

PHILIP R. MONCRIEF, P.E., P.ENG.

Mr. Moncrief is a Senior Principal with Long International and has over 50 years of U.S. and international consulting experience involving engineering and construction, contract disputes, project management, project development, engineering and construction management, and process engineering. As an internationally recognized expert in the engineering and construction industry, he has managed large projects and had profit and loss responsibility for the engineering and construction operations of four major engineering-construction companies. He has published two books, has been a guest lecturer at the University of Colorado and Texas A&M University in their Construction Management Programs, and is a frequent presenter of project management topics to industry forums and seminars. Before joining Long International, Mr. Moncrief was Senior Vice President and General Manager of CDI Engineering Solutions'

Houston office, Vice President and General Manager of Technip's Houston office, Vice President Project Management for Bechtel, Senior Vice President of Davy McKee, and Vice President of Fluor Corporation.

In his roles as a senior executive, Mr. Moncrief was responsible for management and oversight of engineering and construction projects in the U.S. and internationally, including the development and implementation of project management policies and procedures to ensure achievement of profit, cost, schedule, scope, quality, and safety objectives. He has wide experience in refining, petrochemical, chemical, pipeline, terminals, LNG, and other areas, including treatment of waste from the facilities. His knowledge and experience include over 40 years of process design, overall facility design, project management, project engineering, procurement of materials and equipment, and construction of numerous facilities around the world. His experience with these projects includes conceptual development, project cost estimation, economic analysis, scheduling, contracts, marketing, and all areas of facility management and operations.

EDUCATION

M.B.A., Pepperdine University, 1979

M.Ch.E., Chemical Engineering, Rice University, 1968

B.A., Chemical Engineering, Rice University, 1967

PROFESSIONAL REGISTRATIONS

Registered Professional Engineer, Texas (No. 34489)

PROFESSIONAL ACTIVITIES

American Institute of Chemical Engineers

Vice Chairman, Engineering Construction Conference

Member of Board of Advisors, Construction Industry Institute

Engineering Alumni Board, Rice University

Chemical Engineering Advisory Board, University of Houston

Founders Club, NPRA

President, British American Business Association

Director, Loveland Controls Company

TEACHING AND SEMINARS

- Guest Lecturer, University of Colorado School of Construction, on Project Management, Quality, Safety, and Project Development topics
- Guest Lecturer, Texas A&M University, Construction Engineering and Management Department
- Lecturer, TSC Engineering in Project Management topics

TECHNICAL EXPERIENCE

Representative U.S. and international technical experience includes:

- Executive management of major engineering and construction contractors
- Project/Program Management of petroleum refining, oil shale, synfuels, and power generation projects
- Development of project management plans and procedures
- Proposal development and contract negotiations of engineering and construction contracts
- Engineering-construction contract strategy development and implementation
- Identification and analysis of engineering-construction cost and schedule problems and their root causes
- Construction claims analysis and negotiation of settlements
- Quantification of direct and indirect damages, including loss of productivity
- Management performance assessments
- Speaker and author on the subject of project management
- Process engineering, process flow diagram and piping and instrumentation diagram development, and preparation of equipment specifications

PROJECT EXPERIENCE

Mr. Moncrief has been involved in projects in industries such as: gas treating and processing; refining, including clean fuels; pipeline compression; ethylene; polyethylene; synthetic fuels from coal and natural gas; oil shale; LNG liquefaction; LNG import terminals; and offsite and utilities support.

As an internationally recognized expert in project management of large and small projects, Mr. Moncrief has managed projects and project managers on numerous types of projects in the U.S. and internationally. He has executed a number of major turnkey and EPC assignments, including:

- Valero – Grassroots refinery, Wilmington, California
- Mobil – Grassroots refinery, Joliet, Illinois
- Sohio – Refinery expansion and upgrade, Marcus Hook, Pennsylvania
- Kyung-In Energy Company – Grassroots refinery, Inchon, Korea
- Sasol – Grassroots fuels from coal project, Secunda, South Africa
- Sadaf – Grassroots petrochemical project, Jubail, Saudi Arabia
- Shell – Clean fuels expansion and modernization, Martinez, California

Oil Refinery, Petrochemical and Chemical Plants, and Oil Production Facilities

- On behalf of the owner, performed an assessment of the EPCm contractor's cost, schedule, technical, and project management performance on a multibillion-dollar LNG project in Australia that experienced billions of dollars in cost overruns and many years of delay. Provided technical guidance to the owner as to the viability of its potential claims against the contractor for overruns in owner's costs as well as overruns in costs incurred by the implementation contractors.
- On behalf of the owner, performed an assessment of the EPCm contractor's cost performance on a multibillion-dollar LNG project in Australia. Provided technical guidance to the owner as to the viability of its potential claims against the contractor for recovery of engineering rework costs. The owner successfully negotiated a settlement based on Long International's assessment.
- On behalf of the owner, performed a detailed schedule, cost, and technical assessment of the EPC contractor's performance on the design and construction of an LNG terminal project in Europe. Developed a detailed schedule delay and cost overrun assessment as well as an assessment of the contractor's project management performance. The owner was successful in reaching a favorable assessment of its claim against the contractor based on Long International's assessment.
- On behalf of the owner, performed an analysis of the project execution and cost overruns on a housing complex to support the management and operation of oil and gas facilities on Sakhalin Island, Russia.
- Assisted the owner in the creation of a negotiation strategy for a cost overrun claim on an FPSO located in South America.
- On behalf of the owner, analyzed a \$100 million cost overrun claim resulting from mismanagement, delays, and rework by an EPC contractor for an offshore oil and gas production SPAR installed in the Gulf of Mexico. The fabrication of the soft tank/truss was performed in Texas, and the hard tank fabrication occurred in Finland.
- Analysis of change order, delay, and disruption claims involving an ultra-low-sulfur diesel Unicracker project at a refinery in Texas.
- Assessment of a contractor's \$75 million claim on a lump-sum EPC compressor station project in West Africa based on hundreds of changes to P&IDs included in the FEED package used to prepare the bid for the project. Analyzed the technical entitlement to the P&ID changes based on standard industry practice for design development, the owner's specifications, and the timing of the changes.
- Assessment of a Korean contractor's \$75 million delay and acceleration claim on an oil terminal project in Russia. Assessed the contractor's CPM schedules, change orders, increased staffing claims, and the owner's counterclaims.
- Assessment of project management issues affecting the costs and schedule performance of a lump-sum contract to design and construct a truss for an offshore oil production facility in the Gulf of Mexico.
- Project Developer and Sponsor for the Rio Polimeros 600,000 TPY ethylene and polyethylene project north of Rio de Janeiro, Brazil. Owned by two private companies, Suzano and Unipar, along with Petrobras, it was the first large (\$700 million), private, project financed project in the petrochemical business in Brazil.
- Project Director for the \$1.1 billion Shell Martinez Clean Fuels Project. Managed and coordinated the efforts of six engineering companies (Foster Wheeler, Parsons, Pritchard, KTI, Raytheon, and Bechtel) and the direct hire construction (by Bechtel) for most of the project. The project employed over 2,200 craftsmen at its peak including nearly 30 subcontractors.
- Project Developer and Sponsor for the ConocoPhillips Merey Sweeny Delayed Coker in Sweeny, Texas.

- Management Sponsor of the Monsanto Roundup Active Ingredient Plant near New Orleans, Louisiana.
- Management Sponsor of the Epsilon Grassroots Polypropylene Project in Garyville, Louisiana.
- Management Sponsor of the Vulcan EDC Expansion in Louisiana.
- Management Sponsor of the Chevron Phillips Grassroots Polyethylene Plant in Cedar Bayou, Texas.
- Management Sponsor of the QChem II FEED work for Chevron Phillips, Total, and QGPC in Qatar.
- Developed and served as Management Sponsor of the ConocoPhillips S-Zorb Gasoline Reference Plant, which used VIP processes to reduce the engineering and construction cost of a typical plant by 20%.
- Management Sponsor of the ConocoPhillips Sweeny Diesel S-Zorb FEED design.
- Management Sponsor of the \$125 million Shell Yellowhammer gas plant in Mobile, Alabama. This lump-sum project included 200 MM SCFD gas processing to extract 60 TPD Sulfur and 2,300 BPD Condensate and NGL and 250 BPD Condensate and recompression to pipeline pressure. Davy McKee provided engineering and procurement, and BE&K provided open shop construction.
- Management Sponsor of the LSTK EPC of a 4,000 BPD MTBE plant for Coastal Corporation, including butane isomerization and butane dehydrogenation, in Cheyenne, Wyoming.
- Management Sponsor of the EPC of the ISK Biotech plant to produce active ingredient for turf grass fungicide in Channelview, Texas.
- Project Manager for offsites for the \$1.5 billion Sadaf Petrochemical Complex. The complex was built in modules in Japanese shipyards and transported to Jubail, Saudi Arabia, by custom-built hauling ships for erection. The \$500 million offsites included a large tank farm, interconnecting piping, seawater cooling, 50-mile brine pipeline, shipping facilities for four petrochemical intermediates and a cryogenic ethylene liquefaction, storage and shipping facility including four cryogenic tanks (similar to an LNG shipping terminal).
- Lead Process Engineer for a refinery expansion and modernization of Powerine Oil Refinery in Santa Fe Springs, California, including continuous catalytic reformer, merox units, and infrastructure upgrades.
- Lead Process Engineer for 1,600 TPD delayed coker, fractionation train, and gas plant as part of a \$400 million grassroots refinery for Mobil Oil at Joliet, Illinois.
- Lead Process Engineer for crude and vacuum unit for Union Pacific (Champlin) refinery at Wilmington, California. This 30,000 BPD grassroots refinery also included a 300 TPD delayed coker.
- Lead Process Engineer for revamp of Texas City Refining in Texas City, Texas. Revamped units included FCC, FCC Fractionator, and gas plant, crude, vacuum, and visbreaker units.
- Lead Process Engineer for a refinery vacuum tower project to produce lighter products and penetration grade asphalt for Antar in Donges, France. Served as main interface with Heurtey, the constructor.
- Lead Process Engineer for vacuum fractionators, catalytic reformers, and a delayed coker in several European and U.S. refineries, producing design packages for engineer's and constructor's use.

LNG Facilities

- Australian LNG Project – For the owner, analyzed the performance of the EPCM contractors (joint venture) and authored a report on the results of the analysis.

- Australian LNG Project – For the owner, analyzed the potential for a claim (Phase 1) and assisted with the analysis of detailed project documents to support a claim for cost overruns (Phase 2).
- Australian LNG Project – Analyzed project documentation to assist the owner in deciding whether to pursue a claim against the EPCM contractor for very large cost and schedule overruns.
- On behalf of the owner, advised on negotiation strategies and tactics for the EPC contract on a \$10 billion LNG liquefaction project.
- Advised the owner on negotiation strategies and tactics for the EPC contract on a \$10 billion LNG liquefaction project.
- On behalf of the owner, completed Phase III evaluation of contractor's performance on a \$3 billion LNG EPC project and developed the technical and financial basis for the owner's potential counterclaim.
- On behalf of the owner, analyzed the contractor's performance on a \$3 billion LNG EPC project and advised the owner on the contractor's claim for additional compensation and potential owner counterclaims against the contractor.
- On behalf of the owner, performed an analysis of a \$15 million cost overrun and cumulative effect claim by an EPC contractor on a \$15 million electrical and instrumentation building to be installed on an offshore installation in Italy.
- Assisted the owner by analyzing the history and costs of a topsides EPC project to create a report to project shareholders describing the reasons for the cost increases.
- Evaluated the \$40 million claim of an EPC contractor for additional overhead and fee on a cost-reimbursable contract that was delayed over 18 months.
- Consultant to Brass LNG for development implementation of contracting strategy for 10 MM TPY grassroots LNG liquefaction plant on Brass Island, Nigeria. Assignment included preparation of bid packages and bid evaluations for eight LSTK contracts that covered every portion of the project. Facilitated senior shareholder meetings to arrive at the strategy and to approve its implementation.
- Project Sponsor for the Freeport LNG terminal in Freeport, Texas. The terminal was designed to import 1.5 BCFD of LNG and regasify the LNG and deliver it to existing gas pipelines.
- Project Sponsor for proposals to Fujian LNG import terminal, Fujian, China; ConocoPhillips import terminal, Ensenada, Mexico; Marathon LNG import terminal, Tijuana, Mexico; and Marathon Equatorial Guinea LNG liquefaction plant, Equatorial Guinea.
- Project Sponsor for Angola LNG liquefaction plant FEED, north Angola.
- Project Sponsor for the Santa Barbara LNG import terminal for Southern California Gas Company.
- Member Organizing Committee for LNG 3 held in Los Angeles in 1985.

Gas-Fueled Power Plants

- Project Manager for the engineering and construction of a 100 MW gas-fired power plant for Shell in Martinez, California.
- Project Sponsor for 300 MW gas-fired power plant for Texaco/Southern California Edison in Bakersfield, California.
- Project Sponsor for 300 MW gas-fired power plant for Arco in Watson, California.

Synfuels Process Plants

- Project Manager for the \$2 billion Sasol Two Coal-To-Gasoline Project in Secunda, South Africa. Responsibilities for this first-of-a-kind project included the Gasification Unit and over 15 downstream processing units that produced and purified syngas for production of refinery products and petrochemicals. Managed the work of Lurgi, Linde, Deutsche Babcock, and L'Air Liquide. Project was completed on budget and on schedule and resulted in Fluor receiving a sole-source award for a duplicate plant.
- Project Development of Cathedral Bluffs Oil Shale Project in Rio Blanco, Colorado. This \$5 billion project was designed to use *in situ* and aboveground retorting to produce more than 100,000 BPD of shale oil. The project included one of the largest mines in the world and more than 300 MW of electricity generation.
- Project Development of the aboveground retorting portion of the White River Oil Shale Project in Utah.
- Project Development of the Hampshire Energy Project in Gillette, Wyoming. This multibillion-dollar synfuels project was designed to use coal gasification and Fisher-Tropsch synthesis to produce over 50,000 BPD of gasoline and diesel fuels.

Metallurgical Projects

- Canadian Metallurgical Processing Project – For the owner, analysis of EPCM contractor's performance and preparation of an expert report on the results of the analysis.
- Created an EPC contract and contract exhibits for the owner's use in negotiating the EPC of a \$1 billion aluminum smelter in the Caribbean.

Environmental and Hazardous Waste Projects

- Managed several environmental projects for petroleum and chemical clients. The environmental group completed more than 20 assignments, including permitting, water treatment, and hazardous waste remediation in the U.S. and Mexico.
- Management Sponsor of the ConocoPhillips Sweeny Refinery NOx Reduction Project.
- Management Sponsor of the ExxonMobil Baytown Refinery NOx Reduction Project.
- Project Sponsor for an environmental project in the Mobil Beaumont Refinery to collect and treat storm water. The \$70 million project featured an under-refinery tunnel to move storm water from one side of the refinery to the other. Work included engineering, procurement and construction, including an eight-foot-diameter tunnel.
- Served as Project Sponsor for an EPC environmental project in the Lyondell Houston Refinery to reduce emissions and treat storm water and process drainage.
- Established a joint venture and developed conceptual design and costing for several joint venture projects in the hazardous waste market. Projects included a water treatment facility for Arco in Carson, California, the Rocky Mountain Arsenal for the U.S. DOD in Denver, Colorado, and an ARCS contract for the U.S. EPA to provide environmental services for a variety of superfund sites.

Mergers and Acquisitions Experience

- Executive leader for acquisition of a Canadian engineering and construction company, including technical and financial due diligence.
- Team member for the merger of the engineering and construction operations of Fluor and Daniel.

- Team member for the sale of Davy International to John Brown.
- Team leader for the merger of a U.S.-based engineering construction company with another U.S.-based engineering construction company.
- Team leader for merger of Technip USA with another U.S. engineering construction company.
- Executive leader for potential mergers of Houston-based engineering construction companies with CDI Engineering Services.

Joint Venture Experience

- Executive leader for joint venture between Toyo Engineering and CDI Engineering Services.
- Team leader for hazardous waste remediation joint venture between Fluor and IT.
- Executive sponsor for joint venture between Davy McKee and BE&K.
- Executive sponsor for project joint venture between Technip and BE&K.
- Business development leader for joint venture between Bechtel and Linde.
- Executive leader of project joint venture between Bechtel and Promon.
- Team member for technology joint ventures between Bechtel and six technology sponsors.

PROFESSIONAL EXPERIENCE**Long International, Inc.***Houston, Texas (2004 to Present)*

As a Senior Principal with Long International, Mr. Moncrief provides project management, claims analysis, and dispute resolution services to the construction industry. He is skilled in the assessment of technical issues and evaluations of project management performance of owners and construction contractors on engineering, procurement, and construction contracts for process plant and industrial projects. He has analyzed engineering, procurement, and construction costs and project documentation to identify responsibility for issues and cost overruns on the following projects:

- Canadian Metallurgical Processing Project – For the owner, analysis of EPCM contractor’s performance and preparation of an expert report on the results of the analysis.
- Australian LNG Project – For the owner, analyzed the performance of the EPCM contractors (joint venture) and authored a report on the results of the analysis.
- Australian LNG Project – For the owner, analyzed the potential for a claim (Phase 1) and assisted with the analysis of detailed project documents to support a claim for cost overruns (Phase 2).
- Australian LNG Project – Analyzed project documentation to assist the owner in deciding whether to pursue a claim against the EPCM contractor for very large cost and schedule overruns.
- Far East LNG Project – Assisted the owner in developing EPC contract negotiation strategies and tactics.
- European LNG Project – Analysis of the EPC contractor’s entitlement for additional fee claims resulting from delay to the project. Review of the contractor’s performance and developed the technical and financial basis of the owner’s potential counterclaim against the contractor. Also performed an analysis of disputed change orders and a cumulative impact claim.

- Gulf Coast Offshore Project – Analysis of project management and cost issues in a \$100 million claim.
- Northern Asia Onshore Project – Analysis of project management and cost issues in a \$75 million claim involving an oil terminal and change order and delay claims involving a residential community project.
- Western Africa Onshore/Offshore Project – Analysis of project management and detailed engineering issues in a \$75 million claim on a pipeline/compressor project.
- Brazilian Offshore Project – Analysis of disputed change orders and related delay issues.

In addition, Mr. Moncrief worked with counsel to prepare and negotiate an EPC contract for a \$1 billion Caribbean metals project.

CDI Engineering Solutions

Houston, Texas (2010 to 2011)

Senior Vice President and General Manager responsible for all CDI Engineering Solutions projects in the Gulf Coast. Projects included specialty chemical plants, refining, and general industrial. Developed joint venture with major engineering company for polysilicon projects in China.

- Huntsman Chemical – Multiple projects for Port Neches and Conroe sites
- Huntsman Chemical – PO/MTBE project for ChinaKMY – Polysilicon plant in China
- BASF, FMC, Dow, Rhodia, Bayer, and Arkema – Small plant betterment projects for multiple sites
- Marathon Refining – Multiple projects for Texas City refinery
- Cyanco – Grassroots sodium cyanide plant in Chocolate Bayou, Texas

Project Management International

Houston, Texas (2003)

President – Management and project consulting focusing on the oil, gas, and process industries. Assignments included contractor selection for an LNG project in Africa, including facilitating contract strategy development, leading management committee meetings, preparing contractor selection information packages, and conducting Project Management seminars for engineering and construction companies and owners.

Technip USA Corp.

Houston, Texas (2001 to 2003)

Vice President and General Manager responsible for management of all Technip projects in North America. Projects included LNG liquefaction and export terminals, LNG import terminals, ethylene, polymers, refining, gas processing, and transportation.

- Freeport LNG – LNG import terminal at Freeport, Texas
- ConocoPhillips – Proposal for LNG import terminal near Ensenada, Mexico
- ConocoPhillips – NOx Reduction Project for Sweeny Refinery, Sweeny, Texas
- Chevron Phillips – Grassroots Polyethylene Plant, Cedar Bayou, Texas

- Chevron Phillips, Total, and QGPC – FEED for \$2 billion QChem II Project, Qatar
- ConocoPhillips – S-Zorb Gasoline Reference Plant
- ConocoPhillips – Diesel S-Zorb FEED design for Sweeny Refinery, Sweeny, Texas
- Enterprise Products – EPC of 250 MM SCFD gas treating and separation plant, Louisiana

Bechtel Corporation*Houston, Texas (1993 to 2000)*

Vice President – Provided management oversight for the following major Bechtel projects:

- ConocoPhillips – Merey Sweeny Delayed Coker, Sweeny, Texas
- Epsilon – Grass Roots Polypropylene Project, Garyville, Louisiana
- Marathon – Delayed Coker, Garyville, Louisiana
- Exxon – Delayed Coker, Baytown, Texas
- Monsanto – Active Ingredient Plant, Louisiana
- Vulcan – EDC Expansion, Louisiana

Vice President and Manager of Project Development for North and South America. Worked with Bechtel Enterprises to develop opportunities to build, own, and operate refining and petrochemical plants. Developed the Basis Petroleum (now Valero) delayed coker and Rio Polimeros ethylene and polyethylene projects. Worked with investment managers and bankers to obtain financing for the projects, including presentation of the overall financials. Worked with other developers for projects in Venezuela, Columbia, and Mexico for PDVSA, Coastal, and an entrepreneurial Colombian group.

Vice President and Project Director for the \$1.1 billion Shell Martinez Clean Fuels Project. Managed and coordinated the efforts of six engineering companies (Foster Wheeler, Parsons, Pritchard, KTI, Raytheon, and Bechtel) and the direct hire construction (by Bechtel) of the majority of the project. The project employed over 2,200 craftsmen at peak, including nearly 30 subcontractors. Completed the project on schedule and under the original Shell budget, with over 4.7 million manhours and without a lost time accident.

Davy McKee Corporation*Houston, Texas (1988 to 1992)*

Senior Vice President responsible as Management Sponsor for several EPC projects, including the Shell Yellowhammer Gas Plant, the Coastal MTBE Plant, and the ISK Biotech Fungicide Plant. Managed and directed Davy's business development and strategic planning.

Fluor Corporation, Ltd.*Los Angeles and Irvine, California (1968 to 1988)*

As Vice President, served as Project Manager, Business Developer, General Manager of Marketing, and Process Engineer. Worked on projects including as Project Manager for offsites for the \$1.5 billion Sadaf Petrochemical Complex and Project Manager for the \$2 billion Sasol Two Coal-to-Gasoline Project in Secunda, South Africa. Served as Lead Process Engineer for the expansion and modernization of Powerine

Oil Refinery in Santa Fe Springs, California, a 1,600 TPD delayed coker for Mobil Oil at Joliet, Illinois, and a crude and vacuum unit for Union Pacific (Champlin) refinery at Wilmington, California.

Pace Company Consultants and Engineers, Inc.

Houston, Texas (1973 to 1974)

Energy Economist utilizing a proprietary refinery linear programming model to study refinery configurations, revamp, and energy-related issues. Lead Process Engineer for revamp of Texas City Refining in Texas City, Texas, a refinery vacuum tower project to produce lighter products and penetration grade asphalt for Antar in Donges, France, and for vacuum fractionators, catalytic reformers, and a delayed coker in several European and U.S. refineries, producing design packages for engineer's and constructor's use.

PUBLICATIONS AND SPEAKING ENGAGEMENTS

"Cost Control for the Project Manager," Long International, Inc., March 2015.

"Selling on Purpose," CELSOC Annual Meeting, 2005.

"The Top 10 Project Problems and What to Do About Them," CELSOC Annual Meeting, 2005.

"The 10 Commandments of Project Management," University of Colorado School of Construction Management, 2004, and CELSOC Annual Meeting, 2005.

Project Management: The Secrets of Success, Xlibris, 2004.

Selling on Purpose, Xlibris, 2004.