



DOUGLAS A. KAGE, P.E.



Douglas A. Kage, a Principal with Long International, is a Professional Engineer and has over 30 years of experience in the areas of construction claims, project control, project management, construction management, and engineering design services. He has experience in cost evaluation, entitlement analysis, calculation of damages, schedule delay analysis, and brings extensive industry experience to the topics of industry practice and standard of care.

Mr. Kage has served as project manager for design projects and studies in the power generation and telecommunications industries. In addition, while serving in various senior project management capacities, Mr. Kage has had experience on several billion dollars of EPC project work, both domestic and international. During more than 14 years as a project control professional, Mr. Kage has managed the project control departments for two different businesses, supervising 40 project control professionals. He also developed an estimating department. He has managed the purchasing, warehousing, and distribution of millions of dollars of materials for construction projects and has managed a construction management field office. He has also had pivotal involvement in process improvement initiatives, re-engineering efforts, and quality improvement programs.

EDUCATION

M.S., Engineering Management (33 of 39 hours completed), University of Kansas

M.B.A., University of Kansas, 1987

B.S., Civil Engineering, University of Colorado, 1979

PROFESSIONAL REGISTRATIONS

Registered Professional Engineer, Colorado (No. 23815)

PROFESSIONAL AFFILIATIONS

Association for the Advancement of Cost Engineering International

TECHNICAL EXPERIENCE

Representative U.S. and international technical experience includes:

- Construction claims preparation, analysis, defense, and negotiation of settlements on industrial, utility, commercial, and residential projects.
- Cost analysis and reconstruction.
- Contract/entitlement analysis.
- Direct and indirect damages calculations.
- CPM schedule analysis of the impacts of delay, disruption, and loss of labor productivity.
- Bid analysis and review.
- Analysis of the impact of project changes on productivity.
- Project management and program management of power generation and telecommunications projects.



- Administrative positions as head of estimating, head of project control, head of telecommunications design.
- Proposal development and contract negotiation of engineering and construction projects leading to several hundred million dollars in revenue.
- Contract administration and change order preparation and management.
- Speaker on the subject of integrated project cost and schedule control.
- Development of computerized database management systems.
- Feasibility studies, pro-forma preparations, conceptual estimates, risk analyses.
- CPM schedule development and monthly progress reporting.
- Structural steel design and reinforced concrete design of power facilities.

PROJECT EXPERIENCE

Mr. Kage has provided analysis and evaluation on construction claims ranging from a single-family, luxury home up through process and power plants worth several hundred million dollars. In addition, while working for a leading firm in the engineering/construction industry, Mr. Kage held a variety of management positions on an extensive list of design and turnkey projects, both domestic and international. Representative projects include the following:

Coal, Gas, and Nuclear Fueled Power Plants; Transmission and Distribution Facilities

- Provided an analysis quantifying labor productivity losses due to extended overtime. The underlying work involved hurricane-related repairs to electric distribution systems located along the U.S. Gulf coast.
- Provided analysis in defense of a \$7.1 million claim brought by the mechanical erection subcontractor for increased scope, delay, extended overheads, and lost productivity. The project involved a \$189,000,000 simple cycle cogeneration plant in Connecticut.
- Developed the detailed schedule and project control system for a 2x400 MW coal fueled power plant in Virginia. Created and maintained an accounting and reporting system to track the financial participation of 4 consortium partners.
- Prepared the detailed schedule for a 2 unit “hybrid” power plant in Thailand consisting of fluidized bed boilers, steam turbines, combustion turbines, and heat recovery units. Also developed multi-currency project cost systems to report consistent financial information in US dollars while individual contracts fluctuated in multiple currencies.
- Prepared the detailed schedule for a 500MW coal fueled power plant in Arizona.
- Managed the conceptual design study and cost estimate for a 2000MW power plant in Japan that would utilize a combination of local specifications and international procurements.
- Prepared the detailed schedule for a multi block combined cycle conversion project located in Indonesia.
- Prepared a power plant design study comparing various “reference” plant designs in order to illustrate American design philosophies for a Japanese client.
- Developed the project control system for a shunt capacitor retrofit on a power delivery system in California.
- Developed the project control system for a revenue metering retrofit on a power delivery system in California.



Oil Refinery, Petrochemical, Upstream Oil & Gas, and Chemical Plant Facilities

- Reviewed the project estimate for reasonableness, and performed a cost optimization analysis of various alternate construction scenarios in order to determine if the existing plan was the most efficient. The work was executed on behalf of an insurance consortium funding repairs from a fire to a precipitator complex located in northern Alberta, Canada.
- Authored an expert report rebutting contractor cost claims resulting from alleged schedule delays. The project involved the construction of a natural gas compressor station located in Colorado.
- Provided analysis of the owner's damages resulting from the delayed installation of an oil production facility in the Gulf of Mexico due to defects in the fabrication of mooring shackles. Identified the owner's direct costs and time-related costs from its job cost project files.
- Provided change order analysis and negotiation support on behalf of the owner for an active refinery project involving multiple units and four prime contractors.
- Evaluated a claim by the operator of a chemical storage facility associated with delays and cost overruns caused by scope changes and Hurricane impacts. Operator alleged that the cost of the facility significantly increased as a result of owner-caused changes and impacts from Hurricanes Katrina and Rita, and that the owner agreed to compensate the Operator for the Hurricane impacts. The owner alleged that the delays and cost increases were primarily caused by other problems, including mismanagement by the operator, which were not related to the Hurricanes.
- On behalf of the owner, evaluated contractors' claims for delays and cost overruns associated with two offshore gas pipeline projects in Trinidad.
- Retained by the owner of a natural gas liquids extraction and fractionation plant in Illinois involved in arbitration with the electrical and instrumentation contractor. Analysis and opinions provided included contract review, determination of breach of contract, delay analysis, and calculation of cost reimbursements owed to the contractor and damages incurred by the owner. The original contract value was \$10.2 million.
- Retained by the owner of a surfactants expansion project in West Virginia to defend a claim by the electrical contractor for increased costs and loss of productivity. Evaluated standard of care, schedule, causation, labor productivity (including loss productivity due to changes), and damages.
- Evaluated the owner's project management and cost and schedule control procedures for performing major capital projects in Trinidad. Prepared stage gate project development procedures, and developed cost and schedule control procedures.
- Project Control Manager for a major refinery expansion that included ultra low sulfur diesel modifications and oil sands crude integration. The project involved relocating existing units and facilities, modifications and expansions to existing units, and several completely new units.
- Project Control Manager for a gas field development program that included well-site piping design, a gas collection system, as well as condensate and water collection, transport, treatment and disposal.



Telecommunications Facilities

- Provided support services to the project settlement of a \$100 million cable TV installation project. Responsibilities included the direct negotiation of terms.
- Assisted in a multi million dollar claim preparation for a \$350 million cable TV installation project, including the justification both of additional overheads and productivity losses due to client impacts.
- Project Manager for several HFC (hybrid fiber/coax) design projects, with and without walkout services, located throughout the northwest United States.
- Commercial Manager for an EPC telecommunications build-out in Idaho and Montana involving program scheduling, materials procurement and warehousing, and contract administration.
- Provided program management for a multi-project fiber optic build-out of over 2000 miles throughout the 12 westernmost states.
- Assigned to close out field operations of a cable TV build out in the Grand Rapids, Michigan area. Tasks included inventory accounting and disposition, subcontract and vendor close-out, and preparation of final billings to contractor.

Single Family Residential, Apartment/Condominium Facilities

- Provided cost analysis and co-authored an expert report rebutting claims by a general contractor against multiple subcontractors and suppliers regarding the costs of repairs resulting from alleged material and installation defects. The project involved a condominium complex located in Denver, CO.
- Claim preparation, total cost reconstruction, and damages analysis for a resort condominium complex in Colorado.
- Provided cost estimate analysis and contract analysis for a single family luxury custom home located on the Florida coast.

Water Resources, Site Work, and Earth-Filled Dams

- Authored a water supply study for a New Mexico county. Included were analysis of historical flows, study of water rights in place, and conceptual design and cost estimates for new storage options.
- Prepared a feasibility study evaluating over 50 potential power plant sites located throughout the northwest United States. The study included comparative conceptual estimates of site dependant factors for evaluation purposes.
- Conceptual design and cost estimate for a dam and retention pond at a power plant in Kansas.

PROFESSIONAL EXPERIENCE

Long International, Inc.

Littleton, Colorado (2007 to Present)

Mr. Kage 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, and review of bids, estimates, and contract documents. He also provides project management consulting services focused on the development of project cost and schedule control systems.



Jacobs Engineering Group

Golden, Colorado (2003 to 2007)

Mr. Kage served in a variety of capacities, generally involving Project Control Manager and Project Engineer responsibilities. Projects included two ultra low sulfur diesel modifications, a major oil sands crude integration project, and a crude unit yield improvement project. Assignments also included gas field development projects, a process steam line repair project for a brewery, and a small capital expenditure program for a photographic manufacturing facility.

Holloway Consulting Group, LLC

Littleton, Colorado (2001 to 2002)

Performed cost variance analyses and determination of entitlement and damages in support of dispute resolution for several multi-million dollar industrial and commercial projects. Also performed total cost reconstructions and schedule delay analyses. Reconstructed and reconciled the contractor's detailed cost records for an \$18,000,000 construction project in order to resolve over \$1,000,000 in cost accounting discrepancies in pursuit of a cost recovery claim.

Black & Veatch Telecommunications, Inc.

Aurora, Colorado (1998 to 2000)

Project Manager

Project Manager for all Denver based telecommunications projects. Group supervisor of the firm's HFC design group. Responsible for bidding of work, negotiation of contracts, execution of the work, cost control, and billings/collections. While in this position, managed the telecommunications design department into profitability, accelerated receivables, and established work production controls.

Assistant Project Manager

Assistant Project Manager and Project Commercial Manager for all Denver office telecommunications projects, including a \$100 million EPC cable television upgrade project. Also served as the Division Office Control Manager responsible for all project control and commercial activity for the office. With procurement and materials responsibility for the EPC project, managed the purchasing, warehousing, and distribution of over \$8 million in materials and equipment. Also negotiated directly with the owner, major portions of a multi-million dollar project termination agreement.

Black & Veatch

Overland Park, Kansas (1995 to 1998); Orlando, Florida (1993 to 1995); Overland Park, Kansas (1981 to 1993); Kansas City, Missouri (1980); Overland Park, Kansas (1979)

Project Control Manager

Major projects included a 400MW EPC power plant project in Thailand that involved both fluidized bed and combined cycle technologies. Complexities included global contracting and multiple currencies. Also served on the Commercial Management Task Force, the Estimating Process Improvement Team, and the Process Improvement Facilitator Team. For the Thailand project, developed the first application of multi-currency accounting methods. Also maintained consistent and reliable controls, accounting, and risk analysis during a collapse of the Thai economy. Was successful with proposal efforts on three (of 3) major EPC projects.

Project Field Control Manager



Office Manager and Field Control Manager for the construction management office of a 490MW coal fueled power plant project in Florida. Hired and supervised office staff and was responsible for office facilities. In addition, had responsibility for all project control and contract administration functions. Oversaw sensitive programs for craft training, community involvement, and minority business participation.

Estimating Unit Leader

Responsible for all Power Division estimating work as well as the hiring and supervision of staff. Led the group through a major growth and improvement period by tripling personnel, developing historical databases and library, and overhauling and standardizing procedures. Also served on the firm's TQM (Total Quality Management) steering committee.

Project Control Manager

Significant projects include a 2x390 MW EPC coal fueled power plant project in Virginia and a multi-project 2000 mile fiber optic network installation program. Developed and maintained complex accounting records and control systems to reflect the financial participation and performance interaction of 4 consortium partners. Lead scheduler for a 500 MW coal fueled power plant in Arizona.

Project Engineer

Design responsibility for 200 miles of long distance fiber optic network installation in Arizona.

Civil/Structural Design Engineer

Structural steel and concrete design for major components of a 2x850 MW coal fueled power plant in Utah and a nuclear power plant in Oklahoma.

PUBLICATIONS AND SPEAKING ENGAGEMENTS

“World Class Project Control,” delivered at the *Association for the Advancement of Cost Engineering Annual Meeting*, Vancouver, British Columbia, June 1996.