

LARRY R. DYSERT, CCP, CEP, DRMP



Mr. Dysert is a Senior Principal with Long International and has over 40 years of experience working in or consulting for the engineering and construction industry. He is a recognized expert in project estimating from conceptual through detailed execution, cost engineering, project cost/schedule control, risk analysis, and project benchmarking. In addition to developing and implementing both conceptual and detailed cost estimating databases, Mr. Dysert developed and implemented cost estimating, project controls, and risk analysis applications for a variety of companies. He has supported organizational development in estimating, projects controls, and risk management through the creation and execution of procedures and training. In addition, Mr. Dysert has worked in the areas of contract management and dispute resolution. His industry experience includes refining, chemicals, petrochemicals, oil sands, synfuels, LNG, gas plants, pipelines, power, renewable energy, mining, manufacturing, photochemical, film sensitizing, semiconductor, and similar industrial facilities. Mr. Dysert has utilized his experience on major construction projects in the United States, Canada, Brazil, Chile, Venezuela, United Kingdom, France, Germany, Saudi Arabia, Africa, Australia, and Indonesia. He has also prepared expert reports and testified in international arbitrations.

Mr. Dysert has been an active member of AACE International for 30 years and served as past Chair and Vice-President of the AACE International Technical Board. Mr. Dysert is the primary author of fourteen AACE International Recommended Practices, and a contributor to 30 other recommended practices. He is also the author of chapters in the AACE Total Cost Management Framework and the Skills and Knowledge of Cost Engineering.

EDUCATION

B.A., Economics, University of California, San Diego, 1977

CERTIFICATIONS

Certified Cost Professional, CCP (No. 01510)

Certified Estimating Professional, CEP (No. 00001)

Decision and Risk Management Professional, DRMP (No. 00010)

PROFESSIONAL AFFILIATIONS

AACE International:

- Vice-President of the Technical Board, 2016–2020
- Chair of the Technical Board, 2005–2016 and 2000–2003
- Member of the Technical Board, 1998 to Present
- Recipient of the AACE International Award of Merit
- Recipient of the AACE International Total Cost Management Award
- Honorary Life Member
- Fellow

TEACHING EXPERIENCE

Adjunct Professor, Rochester Institute of Technology, Project Estimating, 1991

Adjunct Professor, Monroe Community College, Construction Estimating, 1990

TECHNICAL EXPERIENCE

Representative U.S. and international technical experience includes:

- Preparation of all classes of cost estimates for domestic and international projects of significant size, strategic importance, and that incorporated new technologies; project values ranged as high as US\$20 billion
- Review and validation of cost estimates for large and strategic process industry projects
- Provision of cost risk analyses for project estimates
- Provision of regional management for the estimating department of a global high-technology manufacturing organization
- Development and implementation of conceptual and detailed cost estimating applications and databases
- Provision of consulting services to establish best-in-class estimating, scheduling, and project controls for owner companies in the process industries
- Provision of consulting services and development of procedures to process industry owners on best practices for cost estimating, scheduling, project controls, risk management, project benchmarking, and project process implementation
- Provision of project readiness reviews to support stage-gate project decisions
- Management of project cost and schedule performance measurements and assessments
- Development of a capital budget application to manage and control a global capital project portfolio
- Co-led the implementation of Primavera scheduling software throughout a capital project organization
- Design and development of a historical database containing capital project information to support internal and external project benchmarking
- Provision of dispute resolution and expert witness services
- Provision of global training to owner and EPC contractor organizations on cost estimating, scheduling, project controls, cost engineering, total cost management, and decision and risk management, including training for AACE International certifications
- Speaker and author of numerous publications on cost estimating, project cost and schedule control, cost engineering, total cost management, decision and risk management, and project benchmarking

PROJECT EXPERIENCE

Oil & Gas and Oil Sands Facilities: Onshore and Offshore Upstream Facilities and Well Pads, Refining and Related Facilities, Onshore and Offshore LNG Facilities, Bitumen Upgrading and Supporting Mine Facilities, SAGD Production Facilities and Well Pads, Infield and Transportation Pipelines, and Terminal Facilities

- Prepared conceptual through detailed project estimates for capital project facilities. Estimates were prepared to support economic evaluation, full project funding, as well as detailed estimates to support change order, facility repairs and rework, and claims including design warranty.
 - Clients included: Alyeska, ARCO, Athabasca Oil Corporation, Brion Energy Inc, Champlin Petroleum Company, Chevron, ConocoPhillips, Dover Operating Corporation, Enbridge Pipelines Inc., Exxon, Lagoven, Maroven, Nexen Inc., Pacific Refining, PetroCanada Oil Sands Inc., Powerine, Prime Energy Resources B.V., PTTEP-Canada Limited, Shell, SOHIO, Statoil Canada Limited, Sun Refining Company, Suncrude Canada Ltd., and Union Oil

- Prepared estimate reviews and validations, including benchmarking analysis, to support stage-gate and final investment decisions for capital project facilities.
 - Clients included: Athabasca Oil Corporation, Brion Energy Inc., Canadian Natural Resources Limited, Chevron, ConocoPhillips, Dover Operating Corporation, Enbridge Pipelines Inc., Encana Corporation, Husky Energy Inc., Japan Canada Oil Sands Limited, Laricina Energy Limited, Nexen Inc., PTTEP Canada Limited, Statoil Canada Limited, Saudi Aramco, Syncrude Canada Ltd., Synenco Energy Inc., and Titanium Corporation Inc.
- Provided risk analysis including contingency and escalation determination studies.
 - Clients included: Athabasca Oil Corporation, Brion Energy Inc., Canadian Natural Resources Limited, Chevron, ConocoPhillips, Devon Canada Corporation, Dover Operating Corporation, Enbridge Pipelines Inc., Husky Energy Inc., Japan Canada Oil Sands Limited, Laricina Energy Limited, Nexen Inc., PetroCanada Oil Sands Inc., PTTEP Canada Limited, Statoil Canada Limited, and Syncrude Canada Ltd.
- Delivered project controls, including performance management, bid negotiation, and contract management support.
 - Clients included: Brion Energy Inc., Syncrude Canada Ltd., and Synenco Energy Inc.
- Developed and implemented conceptual and detailed cost estimating databases.
 - Clients included: Canadian Natural Resources Limited and Syncrude Canada Ltd.
- Provided organizational development including process and procedure development, tool development and implementation, general consulting, and training to support cost estimating, scheduling, project controls, and risk analysis.
 - Clients included: Brion Energy Inc., Canadian Natural Resources Limited, Enbridge Pipelines Inc., Husky Energy Inc., Inter Pipeline, Saudi Aramco, Syncrude Canada Ltd., Victory Energy, and Williams Strategic Sourcing Company
- Provided training on cost estimating, scheduling, project controls, cost engineering, total cost management and risk analysis.
 - Clients included: Brion Energy Inc., Canadian Natural Resources Limited, Enbridge Pipelines Inc., Suncor Energy Services Inc., Syncrude Canada Ltd., and Pan American Energy
- Provided dispute resolution and expert witness consulting, including quantum/damages assessment for facility construction and facility repair/rework.
 - Clients included: Bechtel-Jacobs Port Arthur Joint Venture, INPEX, and Japan Oil Sands Limited

Other Synfuels Facilities: Coal Gasification, Oil Shale, Biofuel to Energy, Waste to Energy

- Prepared conceptual through detailed project estimates for capital project facilities. Estimates were prepared to support economic evaluation and full project funding.
 - Clients included: Cerilon Inc., ND Ventures Ltd., SASOL, Strategic Biofuels, Union Oil, USA BioEnergy, and Velocys
- Provided estimate and schedule reviews and validations, including benchmarking analysis, to support stage-gate and final investment decisions for capital project facilities.
 - Clients included: ND Ventures Ltd., Strategic Biofuels, USA BioEnergy, and Velocys

- Provided risk analysis including contingency and escalation determination studies.
 - Clients included: Cerilon Inc., International Woodfuels LLC, ND Ventures Ltd., Strategic Biofuels, and Velocys

Chemical and Petrochemical Facilities

- Prepared conceptual through detailed project estimates for capital project facilities. Estimates were prepared to support economic evaluation, full project funding, as well as detailed estimates to support change order, facility repairs and rework and claims including design warranty.
 - Clients included: Albemarle, Alter NRG, Eastman Kodak Company, Keyera Partnership, Lee & Doma Energy Group, Nauticol, Novacor Chemical, ProjetBécancour AG Limited Partnership, and Saudi Pecten Petrochemical
- Provided estimate and schedule reviews and validations, including benchmarking analysis, to support stage-gate and final investment decisions for capital project facilities.
 - Clients included: Albemarle, Century Aluminum, Dow Corning, Eastman Kodak Company, and Novacor Chemical
- Provided risk analysis including contingency and escalation determination studies.
 - Clients included: Albemarle, Eastman Kodak Company, Keyera Partnership, and Novacor Chemical
- Provided project controls, including performance measurement, bid negotiation, and contract management support.
 - Clients included: Dow Corning and Eastman Kodak Company
- Offered organizational development including process and procedure review, general consulting, and training to support project controls.
 - Clients included: Dupont
- Provided training on cost estimating, project controls, cost engineering, total cost management, and risk analysis.
 - Clients included: Omya and PCS Nitrogen Trinidad
- Delivered dispute resolution and expert witness consulting, including quantum/damages assessment for facility construction and facility repair/rework.
 - Clients included: Celanese and SNC Lavalin

Power Facilities

- Prepared conceptual through detailed project estimates for capital project facilities. Estimates were prepared to support economic evaluation, full project funding, as well as detailed estimates to support change order, facility repairs and rework, and claims.
 - Clients included: Eastman Kodak Company, EPCOR, U.S. Department of Energy, and Synergy Systems Inc.
- Provided organizational development including process and procedure review, general consulting, and training to support cost estimating, scheduling, and project controls.

- Clients included: BC Hydro, Consumer Energy, Northwest Energy, Ontario Power Generation, and Westinghouse
- Developed and implemented conceptual and detailed cost estimating databases for energy/power projects, including renewable energy wind and solar processes.
 - Clients included: Consumer Energy
- Developed cost and schedule benchmarking metrics for energy/power projects, including renewable energy wind and solar processes.
 - Clients included: Consumer Energy
- Delivered training on cost estimating, scheduling, project controls, cost engineering, total cost management, and risk analysis.
 - Clients included: Consumer Energy, Ontario Power Generation, Rosatom, and Westinghouse
- Provided dispute resolution and expert witness consulting, including quantum/damages assessment for facility construction and facility repair/rework.
 - Clients included: Kiewit

Provided dispute resolution support, and an expert witness report regarding construction costs and feasibility of the contractor's baseline schedule for an onshore wind farm project.

- Clients included: Garden Plain I LP (TransAlta)

Other Industrial and Manufacturing Facilities

- Prepared conceptual through detailed project estimates for capital project facilities. Estimates were prepared to support economic evaluation, full project funding, as well as detailed estimates to support change order, facility repairs and rework, and claims.
 - Clients included: Cargill, Eastman Kodak Company, and Intel Corporation
- Provided estimate and schedule reviews and validations, including benchmarking analysis, to support stage-gate and final investment decisions for capital project facilities.
 - Clients included: Cargill, Eastman Kodak Company, and Intel Corporation
- Provided risk analysis including contingency and escalation determination studies.
 - Clients included: Cargill, Eastman Kodak Company, and Intel Corporation
- Delivered project controls, including performance measurement, bid negotiation, and contract management support.
 - Clients included: Cargill, Eastman Kodak Company, Hemlock Semiconductor Corporation, and Intel Corporation
- Provided organizational development including process and procedure development, tool development and implementation, general consulting, and training to support cost estimating, project controls, and risk analysis.
 - Clients included: Corteva, Eastman Kodak Company, Intel Corporation and MeadWestvaco Corporation

- Provided dispute resolution and expert witness consulting, including quantum/damages assessment for facility construction.
 - Clients included: The Austin Company, The Government of Mozambique

PROFESSIONAL EXPERIENCE**Long International, Inc.***Phoenix, Arizona Area (January 2020 to Present)*

Mr. Dysert is a Senior Principal with Long International. He provides a variety of claims analysis and dispute resolution services including, but not limited to, change order analysis, cost and damages analyses, schedule delay and acceleration analyses, productivity analysis, contract management, and review of bids, estimates, and contract documents. Mr. Dysert also provides project management consulting services focused on the development of project cost and schedule control systems.

Conquest Consulting Group*Vancouver, Washington (2004 to Present)*

As Managing Partner, Mr. Dysert oversees all company aspects related to global consulting services. He provides consulting services to establish best-in-class practices for cost estimating, scheduling, project controls, risk management, project process, and project benchmarking for owner companies in the process industries. He also prepares all classes of estimates and risk analysis studies. He provides cost estimate and schedule review and validation studies for large and strategic process industry projects. Moreover, Mr. Dysert provides project readiness reviews to support stage-gate and project funding decisions. He implements project benchmarking to support estimate and schedule reviews and industry peer assessment. As a recognized expert in cost engineering, Mr. Dysert provides global training in total cost management, cost estimating, scheduling, project controls, and risk management. He has supported dispute resolution matters and served as an expert witness.

Intel Corporation*Hillsboro, Oregon (2003 to 2004)*

As a Site Lead Estimator, Mr. Dysert was responsible for all capital project estimates in Oregon, Utah, and Washington. He managed all contracted estimating and quantity surveyor resources supporting project execution. Mr. Dysert implemented a successful benchmarking program to support corporate cost reduction initiatives. He led development efforts and supported the Intel Standardized Estimating Software System and cost database.

Eastman Kodak Company*Rochester, New York (1992 to 2003)*

Mr. Dysert prepared conceptual and detailed estimates for domestic and international capital projects as a Senior Project Estimator. He developed and employed estimating software applications and was responsible for estimating procedures development and execution of departmental improvement activities.

As a Senior Project Controls Engineer, Mr. Dysert developed a historical database of project information to support benchmarking project estimates, and to serve as a strategic estimating resource. He developed a capital budgeting application to manage and control Kodak's global project portfolio. He co-led the implementation of the Primavera scheduling software throughout the capital project organization.

In addition, Mr. Dysert provided departmental training in cost estimating, scheduling, project controls, capital project process, cost metrics analysis, risk analysis, and information systems.

EST Incorporated

Rochester, New York (1990 to 1992)

As President, Mr. Dysert was responsible for all company operations. He served the cost estimating needs of companies and organizations in the engineering and construction industries, and for owner and operator organizations.

Fluor Corporation

Rochester, New York (1988 to 1990)

As a Senior Project Estimator seconded to a client owner organization, Mr. Dysert prepared conceptual and detailed capital cost estimates and cost risk analyses. He developed and implemented several cost estimating software applications. Moreover, he incorporated a historical project information database to collect project characteristic information and track estimated costs against actual project costs to support internal and external industry benchmarking.

As a Project Controls Engineer, Mr. Dysert provided project controls for a variety of industrial projects. He developed and employed a custom scheduling system to automate the process of creating control-level schedules at an activity level for multiple projects. Mr. Dysert assisted in the preparation, coordination, and presentation of project proposal activities for the Northeast Regional office.

Fluor Corporation

Irvine, California (1979 to 1987)

Mr. Dysert served as a Data and System Analyst. In this role, he was responsible for the development, support, and coordination of various departmental estimating and cost/scheduling applications. He developed interfaces for the exchange of information between Design Engineering and Cost/Schedule applications. Furthermore, Mr. Dysert created standard project presentation and review materials for corporate management's review.

Mr. Dysert established estimating training classes for the Specialty Estimating Department that included training new-hires and cross-training of discipline estimators. He formulated and implemented standard estimating policies and procedures.

As an Estimator, Mr. Dysert prepared semi-detailed and detailed estimates in support of projects and proposal activities for a wide variety of process industries. He was responsible for the development, support, and coordination of various estimating and cost/scheduling software applications.

PUBLICATIONS AND SPEAKING ENGAGEMENTS

“Cost Estimating Best Practices to Enhance Decision-Making,” Presentation, Project Control Summit, 2024.

“Criticality of Early Communications for Project Success,” Keynote Panel Discussion, AACE International Conference and Expo, 2024

“The Importance of a Project Risk Analyst,” Presentation, AACE International Conference and Expo, Decision and Risk Management Subcommittee Meeting, 2024

"Misapplication of Estimate Classification Recommended Practices," Presentation, AACE International Conference and Expo, 2023.

"Statistics and Probability for Cost Engineers," Presentation, AACE International Conference and Expo.

"Equipment-Factored and Engineering Model Estimates," Presentation, AACE International Conference and Expo, 2022.

"Alignment of Cost Estimating and the Project Development Process," Presentation, AACE International Conference and Expo, 2022.

"Project Development: The Importance of Cost Estimating," *Chemical Engineering Magazine*, Vol 128, No. 7, July 2021.

"Early Conceptual Estimating Methodologies," AACE International Transactions, 2020.

"Supporting Estimates with Effective Scope of Work Definition," AACE International Transactions, 2020.

"Emerging Trends and Their Impact on the Future of Cost Estimating," Presentation at Project Control Summit, 2020.

"Cost Estimates Matter," Utility Energy Working Group, 2019.

"Project Controls in an OS 2.0 Environment," Panel Member, AACE International Conference and Expo, 2019.

"Owner Best Practices Forum," Facilitator, AACE International Conference and Expo, 2018.

"Understanding Estimate Accuracy," Presentation, AACE International Conference and Expo and Western Winter Workshop, 2018.

"Key Elements for Effective Estimate Reviews," Houston Cost Engineering Symposium, 2018.

"Effective Control of Capital Projects: It Shouldn't Be That Difficult," Presentation, Saudi Council of Engineering Conference, Saudi Arabia, 2017.

"Practical Estimate Review and Validation," Presentation, King Fahd University of Petroleum and Minerals, Saudi Arabia, 2017.

"Cost Estimate Review Simulation," Workshop Leader, AACE International Conference and Expo, 2017.

"Estimate Review and Validation," Panel Member, AACE International Annual Meeting, 2016.

"Cost Estimating," *Skills and Knowledge of a Cost Engineer*, 6th Ed., 2015.

"Challenges of Owner Cost Estimating," Presentation Cost Engineering Event, The Netherlands, 2015.

"The Owner's Estimate Requirements Document," AACE International Transactions, 2013.

"A Capital Investment Review Process," Presentation, Cost Engineering Event, The Netherlands, 2013.

"Understanding Estimate Accuracy," Presentation Cost Engineering Event, The Netherlands, 2011.

"An Introduction to Parametric Estimating," AACE International Transactions, 2008.

"Escalation Estimation: Lessons Learned in Addressing Market Demand," AACE International Transactions, 2008.

"Escalation Estimation: Working with Economic Consultants," AACE International Transactions, 2007.

"Best Practices for an Owner Estimating Organization," AACE International Transactions, 2007.

- "Is Estimate Accuracy an Oxymoron," *Cost Engineering Magazine*, January 2007.
- "So, You Think You're an Estimator," *Cost Engineering Magazine*, September 2005.
- "AACE Professional Practice Guide to Parametric and Conceptual Estimating, 2nd Edition," Editor, 2004.
- "Sharpen Your Estimating Skills," *Cost Engineering Magazine*, June 2003.
- "A Capital Investment Review Process," AACE International Transactions, 2002.
- "The Estimate Review and Validation Process," *Cost Engineering Magazine*, January 2002.
- "AACE Professional Practice Guide to Parametric and Conceptual Estimating," Editor, 2002.
- "Improved Capital-Cost Estimation," *Chemical Engineering*, Vol 108, No 11, October 2001.
- "Developing a Parametric Model for Estimating Process Control Costs," *Cost Engineering Magazine*, February 2001.
- "Project Selection Under Limited Capital Budgets," AACE International Transactions, 2001.
- "The Organization of an Estimating Department," *Cost Engineering Magazine*, August 2000.
- "Can Past Project History Affect Future Project Success," Joint Cost Management Societies Symposium, 1999.
- "Scope Development Problems in Estimating," 1997 AACE International Transactions, 1997.
- "Estimating Software Projects," 1997 Computer Associates Technicon Proceedings, 1997.
- "The Evolution of Estimating Systems at Kodak," 1996 AACE International Transactions, 1996.
- "Experience at Kodak in Using Risk Analysis," 1993 Project Management Institute Proceedings, 1993.
- "Development of Conceptual Estimating Support Systems at Kodak," 1989 AACE International Transactions, 1989.

TRAINING SEMINARS

- "Cost Estimate Classification," Virtual Seminar, 2024
- "Introduction to Project Cost Management," Virtual Seminar, 2023
- "Estimating A-to-Z for the Process Industries," Newell, WV, 2022
- "Advanced Project Cost Management," Virtual Seminar, 2021
- "Life Cycle Cost Analysis," Virtual Seminar, 2020
- "Introduction to Project Cost Management," Virtual Seminar, 2020
- "Cost Estimating Professional Study Course," Virtual Seminar, 2019
- "Certified Cost Professional Study Course," Virtual Seminar, 2019
- "Life Cycle Cost Analysis," Winnipeg, Manitoba, Canada, 2018
- "Successful Cost Estimating and Control," Kuala Lumpur, Malaysia, 2017
- "Successful Project Cost Estimation and Control," Kuala Lumpur, Malaysia, 2015
- "Practical Cost Estimating and Control," Kuala Lumpur, Malaysia, 2012
- "TCM and Practical Cost Estimating," Seoul, South Korea, 2011



“Estimating,” Edmonton, Alberta, Canada, 2011

“Fundamentals of Factored Estimating for the Process Industries,” Cost Engineering Event, The Netherlands, 2011

“Project Decision Analysis and Risk Management,” Kuala Lumpur, Malaysia, 2011

“Project Cost Uncertainty,” Kuala Lumpur, Malaysia, 2011

“Total Cost Management,” Vienna, Austria, 2010

“Capital Project Cost Control Utilizing TCM,” Kuala Lumpur, Malaysia, 2010

“Estimating A-to-Z for the Process Industries,” Kuala Lumpur, Malaysia, 2010

“Estimating A-to-Z for the Process Industries,” Houston, Texas, 2009

Attendees at training seminars have represented over 40 owner companies and over 20 contractors/ consultants.

AACE INTERNATIONAL RECOMMENDED PRACTICES

Primary Contributor to Recommended Practices:

RP 17R-97	Cost Estimate Classification System
RP 18R-97	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Process Industries
RP 47R-11	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Mining and Mineral Processing Industries
RP 56R-08	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Building and General Construction Industries
RP 69R-12	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Hydropower Industries
RP 87R-14	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Petroleum Exploration and Production Industries
RP 96R-18	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Power Transmission Line Infrastructure Industries
RP 97R-18	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Pipeline Transportation Infrastructure Industries
RP 98R-18	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Road and Rail Transportation Infrastructure Industries
RP 101R-19	Roles and Responsibilities of a Project Cost Estimator
RP 102R-19	Cost Estimate Classification System – As Applied in Engineering, Procurement, Construction and Qualification for the Pharmaceutical and Related Industries
RP 104R-19	Communicating Expected Estimate Accuracy
RP 107R-19	Cost Estimate Classification System – As Applied in Engineering, Procurement, and Construction for the Environmental Remediation Industries
RP 121R-21	Required Skills and Knowledge of Project Risk Management



Contributor to Recommended Practices:

RP 11R-88	Required Skills and Knowledge of Cost Engineering
RP 14R-90	Responsibility and Required Skills for a Project Planning and Scheduling Professional
RP 19R-97	Estimate Preparation Costs in the Process Industries
RP 23R-02	Identification of Activities
RP 24R-03	Developing Activity Logic
RP 28R-03	Developing Location Factors – As Applied in Architecture, Engineering, Procurement, and Construction
RP 30R-03	Implementing Project Constructability
RP 31R-03	Reviewing, Validating, and Documenting the Estimate
RP 32R-04	Determining Activity Durations
RP 33R-15	Developing the Project Work Breakdown Structure
RP 34R-05	Basis of Estimate
RP 35R-09	Development of Cost Estimate Plans – As Applied for the Building and General Construction Industries
RP 40R-08	Contingency Estimating – General Principles
RP 46R-11	Required Skills and Knowledge of Project Cost Estimating
RP 57R-09	Integrated Cost and Schedule Risk Analysis Using Risk Drivers and Monte Carlo Simulation of a CPM Model
RP 59R-10	Development of Factored Estimates – As Applied in Engineering, Procurement, and Construction of the Process Industries
RP 64R-11	CPM Schedule Risk Modeling and Analysis: Special Considerations
RP 65R-11	Integrated Cost and Schedule Risk Analysis and Contingency Determination Using Expected Value
RP 66R-11	Selecting Probability Distribution Functions for use in Cost and Schedule Risk Simulation Models
RP 68R-11	Escalation Estimating Using Indices and Monte Carlo Simulation
RP 75R-13	Schedule and Cost Reserves with the Framework of EIA-748
RP 89R-16	Management Summary Schedule
RP 91R-16	Schedule Development
RP 100R-19	Contract Change Management – As Applied in Engineering, Procurement, and Construction
RP 105R-19	Estimate Requirements Document – As Applied in Engineering, Procurement, and Construction for the Process Industries
RP 106R-19	Development of Cost Estimate Basis – As Applied in Engineering, Procurement, and Construction for the Process Industries
RP 108R-19	Accounting Considerations in Cost Control



RP 109R-19	Schedule Change Management – As Applied in Construction
RP 110R-20	Cost Estimate Validation
RP 111R-20	Estimating for Long-Range Planning – As Applied for the Public Sector
RP 112R-20	Cost Estimate Classification System – As Applied in Maintenance and Turnarounds for the Process Industries
RP 114R-20	Project Historical Database Development
RP 118R-21	Cost Risk Analysis and Contingency Determination Using Estimate Ranging for Inherent Risks with Monte Carlo Simulation
RP 123R-22	Integrated Cost and Schedule Risk Analysis and Contingency Determination Using Estimate Ranging and Expected Value with Monte Carlo Simulation
RP 127R-23	Choosing among Strategic Alternatives Using Branching Concepts in Decision Modeling

EXPERT REPORT PREPARATION AND TESTIMONY EXPERIENCE

2024	Submitted an expert report for the ADR Institute of Canada Arbitration regarding a dispute between a construction contractor (Claimant) and a wind farm owner/developer (Respondent and Claimant by Counterclaim). Representing the Respondent, prepared an expert report in rebuttal to the Claimant's expert report regarding the reasonableness of the contractor's bid price, which documented construction estimating errors and omissions. Also evaluated the feasibility of the contractor's baseline schedule submitted with its bid proposal.
2023–2024	Prepared expert reports and provided deposition testimony in an ongoing dispute between a food manufacturing owner company (Respondent and Counterclaimant) and a design-and-construction firm (Claimant), contracted to provide detailed engineering services and facility construction. Representing the Claimant, prepared multiple quantum analyses and expert reports in support of the Claimant's incurred related to unapproved change orders, including identifying causation and entitlement supporting the damage assessment. In addition, provided quantum analyses to refute the construction damages alleged by the Respondent.
2022	Testified in an international arbitration related to a dispute between the government of an African nation (Respondent) and an international EPC (Claimant). Representing the Respondent, provided an expert report and testimony regarding the misrepresentation and misapplication of AACE Recommended Practices on estimate classification. Also opined on the speculative bases of lost business opportunity valuations presented by the Claimant.
2020–2021	Submitted an expert report for ICC Arbitration regarding disputes between a large engineering and construction (EPC) joint venture (Claimant) and a large LNG owner firm (Respondent and Claimant by Counterclaim). Representing the Respondent, prepared several quantum damages analyses and expert reports in support of the Respondent's counterclaims associated with multiple construction indirect activities addressing: 1) temporary construction site services, including costs associated with schedule delay; and 2) worker bussing and transportation subcontracts, including costs associated with underutilization of busses. Moreover, provided analytical support in quantifying the

damages associated with medical, emergency response, and security subcontracts. Claims and counterclaims were settled by agreement between the parties prior to arbitration.

- 2020 Testified in an international arbitration related to a dispute between a Canadian oil sands owner firm (Respondent and Claimant by counterclaim) and an international EPC (Claimant). Representing the owner firm, provided expert witness consultation and preparation of an expert report in response and rebuttal to multiple expert reports by the claimant related to project cost. Addressed the following points: 1) the reasonableness of the estimated cost of work as identified in the EPC agreement, and the actual costs incurred by the respondent; 2) the construction rates of placement (labor productivities) achieved in comparison to industry standards and expectations; 3) the reasonableness of the project completion and mechanical completion dates identified in the EPC agreement in comparison with the actual durations; 4) the quality of project performance based upon EPC industry standards; 5) quantum analysis of the estimate of damages by the claimant, and development and support for the quantum analysis for the respondent. In addition, provided support and opinions related to specific project execution issues.
- 2018 Prepared and submitted an expert report in a dispute between a large Canadian Contractor (Plaintiff) and a municipal Department of Water and Power (Defendant). Provided detailed analysis on the applicability of specific classes of estimates to determine the costs for repair and equipment replacement related to the dispute on behalf of the Plaintiff. Provided specific analysis to assess the reasonableness of cost estimates prepared by and reported in the Defendant's expert report. Provided support for quantum analysis for specific repair and equipment replacement costs related to warranty claims for a power plant.
- 2015 Project cost expert for a major EPC firm in its counterclaim against the owner of North America's largest refinery. Provided cost engineering consultation to the EPC regarding the reliability of cost estimates, estimate accuracy, and maturity of technical deliverables in relation to specific classes of estimate. Provided consultation on quantum analysis related to the dispute.
- 2013 Provided testimony on the Tax Court of Canada in the case of *Elliott et. Al. v. The Queen*. Provided testimony in a precedent-setting case that established that sojourners in Canada who establish that their centers of vital interests were in the US by virtue of their personal and economic relations being closer to the US for the years in question shall be deemed to be residents of the US and not residents of Canada for purposes of the Canada-United States Income Tax Convention (Treaty).
- 2010 Prepared and submitted an expert report on behalf of the Plaintiff in a dispute between a major EPC firm (Plaintiff) and an Ethanol Plant Producer (Defendant). Provided expert witness report to: 1) describe the purpose of the construction cost estimating process in circumstances such as the construction of the ethanol plant; 2) describe the applicable industry practice and standards for the creation of a cost estimate; 3) advise as to the classification of the ethanol plant cost estimate by industry standards; 4) advise as to the acceptable range of variance for that class of cost estimate; 5) advise as to the meaningfulness of cost variances within individual estimate items to actual costs; 6) advise as to whether Plaintiff's estimating process for the Ethanol Plant was consistent with industry practice and standards; 7) advise as to the primary sources of underrun



experienced on the Ethanol Plant Project; and 8) comment upon the validity of the estimate and Plaintiff's assertions in light of the foregoing. (Dispute settled between parties; Arbitration canceled).

2009–2010 Prepared expert reports, including cost audits, on behalf of a petrochemical owner related to a dispute with a large EPC firm related to project execution issues and cost overruns for a large petrochemical facility located in Germany. Prepared comprehensive expert reports addressing: 1) investigation of the validity and impact of specific Project Change Orders, including adherence to Change Management Procedures and quantum analysis; 2) review of planned versus expended engineering hours in relation to agreed-upon staffing plans for project execution, including quantum analysis for the resulting cost impact of non-compliance and the impact of overtime; 3) investigation of the cost impact related to the use of a specific contractor for civil/structural/architectural, and issues with local regulations for a specialist reviewer that was not identified by the EPC; 4) review of piping design staffing and quantum cost impact involved with transfer of piping engineering from workshare office to home office due to performance issues; 5) provision of quantum assessments for Project Change Notices and identification of the cost impact to be recognized as a Change Orders versus the cost impact to be recognized as Cost Trends; 6) Identification of potential counter-arguments by the EPC, and provision of Lessons Learned to the client Petro-Chemical Facility Owner. (Private Dispute)