



Exponent®
Engineering & Scientific Consulting

Gary Bagga, P.Eng., PMP

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Professional Profile

Mr. Gary Bagga is a senior project and program management professional with more than 25 years of experience guiding complex capital projects from early concept phase through construction and commissioning. He has led large greenfield and brownfield developments across the energy, utilities, infrastructure, and industrial sectors, frequently within live operating environments. His background combines engineering design, front-end planning, probabilistic modeling, scheduling, cost estimating, risk analysis, construction execution, and project controls. Mr. Bagga is known for navigating technical complexity, operational constraints, and stakeholder interfaces while maintaining a strong focus on safety, constructability, and delivery certainty. His experience spans projects ranging from small capital initiatives to multi-billion-dollar programs, reflecting a consistent ability to manage execution risk, align multidisciplinary teams, and deliver outcomes that meet operational and business objectives.

Mr. Bagga advises clients on capital project delivery strategy, project controls, and risk-informed decision making. His work focuses on front-end planning, schedule and cost risk analysis, execution strategy development, and portfolio oversight for complex projects and programs. He brings particular value to projects challenged by uncertainty, evolving scope, constrained operating conditions, or aggressive delivery schedules. Drawing on extensive experience working within operating facilities, Mr. Bagga helps organizations integrate engineering, construction, and operations requirements to improve predictability, safety performance, and overall project outcomes.

Mr. Bagga has supported energy companies, utilities, government agencies, and industrial clients across oil and gas, power generation and transmission, petrochemicals, mining, infrastructure, manufacturing, data centers, and emerging technologies. His recent work includes leadership roles on major facilities, transportation infrastructure, pipelines, substations, transmission systems, power plants, refineries, chemical plants, EV infrastructure, and control facilities. He has managed individual projects and multi-year programs with capital values ranging from approximately \$500,000 to \$10 billion. Prior to joining Exponent, Mr. Bagga held senior project leadership positions at ExxonMobil and Cenovus, where he was responsible for delivering high-risk, high-value projects and portfolios.

Academic Credentials & Professional Honors

B.A.Sc., Applied Science, University of British Columbia, 1994

B.S., Science, University of Toronto, Canada, 1990

Association of Professional Engineers of British Columbia – Most Outstanding Graduate Award

Licenses and Certifications

Professional Engineer, Alberta, #68087

Professional Engineer, British Columbia, #63497

Professional Engineer, Manitoba, #51665

Professional Engineer, New Brunswick, #L7175

Professional Engineer, Ontario, #100662008

Professional Engineer, Saskatchewan, #82865

Project Management Professional (PMP)

Academic Appointments

Advisor for Graduate Level Course in Civil Engineering – Directed Studies in Construction Engineering (Topic: Artificial Intelligence in Project Scheduling), University of Michigan, Ann Arbor, MI 2025

Research Assistant, Department of Civil Engineering, University of British Columbia, Vancouver, BC 1993-1994

Teaching Assistant, Department of Mathematics, University of British Columbia, Vancouver, BC 1992-1994

Prior Experience

Regional Manager, CBRE ExxonMobil Alliance, 2021-2023

Manager of Projects, Orica, 2019

Project Manager/Team Lead, Cenovus, 2013-2017

Project Manager/Team Lead, ExxonMobil, 2006-2012

Professional Affiliations

Project Management Institute (PMI)

Association for the Advancement of Cost Engineering (AACE)

Western Energy Institute – WEI (Conference Planning Committee - Decarbonization + the Next-Gen Energy Mix)

Association of Professional Engineers and Geoscientists of Alberta (APEGA)

Publications

Presentations

Bagga G, Martinez A, Glogovac A, Azarnoush K. Scalable, stable, smart: data centers in the grid flex revolution. Western Energy Institute, Women in Energy Symposium, El Paso, TX, 2025.

Bagga G, El Didi L, Cavanagh D. Construction systems, engineering and project management. Guest

Lecturer, UC Berkeley Engineering Master's Program, Berkeley, CA, 2025.

Bagga G, Asling-Snee D, Galeria R, Ganesan R, Kayal S. Setting yourself up for success: precursors to operations. Battery Asset Management Summit USA, San Diego, CA, 2024.

Bagga G, El Didi L, Azarnoush K, Fischer A, Xu R. Stanford Watson seminar. Guest Lecturer, Stanford Civil Engineering Master's Program, Stanford, CA, 2024.

Project Experience

Set up and managed multiple electric power programs by developing streamlined work planning, progress monitoring, dependency coordination, and program health reporting processes. Automated repeatable processes where applicable. Communicated closely with cross-functional program stakeholders to ensure required work is in the plan and planned appropriately to achieve progress and completions on time and under budget.

Managed as project manager complex and high-profile power transmission projects including those for connecting large loads for data centers and AI infrastructure to the power grid. Worked closely with multiple project stakeholder groups and third-party customers to ensure projects are on track in schedule and cost.

Used risk based probabilistic approaches to new technology ventures in the renewable energy space, project estimating and scheduling. Conducted multi-factored risk assessments to assess the effect of climate change. Helped clients understand risk profile of existing assets due to climate change related impacts such as rainfall, landslides, wildfires etc.

Acted as Expert Advisor on complex cases involving expertise in Engineering, Construction and stakeholder responsibilities in several areas.

Managed a regional field delivery team responsible for developing and executing complex projects at ExxonMobil refineries, data centers, research labs, campuses and mid-stream terminals in Canada and North US. Successfully led a team of project and development managers to deliver complex brownfield projects at IOL Sarnia, Nanticoke and Strathcona refineries, EM data centers and EM Joliet refinery.

Oversaw development of comprehensive project budgets and work plans on a challenging multi-year program. Monitored budgets to ensure projects are being delivered within budget, on time and at the expected level of service delivery reliability. Introduced new KPI tracking tools to improve execution performance in the project portfolio.

Led a high performing team responsible for executing challenging brownfield projects at a chemical manufacturing plant. Successfully led a complex project portfolio including NOx and N2O Abatement, DCS upgrade and several other challenging projects in the Ammonium Nitrate plant. Managed engineering contractors, construction, and procurement from vendors all over the world.

Member of site leadership team responsible for HSE, overall plant performance, reliability, change management, risk management, corporate initiatives, reporting, government, and community relations at a chemical manufacturing facility. Introduced several new processes at the plant to increase predictability in execution. Introduced a new contractor selection and management process, engineering deliverables efficient execution and project controls to achieve predictability and efficiency.

Managed plant turnaround using the seven-phase methodology to ensure minimum downtime while executing in a safe and cost-effective manner.

Successfully led key Operations Projects at Foster Creek and Christina Lake SAGD Facilities in Northern Alberta. Major projects included Directive 81 Compliance (150MM), Brackish Water Piping and Equipment (200MM), Fire Protection System (100MM), Casing Gas Debottleneck Project (200MM), Safety Shut Down System (50MM) and Solvents Re-Injection New Technology Projects (30MM). Achieved significant improvement in cost, schedule and forecasting on these challenging Brownfield projects. Projects required setting clear goals, team re-alignment and stakeholder management to achieve the enhanced results.

Focused on Continuous Improvement in project execution and work processes. Improved performance through new initiatives such as Brownfield planning guide, integrated project forecasting and competitive bidding in several execution areas. These resulted in schedules improving from delays of 6 months to on target execution. Cost forecasting improved from variability of over 100% to less than 10%.

Overall responsibility for preparation of key project engineering deliverables such as detailed drawings, Design Basis Memorandum, Project Execution Plan, Project Charter while coordinating input from key stakeholders such as Operations, Engineering, Construction and Commissioning teams. Led a team of EP consultants, Construction and Commissioning teams and other professionals to develop project documents for several challenging Brownfield projects. The projects were completed below estimated costs while meeting project safety, schedule, and quality goals.

Led execution planning of a new Greenfield shale gas development (450MM) that included a gas pipeline and processing facilities in Northeastern British Columbia. Developed the Project Execution Plan, Construction Execution Plan, Contracting Plan, Commissioning and Start-up Plan and Safety Plan. Progressed the project through key stages from conceptual planning to construction and commissioning. Managed early construction planning including transportation plans, equipment and materials handling, field execution plans and mobilization of construction contractors. This resulted in project being completed within estimated costs while exceeding SSHE and schedule goals.

Acted as Area Coordinator for all conventional projects in the Northwest Territories, Northern and Central Alberta (total value over 100 MM, work completed with total costs below budget). Responsible for overall program cost stewardship, capital planning and early execution planning of projects in the area. Led a team of Project Managers working on the Norman Wells Projects (total value 50MM, 6 projects) and executed the projects with no recordable incidents and within the project cost, schedule, and quality goals. Norman Wells is an especially challenging area due to remoteness, permafrost, limited transportation windows and availability of resources.