatchewan (2013) – Risk Consultant (QRA)  
Metallurgical steelmaking coal mine, Alberta (2020) – Risk Consultant (QRA)  
Open-Pit Gold Mine Project, Ontario (2021) – Senior Consultant (ECRR)

### **Pipeline**

Trans-mountain 1000KM NPS36 Oil Pipeline & Facilities, AB/BC (2021) – Risk Manager (QRA)  
Duvernay Gas Pipeline, Fox Creek, Alberta (2014 - 2016) – PMO Advisor

### **Petrochemical**

Nova Ethylene and Polyethylene Plant, Red Deer, Alberta (1999 - 2000) – Field Cost Engineer  
PDH / PPA Petrochemical Plant, Edmonton, Canada (2019/2020) – Risk Consultant (QRA)  
Nutrient Conversion & Outage, Fort Saskatchewan, AB (2018) – Risk Consultant (QRA)

### **Oil and Gas**

Devon SAGD Energy Development Project, Fort McMurray, Alberta (2017) – Risk Consultant (QRA)  
Encana Water & Gas Separation Project, Northern BC (2017) – Risk Consultant (QRA)  
Suncor Firebag Program SAGD, Fort McMurray, Alberta (2003 - 2004) – Estimating Manager  
Statoil Corner Development SAGD, Fort McMurray, Alberta (2011 - 2014) – Quality & Risk Manager  
Duvernay Gas Processing Plant, Fox Creek, Alberta (2014) – Risk Consultant (QRA)  
Montenay Gas Processing Plant, Northern BC (2015) – Risk Consultant (QRA)  
Underground Gas Storage Caverns, Emden, Germany (2010) – Quality & Risk Manager  
Offshore Topside Oil Platform, Stavanger, Norway (2009) – Quality & Risk Manager

### **Training**

Public Training on QRA via PMI SAC, Calgary, Alberta (2019) – Risk Trainer  
Project Risk Management Training, University of Calgary, AB (2012 - 2020) – Risk Trainer  
Public Training on PRM via AACEi, Calgary, Alberta (2007 - 2019) – Risk Trainer

**END**

CORPORATE ACCESS NUMBER: 2019686985

**Government  
of Alberta** 

BUSINESS CORPORATIONS ACT

**CERTIFICATE  
OF  
INCORPORATION**

**RISKCORE LTD.**  
WAS INCORPORATED IN ALBERTA ON 2016/05/09.

