

# Attachment 1

Curriculum Vitae of J.S. Held Engagement Personnel

## Reza Nikain PE, P.Eng., PMP, PSP, CFCC, CCA

Senior Managing Director, Construction Advisory Services



### Key Expertise

- Construction Claims (Delay, Inefficiencies and Damages Quantification)
- Standard of Care (Engineering and Project Management)
- Risk and Management Consulting
- Expert Witness Testimony

### Education

MSc, Engineering Sciences, Rutgers The State University of New Jersey

BSc, Civil Engineering, Rutgers The State University of New Jersey

Executive Education, Managing Conflict and Creating Consensus, Darden School of Business, University of Virginia

Executive Management Training, Management Essentials, Stern School of Business, New York University

### Summary of Experience

Reza has over 35 years of experience in dispute resolution, management consulting and risk management across an extensive range of domestic and international engineering and construction projects.

He has both performed and led teams in the execution of construction and engineering analyses including schedule delay, disruption, acceleration, productivity, inefficiency, workmanship, change orders and damage quantification. He has also conducted standard of care assessments relating to project controls, engineering and design process and project and construction management.

In the areas of management consulting and risk management, he has significant expertise in project and overall risk profiling, industry benchmarking and best practices assessments, risk management training, risk auditing, and claims prevention and management. He has led engagement teams in detailed analyses of procurement strategy, contracting approaches, cost risk assessments, schedule risk identifications and assisted in the development of risk mitigation plans.

Reza's projects experience is global in nature across a variety of sectors including oil/gas (refineries, pipelines, storage facilities, offshore facilities, and LNG complexes) and energy/power (fossil fuel, renewables, nuclear, biomass and power transmission).

He also has extensive expertise with respect to industrial and chemical process plants including ammonia plants, water and water treatment plants, as well as mining and metals projects, manufacturing, hospitality, commercial buildings, high- and low-rise buildings and transit and transportation projects.

### Professional Affiliations & Accreditations

- Professional Engineer (PE) (P.Eng.) several states in U.S. and Alberta, Canada
- Association for the Advancement of Cost Engineering (AACEi), Certified Forensic Claims Consultant (CFCC) and Certified Planning and Scheduling Professional (PSP)
- Project Management Institute (PMI), Certified Project Management Professional (PMP)
- The National Association of Construction Auditors (NACA), Certified Construction Auditor (CCA)
- Adjunct Professor, Civil Engineering and Engineering Mechanics Department, Columbia University, New York (Past)

### Role at J.S. Held

Reza is a Senior Managing Director in J.S. Held's Construction Advisory Services Group.

## Notable Projects:

### Nuclear Energy and Standard of care

- Nuclear Power Plant** – Led a team of experts and presented expert testimony at an ICC hearing relating to a nuclear plant suspension/termination case matter in Taiwan. Issue analysis included assessment of the reasonableness of the costs and EPCM's performance relating to management of extra works, project suspension, and damages stemming from contract termination. Prepared multiple quantum reports presenting the analysis associated with the on-shore and off-shore engineering and management costs associated with the works leading to works termination. Also evaluated the back charge costs relating to allegations of work deficiency and corrective works claimed as part of the pleadings. Presented expert testimony during the hearings.
- North Anna Nuclear Facility** - Led a team of multi-disciplinary engineering and construction experts to analyze various contracting options and the associated cost and schedule risks on the North Anna Nuclear facility for MNES. The scope of the analysis included evaluation the project status, impact of potential regulatory, licensing environment and resource allocation on contractor's risk profile and potential completion schedule and costs associated with potential delays in completion. Provided a comprehensive series of recommendations as to the contracting and risk allocation strategy to assist in framing the scope and contract conditions with the construction contractor.
- Chemical Complex** – Retained as the Project Management standard of care expert on the world's largest single built chemical complex in middle-east with costs in excess of \$25B. Analyzed the EPCM's management performance and offered opinions in relation to management of the constructors that were contracted by the Employer. Analyzed issues relating to compliance with the project execution plans, project and construction management's performance, procurement management and quality Assurance and Control requirements in the backdrop of contractual requirements. Prepared multiple independent expert reports as well as joint expert reports. Presented expert testimony during arbitration.
- Multi-unit Nuclear Power Plant** - Led a team of experts in the analysis of the contracting and execution strategy for a nuclear power plant in Finland. Issues analyzed included assessment of the project schedule, cost to complete, identification of risks to the management's target goals and development of a framework for aligning the management's actions to project risk management requirements. Provided a series of recommendation to management in a report that not only identified the potential extent and nature of the impacts that may influence the project's overall success goals, but also a framework for deploying best practice in screening, procuring, and contracting with the potential international constructors.
- Multiple Nuclear Plants** - Conducted multiple analysis and reviews in the context of Nuclear Power project execution and prudent management actions. Was engaged on reviews, investigation and analysis of nuclear power plants such as South Texas, Comanche Peak, Nine Mile Point 2, and Milestone during the first US Nuclear renaissance. Evaluations included measurement of project delays, evaluation of regulatory environment on cost, budget forecasting, rework, and management actions' prudence. Conducted multiple evaluations of the change and emergent scope analysis on the project's overall economics, testing, commissioning, and start-up. Prepared detailed and comprehensive analyses and reports that were the basis of various expert testimonies during rate hearings.
- Petrochemicals Plant** - Engaged by the Owner to evaluate the EPC's overall project management's standard of care in regard to a high-pressure low-density polyethylene ("HP-LDPE") plant in the Middle East. Analyzed the reasonableness of EPC's baseline manpower plan, reviewed and assessed the qualifications of welders, management of work quality by EPC, and assessed the extent and nature of quality defects on the project. Evaluated the extent of the quality related issues that stemmed from management of quality of the work by the EPC. Prepared multiple reports including joint expert report based on conferrals with the opposing expert.

- **SAGD Plant** - Led a team of project management, delay and damages experts assisting the developer of SAGD plant. The issues related to cost overruns and delays associated with a cost reimbursable EPC contract. Analysis and expert testimony were also related to EPC's project management performance in the context of industry related project management standards and performance. Analysis also involved assessment of the causes of changes, extended period of design and delays in IFC for modular construction as well as delays in the field, labor productivity, invoicing anomalies and damages associated with EPC's poor overall management of its obligations. Prepared multiple expert reports and presented expert testimony during arbitration.
- **Oil/Gas Complex** - Led a team of experts assessing the performance of a cost reimbursable EPC contractor in the backdrop of allegations of failing to meet the standard of care and project management negligence that led to over \$400M in cost overruns. Evaluated all functions of managing a project including resources, vendors/subcontracts, time, cost reporting, control and management. Issue analysis also included evaluation of the cause and quantification of inefficiencies, delays and damages. Prepared a comprehensive report discussing the standards of management applicable to the project type, size and geography and the impact of employer and EPC's decisions to the overall project schedule and cost. Prepared multiple expert reports representing findings and presented expert testimony during the hearings.
- **SAGD Plant** - Led a team of experts assisting the developer of a two-unit SAGD plant with the capacity of 68K barrels of bitumen per day. The disputes stemmed from termination of the EPC due to poor management, delays and ever escalating costs during the project. Analysis involved review of project management, design progress, changes in scope, allegations relating to owner's interferences and the impact of alleged changes to scope, schedule, labor productivity and damages. Conducted detailed analysis of EPC's performance, its management of subcontractors and the causes of delays, labor hour overruns and damages. Also analyzed the actions of the owner post termination and the extent and nature of the time and cost required to complete the project post EPC termination. Prepared multiple expert reports and presented expert testimony during arbitration that resulted in a favorable outcome for the client.
- **Combined Cycle Power plant/Liquid Natural Gas Complex** – Engaged as the Project Management expert by the EPC on claims associated with the first-tier power plant Turnkey Contractor termination on the A\$20B+ LNG complex in Western Australia. Issues analyzed relate to project management's actions before and after contract termination, including requirements for document management, prudence of management's actions relating to the cost to complete post termination and specific issues relating to work packages, work coordination and project management oversight. Issues also involved the reasonableness of replacement contractor procurement, including assessment of the contracting strategy in the backdrop of the status of the project and the remaining scope to complete. Prepared multiple written direct testimonies as well as joint expert reports with the opposing expert for the Tribunal. The case was settled during hearings.

## Power & Utilities

- **Multiple Solar Power Plants** – Retained as the Project Management and cost estimating expert on three Utility grade solar power plant in Texas in relation to a purchase price dispute. The projects involved installation of nearly a million solar modules each and the associated infrastructure. Analyzed the status of the projects with respect to quality, schedule, cost and OH&P at the time of acquisition. Evaluated project management's reasonableness of reporting given the contemporaneously available information. Prepared multiple expert reports that presented cost at completion estimates that differed substantially from the reported forecasts. Presented expert testimony during arbitration.

- **Biomass Plants** - Retained by the EPC and its counsel as expert relating to arbitration on 2 Biomass plants in British Columbia. The disputes generally involved assessment of variations and changed conditions and the associated management's ability to manage schedule, cost and impacts to procurement and construction effort. Analysis also included assessment of the default by the boiler manufacturer, supplier and installer on the overall economics of the projects. The issue analysis included detailed evaluation of the changes in scope of each project, estimation of the level of completion at the time of boiler installer's default, quantification of rework, as well as the impact of changes and out-of-sequence work on resources. Multiple comprehensive expert reports were prepared, and expert testimony was presented at the arbitration.
- **HVDC Converter Stations** - Retained by an Electric Utility in Canada to review and assess the EPC's claims relating to differing site condition, changes in scope, labor productivity, delays in completion and the resulting damages. Led a team of experts to review, investigation and analyze the project records and conducted a comprehensive management review, productivity and delay analysis to identify the root cause of performance shortcomings and the reasonableness of the alleged damages. Assisted the Utility during claims negotiation phase that resulted in an amicable resolution of all outstanding variations.
- **Transmission Line** – Retained by an Electric Utility to assist in the analysis of changes in scope, delays in completion and cost overruns on a 485km, 500kV DC line in Alberta. Evaluated the contractor's performance in managing emergent scope, environmental and site access issues, tower erection performance and stringing activities. Led a team of experts in analyzing the associated time impact, labor productivity and the resulting costs from the issues that were beyond the initially contract's scope. Provided on-going support and expert assistance to engage and facilitate resolution of differences between parties as well as assistance for the rate case filings for the client.
- **Coal Power Complex** - Led a team of experts and presented expert testimony on a Coal power plant in Europe. Issues analyzed included review of the engineering progress, assessment of the engineering changes and their impact to steel fabrication, root cause of changes in the sequence of steel erection, delays and inefficiencies to the overall schedule including resource inefficiencies associated with quality and workmanship deficiencies, changes in scope of work, engineering performance, and damages quantification. Prepared and presented expert report and testimony during an ICC. The client received an almost 100 percent award.
- **Solar Power Plants** - Led a team of experts analyzing project changed conditions, delays and damages on multiple Solar Electric Generating facilities. Reviewed and analyzed various claims relating to the site condition related changes, delays in design and the associated impact on the construction schedule and the resulting damages, including issues relating to liquidated damages. Issue assessment also included review of the panel support design related changes and the requirements associated with the support reinforcement stemming from the changed site condition. Provided assistance and support during the claim's negotiation process.
- **Coal Fired Power Plant** - Retained by Counsel representing an International Coal Fired Boiler vendor manufacturer to evaluate damages associated with changes in scope, delays in completion, and labor productivity and inefficiency and damages. The analysis also included evaluation of the prime contractor's management of the project, in particular the reasonableness and compliance of project controls as compared to the industry practices and the impact of substandard performance on the execution of the overall project. A detailed expert report was prepared that was relied upon by the parties during the ADR process.
- **Floating Power Plants** - Retained by an energy company developing/operating floating simple cycle power plants in Brazil for supply of grid supplemental power to remote location. Disputes related to scope changes, equipment manufacturing delays and start-up and commissioning impacts. Evaluated the impact of client's direction and changes in scope, delays in approval, grid interface related impact on start-up and commission of the floating units. Evaluated schedule delays, impact of scope changes to cost and the related damages. Prepared and presented expert testimony at the ICC arbitration.

- **Combined Cycle Power Plant** - Retained by the Engineer and its counsel on a 1000MW power plant in Middle East. The disputes involved assessment of the changes during post bid period to the scope of work, the associated impact on the engineering and design effort and assessment of the counterclaims associated with the constructor's progress as well as the employer's disruptions during the execution phases. The issue analysis included evaluation of the changes in scope, estimation of the level of completion, quantification of engineering rework, as well as the impact of changes and out-of-sequence work on the field labor, equipment and material procurement. A comprehensive delay, inefficiency and damages quantification report was prepared which formed the basis for expert testimony. The issues were resolved during the ADR process in a favorable manner to the client.

## Oil/Gas, Pipelines

- **Refinery/Pipeline** - Led a team of multi-disciplinary engineering and construction experts to analyze various claims and damages on a multi-billion dollar expansion project of an existing refinery, the associated 1200km pipeline and the new pumping stations. Evaluated a variety of scope variation issues, reviewed the project delivery method and analyzed the contractual expectations and obligations in the context of International contracting practices. The analysis also involved assessment of costs associated with various issues, and allocation of damages based on the root-cause and responsibility analysis. Multiple expert reports were issues for various phases of the ICC arbitration. Presented both written and oral testimony during various stages of the arbitration.
- **Gas Processing Plant** – Led a team of experts and presented expert testimony at an UNCITRAL arbitration relating to performance and allegations against the Mechanical Contractor for negligence, delays, productivity related impacts and cost overruns on a \$1B+ gas processing facility. More specifically, the analysis included evaluation of schedules, labor productivity, sequencing of various activities during testing, rework related impacts and accuracy and reasonableness of estimates at completion. Prepared multiple expert reports representing findings and presented expert testimony during the hearings. The client received a 100 percent award.
- **Ethylene Cracker** - Assisted the EPC contractor on an Ethylene Cracker expansion and the associated support facilities with the analysis and resolution of constructor's claims as well as quantification of additional costs against the owner of the Olefin's complex. Issue analysis included detailed CPM evaluation, labor productivity and inefficiency analysis, assessment of rework and quality related workmanship issues, assessment of changes in scope and damages quantifications. Prepared and presented various findings based on the detailed analysis and participated in multiple ADR sessions that resulted in resolution of all claims.
- **Upstream and Refining** - Retained by Counsel of the EPCM to evaluate claims associated with delays and cost overruns on a Northern Alberta extraction and refining project. Issue analysis included review of agreements and contracts and identification of potential claim categories for required for cost adjustment and schedule recovery initiatives. Participation included discussion of implementation of various project controls initiatives for more proactive control of the project developments.
- **Ethylene Plant** - Led a team of experts analyzing project delays, productivity losses and damages on an Ethylene plant in Middle East. Evaluated claims submitted by Mechanical and Electrical contractors and the overall management's performance including evaluation of the root cause of delays, inefficiencies and changes in work sequence on the project's overall completion date. Issue analysis also included the quantification of design, workmanship and rework on the completion of various critical aspects of the scope of work. Prepared a detailed report of the analysis which formed the basis of the ADR process.
- **Pipeline Construction** – Retained by a Canadian Pipeline/Energy company to lead a team of experts analyzing contractor's alleged changed conditions, productivity losses, delays and damages on a 290KM, 36in gas pipeline in Mexico. Evaluated claims submitted by the contractor and the pass-through claims by subcontractors. Given the client's primary interest to engage in active negotiations, assisted in preparation of response strategy and preparation of analysis to engage with the contractor given the contractor's propositions. Developed and offered a range of resolution options. Subsequently, assisted the client in engaging in the reasoned-based negotiations that ultimately resulted in resolution of the outstanding disputes.
- **Gas Pipeline Construction** – Retained by a Canadian Utility/Energy company to analyze the causes of issues that led to the inability to complete the pipeline and the damages stemming from the impediments on this build and operate project. Prepared multiple reports analyzing delays, issues that

prevented advancement of works including ROW related issues and performance of subcontractors and other parties that contributed to the inability to complete the pipeline and contract termination. Presented expert testimony during arbitration.

- **Oil Pipeline and Pumping Stations** - Led a team of experts and testified at an ICC Arbitration on a \$7B, cross-border Oil pipeline and the associated pumping stations in Canada. Evaluated the EPCM and Contractor's performance and evaluated the root cause of delays and changes in work sequence on the project's overall completion date. Issue analysis also included the quantification and delay impact of design, workmanship and rework on the completion of various critical aspects of the scope of work. Prepared a detailed report of the analysis which formed the basis of the expert testimony.
- **Off-Shore Platform** - Led a team of experts to analyze various claims and damages on a 10Billion+ platform and the associated sub-sea pipeline. Issue analyses ranged from evaluation of risks to the planned commissioning and completion to analysis of constructor's claims and cost overruns. Evaluated a variety of changed conditions allegations, scope variation issues, developer's project delivery method and contractual risk allocation, expectations and obligations. Provided assistance in the context of variations, delays and cost overruns associated with the alleged changed conditions and contractual scope allocations. Also provided assistance in relation to risk mitigation response strategies, planning and execution. Assisted the management on an on-going basis during the project life-cycle.
- **Gas Distribution Network** - Advised a regulated Canadian energy company in the assessment of the risks associated with the capital project expenditures. Evaluated the contract delivery strategy, reviewed and assessed the project schedule and budget and assisted the client in the developing of a comprehensive risk management program.
- **Oil Rig/Platform** - Retained by Counsel representing an International EPC for the analysis of schedule and labor productivity and inefficiencies associated with an oil rig/platform in Latin America. Evaluate the impact of changes in scope, delays in completion, and the resulting damage to various subcontractors involved in manufacturing and assembly of various equipment. The analysis also included evaluation of EPC's management of the project, the reasonableness and compliance of project controls as compared to the industry practices and the impact of performance on the execution of the overall project. A detailed report was prepared for the client and counsel which resulted in a favorable settlement.
- **Off-shore Platform** - Led a team of experts in the analysis of changed scope and damages associated with equipment manufactured for an off-shore platform in Western Africa. Issues analyzed included review of the engineering scope changes, impact on assembly progress, module change impacts to steel fabrication, root cause of changes in the sequence of steel erection, delays and inefficiencies to the overall schedule including resource inefficiencies associated with quality and workmanship deficiencies, and damages quantification. Prepared a detailed report presenting root cause analysis and the related damages that was relied upon for negotiations between the parties.

## Chemical and Industrial

- **Potash Plant** – Led a team of experts to assist the owner of a C\$3.7B, Potash plant with cost overruns in excess of \$1B. The scope involved an increase of the capacity of an existing plant to 2.8mt/a. The modifications involved addition hoist, headframe, surface facility, Reclaim Brine Pump House, and Water Diversion System, tailing system, utilities and off-site facilities. Scope of analysis included assessment of the EPC's engineering, procurement and management performance, delays and inefficiencies during work execution and cost overruns. Developed a comprehensive analysis that identified and quantified engineering and management shortcomings as well as quantification of damages. Prepared a detailed report that formed the basis of the ADR process which led to a favorable settlement.
- **Ammonia Plant** – Led a team of experts and presented expert testimony on a \$600M ammonia plant in Texas. The plant capacity is 750K metric tons of ammonia per year based on by-product hydrogen instead of conventional approach of using natural gas. Issues in dispute related to analysis of means and methods of the EPC during construction and the extent and nature of delays and damages in achieving Mechanical Completion. Prepared expert reports and presented expert testimony.



- **Fertilizer Complex** - Assisted an EPC by providing expert services for the ICC arbitration relating to warranty claims filed by facility owner/operator. The plant was part of an Industrial Complex that was developed to produce 360kMT of ammonia and 1.5M metric tons of granular urea annually. The completed complex was composed of two ammonia plants, two urea plants, and all associated services and utilities. The issues stemmed from the extent and nature of the EPC's performance during the warranty period following Provisional Acceptance and the responsiveness in performing the corrective work and the follow-on allegation of defects and/or improper execution of the base scope. An extensive list of warranty claims were the subject of the arbitration. The assistance involved assessment of the performed work, evaluation of the unresolved warranty claims and analysis and quantification of damages prepared by owner/operator's damages consultant. The finding of the analysis was presented in an expert report for the arbitration. The parties reached an amicable resolution following the release of the expert report.
- **Aluminum Complex** - Led a team of experts analyzing delays and cost related damages on an \$8B Aluminum processing facility in Middle East. The issue analysis included a combination of losses associated with power failure; delays in the construction of the power plant, assessment of rebuild costs and valuation for the Aluminum processing, allocation and quantification of property damage, and business interruption losses associated with the loss event. The resolution of issues required a series of opinions and reports depending on the responsible party and the ADR forum. All construction and non-contractual disputes were resolved in an amicable and favorable manner for the client.
- **Copper Mine** - Led a team of schedule, productivity and cost experts to analyze delays, extra scope, construction management activities and damages on a Copper Mine in Utah. Issue analysis included investigation of practices employed by the construction manager in planning, coordinating and overall management of various aspects of the scope of work and construction contractors. The analysis also included comparison of the overall project Control's performance in the context of the best industry practices for the type of work under construction. A detailed report was issued presenting the impact of various scope related issues on the project schedule, the extend, nature and the responsible party for the critical path impacts, opinions regarding the construction manager's performance in the context of its contractual obligation and best industry practices, and damage allocation to various parties. Shortly after the issuance of the report, the parties reached an amicable settlement favorable to the client.
- **Zinc, Silver Mine** - Led a multi-disciplined team of engineers, project managers, schedule, and productivity experts to analyze delays in completion, resource productivity losses and change order/variations on a Zinc, Silver and other metals Mine in Bolivia. Issue analysis included investigation of changes in the means and methods of facilities' construction program, review of the mining plan and changes to the operation productivity as a result various constructor/operator's actions and/or inactions. The review and analysis also included assessment of the constructor/operator's productivity trends, mining equipment utilization and the influence of preventive and corrective maintenance program on the overall operation. Mr. Nikain presented expert testimony during the Arbitration on the root cause of the changes and delays in completion, standard of care as it pertained to the management of construction of the mine facilities and the associated impact on various mining activities.
- **Steel Plant** - Assisted a member of a tri-venture consortium on a Steel plant in Brazil to analyze and allocate the costs associated with a defaulted contractor. The team of experts that Mr. Nikain led, reviewed the contractual obligations of various parties, assessed the delays in various activities and identified and allocated various concurrent events to the party responsible for the damages. The issue analysis included changes in scope, delays in providing access and work areas, productivity losses associated with concurrent and/or out of sequence operation and costs stemming from increased work scope. The analysis and findings were presented in a detailed report that was utilized during the ADR process leading to an amicable settlement.



- **Steel Processing Facility** - Led a team of experts in the analysis of delays and cost overruns associated with a contractor that was terminated as a result of poor workmanship a \$1B Steel facility in North America. The analysis included review of the project schedules, measurement of delays in completion due to terminated contractor's poor workmanship, identification of concurrent events impacting the critical path and review of the recovery schedule's associated inefficiencies stemming from the needed acceleration effort. A detailed report was prepared based on the findings representing the impact of the completion delays, responsible party, inefficiencies to the labor force, the observations relating to the replacement contract's work plan. The findings and observations were relied upon and were utilized during ADR that led to a favorable settlement.
- **Sludge Treatment Facility** - Led a team of experts analyzing project delays, productivity losses and damages on the Sludge treatment facility. Analyzed changes in scope, schedule of performance, impacts associated with the original design package and the overall management's performance including evaluation of structural steel, equipment installation, DCS system changes and the root cause of delays and changes in work sequence on the project's overall completion date. Issue analysis also included the quantification design, workmanship and rework on the completion of various critical aspects of the scope of work and the associated damages. Prepared a detailed expert report and presented testimony relating to the analysis and findings.
- **Lulu Island Wastewater Treatment** – Assisted the contractor to evaluate claims and change orders relating to construction of new solids and liquid streams as well as upgrades to existing facilities for a Sewerage and Drainage District. The project experienced numerous changes that delayed the work, required acceleration to mitigate some of the delays which also caused works inefficiency. Evaluated the extent of change order related impacts to the project schedule and resource productivity. Prepared a detailed impact/responsibility allocation analysis and quantified damages to various parties. Assisted in ADR process that resulted in the resolution of claims.
- **Chemical Intermediates Complex** - Led a team of experts to assist one of the integrated team members on the construction of this grassroots chemical intermediates complex for a US multi-national Chemical Company. The client was awarded a turnkey contract for detailed engineering and procurement of all equipment and material, and construction. Provided assistance during project startup and commissioning with a focused on assisting the client with preparing variation packages to facilitate resolution of all pending and outstanding contractual matters. The issues analyzed included scope changes, the value of work completed and the extent and nature of schedule and productivity related matters. All additional costs and schedule modification were resolved through a multi-stage negotiations with the Chemical company representatives.
- **Steel Processing Plant** - Led a team of engineers, project managers, schedule delay, labor productivity and cost experts to analyze delays, design changes, out-of-sequence work, additional works and damages on a steel plant in Canada. The analysis included evaluation of schedules, changes to work sequence, assessment of work front and work area availability on labor productivity, changes in labor force efficiency in the context of the expected productivity and measurement of variations as a result of multiple concurrent events. The analysis also included a comprehensive evaluation of costs associated with each change during the execution and quantification of the damages and allocation to various parties. A detailed report representing various issued was issued that was relied upon during the litigation phase.

## Mark W. Cohen BSc, MBA, PE, PMP

Senior Managing Director, Construction Advisory Services Global Practice Leader



### Key Expertise

- Scheduling/Schedule Delay Analysis
- Cost Analysis/Damage Quantification
- Construction Claims
- Contract Assessments
- Loss of Productivity Analysis
- Project Management
- Expert Witness Testimony

### Education

MBA, International Business, Fairleigh Dickinson University

BSc, Civil Engineering, Rensselaer Polytechnic Institute

### Professional Affiliations/ Memberships/Licenses/Training

Licensed Professional Engineer (PE) - New Jersey and Pennsylvania

Certified Project Management Professional (PMP)

National Society of Professional Engineers  
Project Management Institute

American Society of Civil Engineers

Association for the Advancement of Cost Engineering (AACE) International

### Project Geographical Experience

U.S., Mexico, Argentina, Colombia, Venezuela, Brazil, Canada, Spain, France, Greece, Portugal, Netherlands, Italy, UK, Lithuania, Bulgaria, India, UAE, Saudi Arabia, Bahrain, South Africa, Egypt, Indonesia, Philippines, Russia and China

### Summary of Experience

Mark has over 30 years of dispute resolution, project advisory, claims analysis, and risk management experience, spanning a wide range of domestic and international projects, including oil & gas, power, petrochemical, process and infrastructure facilities. Mark has extensive experience in the analysis of construction disputes, preparation of construction claims, and the provision of litigation support and expert witness testimony services. He has managed the performance of construction and engineering analysis including schedule delay, disruption, acceleration, change orders, productivity, causation and responsibility, cumulative impact, differing site conditions, workmanship, damage quantification, business interruption, project controls, and termination. He has also conducted standard of care assessments relating to project controls, engineering and design process and project and construction management.

Prior to joining J.S. Held, Mark held various leadership positions at some of the world's largest professional service's firms. In these roles, he was responsible for providing advisory services based on his experiences related to construction/project management, claims prevention, risk management, project design and development, management evaluations, construction audits, policies and procedures development, scope change management, and feasibility studies. Specifically, he consulted on schedule development, construction management, contract administration, cost estimating, project controls, procurement, startup and commissioning, project close-out, claims management training, and value engineering.

### Expert/Testifying Experience

Mark has presented expert witness testimony in an array of domestic and international venues including AAA, ICC, and UNCITRAL arbitrations, as well as U.S. Courts. He has testified in over 30 matters involving large and complex construction projects with claim values typically in excess of US \$100m and ranging well in excess of US\$1bn. Areas of testimony have included schedule delay, productivity, cost and damages, scope change, and project management performance. In addition to testimony in formal adversarial proceedings, Mark has presented at numerous mediations and alternative dispute resolution venues.

### Role at J.S. Held

Mark is a Senior Managing Director and J.S. Held's Construction Advisory Services Practice Leader. In that capacity he is tasked with leading and managing J.S. Held's overall construction advisory services globally. Mark also serves in the capacity of lead expert on some of the practice's most complex and large dispute consulting engagements. In this area he routinely oversees analysis teams and provides strategic advice to clients.

### Languages

English

### Contact

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## Notable Projects

### Nuclear Power and Standard of Care

- **Multiple Nuclear Plants** – Led a team of multi-disciplinary engineering, construction, accounting and financial experts to analyze issues related to a purchase price dispute involving 2 major nuclear power plant construction projects. Areas of focus centered on the analysis and assessment of engineering, procurement and construction performance including but not limited to progress, productivity, cost and schedule data. Analyses were performed across the spectrum of craft disciplines including evaluations of historical performance to planned / forecasted levels for ETC and EAC. Specific analytical focus on project controls cost and schedule related data in terms of providing a reasonable basis for project management decisions and overall project forecasting. Prepared multiple reports in support of the entity which purchased the facilities.
- **Oil & Gas Complex** – Managed and supervised a team of professionals engaged by the EPCM Contractor regarding the design and construction of a 15 MMTA grass root fuel refinery in India. The EPCM's scope included the engineering, procurement, expediting, tendering, construction management and supervision, pre-commissioning, start-up, commissioning and performance test runs for AVU, NHTU, CCRU, FGDU, Alkylation Unit, Butane Isomerization Unit, SWS, ARU, SARU, SRU Units, and offsite and utilities of the Project. The analyses centered on issues of project management standard of care, scope change, schedule delay, productivity inefficiency, cost and damage quantification. The results of the analyses were summarized in an expert report that was utilized during an arbitration proceeding and negotiations with the Owner.
- **Petrochemical Complex** - Led a team of experts engaged by the Owner to perform a lessons learned assessment and performance audit of the design and construction of a \$12B petrochemical facility. Specific areas of analysis included an assessment of the overall management of the project including adherence to standard industry practice for time, cost, scope, procurement, quality, communications and risk management. An analysis was also performed of the chosen contract and project delivery mechanism. The results of the assessment and audit were memorialized in multiple reports and presentations to the Owner's Board of Directors.

### Power & Utilities:

- **Hydroelectric Plants** - Currently managing and supervising a team of professionals engaged by the turbine and generator Equipment Supplier for four (4) hydroelectric power plants in the United States. Areas of focus include an analysis of additional costs and damages sustained by the Equipment Supplier as a result of scope change and schedule delay. The plants were constructed using a multi-prime contracting mechanism. Results of the analyses were memorialized in 4 expert reports. Expert depositional testimony has been provided and trial testimony is scheduled for the end of 2022.
- **IGCC Plant**- Managed and supervised a team of professionals engaged by a joint-venture of three international design-build contractors regarding the analysis of issues and claims associated with the design and construction of a heavy oil Integrated Gasification Combined-Cycle Power Plant Project located in Sicily, Italy. This multi-unit plant was designed to process, in an environmentally acceptable manner, high sulphur residues from a nearby refinery, to produce 500 MW electrical power and to process steam. Oversaw the analysis of the joint-venture's project management and execution, and issues of schedule delay, acceleration, disruption, productivity inefficiency, project management, cost analysis and damage quantification. Presented expert testimony regarding the analyses at an UNCITRAL Arbitration in Geneva.
- **Cogeneration Plant** - Managed and supervised a team of professionals engaged by the Owner/Operator of a 400 MW cogeneration power plant located adjacent to a chemical processing facility in the Netherlands. The power facility was constructed under a lump sum turnkey contract. Oversaw the performance of the schedule delay, project management, disruption, cost and damage quantification analyses. Presented expert testimony regarding the performed analyses at an International Chamber of Commerce (ICC) Arbitration.

- **Combined Cycle Plant** - Engaged by the EPC contractor regarding the design and construction of a 830 MW combined cycle power plant in the Northeast United States. The work included an analysis of schedule delay, labor inefficiency and additional costs related to the supply and erection of major equipment components. The assessment centered on delay and inefficiency during the supply and erection of the HRSGs including issues related to component quality, adherence to design requirements and sequence of supply as alleged by the mechanical subcontractor. Generated an expert report and provided expert witness testimony at an AAA Arbitration in the United States.
- **Coal-Fired Plant** - Engaged by a major equipment supplier regarding the design and construction of a 1600 MW supercritical coal-fired power plant in the Midwest United States. The work included the analysis of schedule delay (related to the achievement of Substantial Completion and the delivery of major equipment components), labor inefficiency, and additional costs related to the manufacturing, supply, start-up and commissioning of boiler and turbine equipment components. Generated an expert report, expert rebuttal report and provided expert witness testimony at an AAA arbitration in the United States.

Similar services performed on other Power & Utility Projects:

- Coal Fired Power Projects in Europe, China and the United States (including facilities in West Virginia, Wisconsin, Pennsylvania, Louisiana, Mississippi, Illinois and Indiana)
- Gas and Oil Fired Power Projects in Europe, Middle East and the United States (including facilities in New Jersey, Illinois and California)
- Hydroelectric Power Projects in the United States (including facilities in Michigan and Washington)
- Biomass Power Projects in Europe and the United States (including facilities in Georgia and Virginia)
- Wind Power Projects in Europe and the United States (including Indiana and West Virginia)
- Transmission & Distribution Projects in the United States (including Pennsylvania, West Virginia and Virginia)

## Oil & Gas / Petrochemical

- **Refinery Project** - Managed and supervised a team of professionals engaged by a consortium of two major international Engineer-Procure-Construct (EPC) Contractors, regarding the design, construction and rehabilitation of several process units comprising the \$2 billion refinery capital program, including all associated equipment, tankage, utilities, buildings, piping and tie-ins with existing facilities located in Mexico. The project also included a pipeline in excess of 1000 km. Supervised the review and analysis of the consortium and owner claims in excess of \$1.4 billion. Provided written and oral expert testimony regarding the analysis of scope change and costs at an International Chamber of Commerce (ICC) Arbitration.

Similar services performed on other Oil & Gas / Petrochemical Projects:

- Petrochemical and Refinery Projects in Europe (including Lithuania, Russia, Netherlands, Spain, France, United Kingdom and Italy) Middle East, North America (including United States, Canada and Mexico), South America (including Argentina and Venezuela), China and India.

## Process & Industrial

- **Fertilizer Plants** - Managed and supervised a team of professionals engaged by a major international EPC Contractor regarding the design and construction of three Fertilizer related plants in Europe and Africa:
  1. Ammonia Production Plant (2700 ton/day capacity)
  2. Fertilizer Complex
    - a. Ammonia Production Unit (1200 ton/day capacity)
    - b. Urea Production Unit (1575 ton/day capacity)

- c. Urea Granularization Unit (1575 ton/day capacity)
- 3. Urea Granularization Plant (2000 ton/day capacity)

Provided claims analysis services related to issues pertaining to scope changes, site access, schedule delay, labor and equipment inefficiency and the quantification of damages. Analyses have been utilized to support ongoing claim negotiations with various project constituents as well as internally for revenue recognition and forecasting.

- **Ammonia & Urea Facility** - Managed and supervised a team of professionals engaged by the EPC Contractor regarding the design and construction of a major process facility to annually produce 360,000 metric tons of ammonia and 1.5 million metric tons of granular urea in Venezuela. Supervised the evaluation of the unresolved warranty claims, as well as the review and analysis of damages quantified by the Owner. These services included the review and analysis of the employed damage quantification methodology and cost estimates. The analyses were summarized in an expert report submitted during an ICC arbitration procedure, which was utilized to generate a settlement between the parties.

Similar services performed on other Process & Industrial Projects:

- Groundwater and Process Treatment Facilities throughout the northeastern United States
- Environmental Remediation Projects throughout the northeastern United States
- Steel and Metals Facilities, Middle East and United States (Alabama and Pennsylvania)
- Landfill Projects (New York, New Jersey and Virginia)
- Pharmaceutical Plant, New Jersey

## Infrastructure

- **Fiber Project** - Managed and supervised a team of professionals engaged by the design-builder regarding the installation of an approximate 1500 mile long fiber optic communications system from Houston, Texas to Los Angeles, California. Supervised the analysis of issues involving route changes, permit issues, scope change, schedule delay, project management and cost damages. The results of the analyses were summarized in an expert report during an arbitration proceeding, which was utilized to generate a settlement between the parties.

Similar services performed on other Infrastructure Projects:

- Various Water Main, Sewer and Road Rehabilitation Projects in the United States (New York, New Jersey)
- Various Water / Wastewater Treatment Facilities in the United States (New Jersey, New York, Connecticut, Massachusetts, Maine)
- Various Water Supply Systems, northeastern United States
- Various Highway, Bridge and Road Projects in the United States (including Florida, West Virginia, Kansas, Texas, New Jersey and Pennsylvania)

## General Buildings

**Hotel Facility** - Managed and supervised a team of professionals retained by the Owner regarding the design, construction and renovation of a \$250M high-end hotel facility in New York City. The project involved demolition and the renovation of the existing hotel and adjacent facilities. Supervised the analysis of change orders, schedule delay, productivity inefficiency, cost assessment and the quantification of damages. The results of the analyses were summarized in expert testimony provided during an AAA arbitration.

**Golf Complex** - Managed and supervised a team of professionals retained by a General Contractor to review Project and claim documentation submitted by the Contractor regarding construction of a new 18-hole

“championship style” golf course and country club in Jakarta, Indonesia. Performed a schedule delay and acceleration entitlement analysis that demonstrated a total time extension due to the Contractor for Critical Path delays beyond its control. Also reviewed claims submitted the Contractor to evaluate the merit of the requested entitlement and the corresponding Owner’s Project Engineer’s response to the claim submissions. Expert analyses were employed to negotiate a settlement.

**Office Tower** - Managed and supervised a team of professionals retained by a General Contractor for this 36-story high-rise building in Jakarta, Indonesia to prepare an independent report on the merit of the Contractor's claim for a time extension. The Contractor claimed that its scope of work was adversely impacted by Owner changes and disrupted by the Owner's designated subcontractors and suppliers. The final Expert Report demonstrated how the Owner's changes and nominated subcontractors (there were more than 80) delayed and disrupted the Contractor's work. As a result, the Contractor and the Owner amicably resolved their dispute.

**Multi-Use Facility** - Managed and supervised a team of professionals retained by the Owner to provide Dispute Resolution assistance and to perform a Schedule Delay Analysis on a new resort which included a five-star hotel, spa, convention center and casino. Initial analysis efforts included an assessment of all the Critical Path Method (CPM) schedules submitted by the Contractor to determine the critical paths for these schedules and offer opinions regarding these paths relative to information being given by the Contractor to the Resort. Additionally, a schedule delay analysis was executed for the entire project, including review of the issues pertaining to: insufficient labor, mismanagement, and poor quality workmanship. Analyses were memorialized in an Expert Report submitted during an AAA Arbitration proceeding which resulted in an amicable settlement and resolution of the dispute.

Similar services performed on other General Building Projects:

- Various High-End Retail, Commercial, Hospitality and Residential Facilities in the United States (New York, New Jersey, Nevada)
- Capital Improvement Projects for Private and Public Universities in the United States (New Jersey)
- Federal and State Courthouses in the United States (New York and Missouri)



## Robert E. Strahle

Managing Director – Construction Advisory Services, US Practice Lead



### Key Expertise

- Project Management
- Cost Analysis & Damages
- Schedule Delay Analysis
- Contract Review
- Project Controls / Process Improvement
- Standard of Care
- Expert Witness

### Education

Executive MBA, Rutgers University Business School, *magna cum Laude*

Graduate level courses in Civil Engineering, Rutgers State University

B.S. Civil Engineering, Virginia Tech

### Languages

English

### Summary of Experience

**Rob is a** registered Professional Engineer in New Jersey **with over 30 years of experience** in the engineering and construction industry in North America, Canada, Europe, Middle East, Asia, and Africa. **His experience includes** managing complex projects for an EPC contractor, resolution of construction disputes including expert testimony, preparation of construction claims, construction cost assessments, fraud and forensic investigations, and project controls process improvement. **Rob** has presented expert witness services in an array of domestic and international venues including AAA, ICC, and U.S Courts.

**Prior to JS Held**, Rob spent 11 years with a global professional services firm **as part of the** Infrastructure and Capital Projects Practice, **and over 19 years with** engineering and construction firms. **His experience includes** roles as a field engineer, project manager, and program manager, on commercial, state, and federal projects, throughout the design, build, and operate lifecycle.

**As a consultant** to the construction industry, Rob has advised on projects in multiple countries across multiple sectors, including process and industrial plants, oil & gas and petrochemicals, manufacturing facilities, power (including hydro, biomass, nuclear, fossil fuels, utilities), mixed-use commercial/residential developments, natural resources, healthcare/education, and civil infrastructure.

### Selected Professional Affiliations & Accreditations

- Licensed Professional Engineer
- Beta Gamma Sigma – International Business Honor Society
- Certified Project Manager – Parsons Project Management Certification Program
- EPA and OSHA 40-hour H&S Training and Supervisory Training for Hazardous Waste Operations
- US Army Corps of Engineers Certification for Construction Quality Management
- NJDEP Underground Storage Tank Closure and Subsurface Evaluation - past
- U.S. Air Force Reserve Officer Field Training, McConnell Air Force Base, Kansas

### Role at J.S. Held

**Rob is a** Managing Director in the Construction Advisory Practice of J.S. Held and the **practice leader for the United States**. He **focuses on** dispute resolution services as well as consulting related services to contractors and owners on process improvement, forensic investigations, and project management. **Rob's additional expertise areas of** risk advisory services include developing capital programs/program management offices for owners, claims consulting, construction revenue recognition guidance, and merger and acquisition due diligence analysis. **Rob** has presented expert witness services in an array of domestic and international venues including AAA, ICC, and U.S Courts.

## NOTABLE PROJECTS

### OIL & GAS

- **Combined-Cycle Power Plant, Minnesota.** Engaged by Counsel for an EPC Contractor in disputes against subcontractors in arbitration proceedings related to the design and construction of a combined-cycle power plant as part of power upgrade in an active oil refinery. Expert Report, Expert Rebuttal Report.
- **Active Refinery, New Jersey.** Operations Manager as part of a global Program Management Office (PMO) for a global oil and gas manufacturer responsible for managing a full-time project staff office at an active refinery. Day to day responsibilities included managing field and engineering activities, site safety, budgeting, contract compliance, cost estimating, successful project delivery, and profit and loss goals. Assisted client with all phases of environmental clean-up, including investigation, remedial action, operation and maintenance, and supporting a spill response. Also assisted client with multiple cost assessments in relation to pre and post project cost situations for ongoing and annual reserve events.
- **Active Refinery, New Jersey.** Project Manager for a global oil and gas manufacturer to design and build a soil/sludge/sediment excavation, stabilization, and solid waste management unit closure project at an operating refinery within the 100-year floodplain. Work included soil mixing and cement stabilization, mechanical sludge excavation, transportation, demolition, slurry wall construction, sheet pile installation, and cap installation using a multi-layer geosynthetic system. Performed extensive geotechnical and drainage testing during design and construction. Was successful in negotiating a No Further Action from the agency so the impacted real estate could be turned into valuable wetland natural resource damage offset property.
- **Active Refinery, New Jersey.** Project Manager for a global oil and gas manufacturer to design and build a saltwater tidal marsh wetlands construction. Responsible for managing the permitting, geotechnical and biological design, cost estimating, construction, and long-term corrective action and monitoring. Prior to wetlands restoration, designed and operated a temporary dewatering system to dewater the proposed wetlands restoration area and neutralize acidic water prior to discharge to an onsite treatment facility.

### TRANSPORTATION & INFRASTRUCTURE

- **Multiple Highway / Bridge Projects, United States & Canada.** Engaged by a major international EPC Contractor regarding the analysis of scope change, delays and costs related to the design and construction of several major highway / bridge projects in North America and Canada. Provided claims analysis services related to issues pertaining to scope changes, schedule delay, labor and equipment inefficiency, and the quantification of damages. Analyses have been utilized to support ongoing claim negotiations with various project constituents as well as internally for revenue recognition and forecasting.
- **Infrastructure Project, New Jersey.** Expert Testimony for damage quantification of an infrastructure project in the northeast United States. Prepared expert demonstrative exhibits on damages including use of RS Means estimating software, analyzed the work product prepared opposing experts for the opposing counsel, and presented expert witness testimony in American Arbitration Association (AAA) proceedings.
- **Multiple Infrastructure Projects, Pennsylvania.** Project Manager for state government contract which included the design-build of a groundwater treatment system, installation of

public water infrastructure, and operation & maintenance for several underground storage tank sites operating and maintaining product recovery systems and in-situ bioremediation technologies. Provided operational and project management assessments to improve the metrics of the operations and lower long-term life-cycle costs.

- **Multiple Infrastructure Projects, New Jersey.** Inspector for residential development construction including roads, sewers and sidewalks. Prepared construction estimates for bid specifications.

## INDUSTRIAL MANUFACTURING

- **Global Steel Manufacturer Facility Upgrade, Illinois.** Engaged by Counsel for a dispute with a mechanical contractor related to design and construction as part of facility upgrade in an active steel manufacturing facility. Expert Report, Expert Rebuttal Report, Testimony, Trial pending, Third District Circuit Court, Madison County, Illinois.
- **Fertilizer & Ammonia Plants, Italy, Russia, Africa.** Engaged by a major international EPC Contractor regarding the design and construction of three Fertilizer related plants. Provided claims analysis services related to issues pertaining to scope changes, site access, schedule delay, labor and equipment inefficiency and the quantification of damages. Analyses have been utilized to support ongoing claim negotiations with various project constituents as well as internally for revenue recognition and forecasting.
- **Manufacturer of Specialty Chemicals, Global.** Program Manager for a global manufacturing client with overall responsibility of client relationship building, budget execution, program operations, safety, contract and project compliance, and capital plan forecasting.
- **Former Mercury Processing Plant, New Jersey.** Project Manager for a global manufacturer client as part of a design/build contract. The project included extensive geotechnical testing and design for both deep and shallow excavation of contaminated material near structures which required both sheetpile and cofferdam shoring systems, building and rail movement monitoring systems, and air sampling. Work performed in a floodplain and included removal and replacement of active roads and rail lines, transportation and disposal coordination, construction dewatering and treatment, wetlands restoration, sediment dredging, and capping. Provided project and construction management support for the client including project scheduling, cost estimating, subcontractor procurement, risk analysis, cost assessments of design elements, environmental reserve support, and legal support. Responsible for preparation of pre-design investigations, agency submittals, permitting, design, and construction documents.
- **Advanced Oxidation Water Treatment Plant, Pennsylvania.** Lead Design Engineer and Construction Manager for the design-build of an advanced oxidation groundwater treatment system as part of an EPA Corrective Measures Implementation. The responsibilities included geotechnical testing both in soil and bedrock, preparing work plans, design calculations, drawings, schedules, and construction specifications, contractor bids; procuring the contractor; supervising and implementing construction; performing the final test and startup of the system; and O&M.
- **Remedial Groundwater Treatment Plant, New Jersey.** Assisted in preparing the design and work plan for an Air sparge/Soil vapor extraction system and groundwater treatment project. Coordinated and implemented the installation and operation of the pilot test that was used as the design basis for the feasibility study and final design. The project was awarded a Technical Excellence Award.

- **Soil Remediation, New Jersey.** Project Engineer for a bioremediation project to clean up both toluene and heavy oil impacted soil/groundwater. Assisted in the design and implementation of the remedial action work plan, aquifer test (including onsite treatment system), and bioremediation of petroleum impacted soil. Innovative onsite bioremediation of 10,000 CY of impacted soil resulted in significant cost savings in treatment and disposal.
- **Gold Mine, South Africa.** Engaged by a global mining firm to perform a project execution readiness assessment for the second phase of a deep underground mine project in South Africa. The assessment took place at the mine focusing on the project's management framework and project establishment plan. The objective of the assessment was to run a diagnostic gap analysis culminating in a plan of action to achieve project execution and operational readiness. Workshops were held to facilitate the initial gap assessment of the management framework including risk management and delivery frameworks and the project establishment plan including surface, underground, and support services as well as people and systems readiness.
- **Multiple Iron Ore and Copper Mines, United States & Canada.** Engaged by a global mining firm to perform a capital investment lifecycle end to end review. The audit was performed across multiple international projects and the objective was to evaluate the effectiveness of the controls in place at a project level to address key risk factors e.g., regulatory risk management, project management, within the capital investment lifecycle and apply those lessons-learned across the global program. Mr. Strahle was tasked with the assessments of two projects both in the United States and Canada.
- **Water Treatment Plant, Virginia.** Project Manager and Engineer for several remedial treatment systems under a US Navy contract that included air sparging, soil vapor extraction, pH control, metals removal, sludge processing, air stripping, biological growth control, and oil/water separation/recovery technologies. Responsibilities included on-site implementation of construction, maintenance of equipment, managing field personnel, preparing reports and invoices, and waste management. Received two consecutive 100% ratings on the cost-plus fixed fee performance-based contract. Conducted process optimization and procedural reviews to improve system operation, project reporting, and ultimately reduce the life-cycle costs for the systems.
- **Thermal Oil Recovery and Water Treatment Plant, Virginia.** Project Engineer for a US Navy design-build thermal oil recovery and water treatment system which included horizontal directional drilling, one-pass trenching, metals precipitation, dissolved air floatation, organic clay and carbon filtration, and cooling to return the heated water to local watershed. Responsibilities included preparing design calculation and procurement packages for sitework, stormwater drainage, process pumps, and process tanks.
- **Fuel Recovery Extraction Plant, New York City.** Supervised and implemented the installation/operation of a design-build dual phase vapor extraction recovery system for separate phase Jet A fuel at a bulk fuel farm at an international airport. The recovery and treatment technologies used included high vacuum extraction, oil/water separation, low profile air stripping, liquid phase carbon absorption, biological control treatment, and vapor phase carbon treatment. Responsibilities included preparing design calculation and procurement packages for process equipment, start-up and commissioning, as well as operation and maintenance.
- **Redevelopment Brownfield Soil Remedial Investigation, California.** Project Engineer for a remedial investigation at a US Army Superfund site. Performed Level B subsurface investigation activities, including geotechnical drilling and excavation in an abandoned

military landfill. Contaminants included medical waste, UXO, and blister and nerve agents (mustard gas).

## POWER & UTILITIES

- **Hydroelectric Power Plants, Ohio.** Engaged by a major equipment supplier (turbines and generators) in the design and construction of four hydroelectric plants in North America in disputes against the owner, including Expert Reports and testimony in United States District Court.
- **Multiple Power Utility Projects, New York.** Engaged by Counsel to support several contractors claims against a major power utility including analyzing damage claims, schedule delay analysis, supporting negotiations, and expert reports and testimony.
- **Combined-Cycle Power Plant, Middle East.** Engaged by counsel to assist a major contractor/supplier in performing a cost assessment and damage quantification of certain claims for a power plant in the Middle East as part of an international arbitration (ICC) proceeding. Prepared affirmative and rebuttal expert reports, and assisted lead expert during arbitration proceeding.
- **Nuclear Power Plants, Southeast US.** Engaged by equipment supplier to provide analysis of labor and equipment inefficiency and costs related to the construction of two nuclear power plants in North America including disputes with the EPC Contractor in a court proceeding and a purchase price dispute as part of the acquisition including an analysis of the major projects impacting the net working capital.
- **Combined-Cycle Power Plant, Middle East.** Engaged by Counsel for the EPC Contractor in disputes against the owner in an arbitration proceeding analysis of costs related to the design and construction of a power plant in the Middle East.
- **Coal-Fired Power Plant, Michigan.** Engaged by Counsel for analysis of scope changes and schedule delay related to the design and construction of a coal-fired power plant in North America.
- **Combined-Cycle Power Plant, Middle East.** Retained by a major contractor/supplier to assist with forensic and contract review services including an assessment of tender prices with respect to select power generation facilities in the Middle East
- **Several Power Generation Facilities, United States.** Engaged by a major contractor/supplier to perform an assessment of potential claims and cost estimates for several power generation facilities in the United States.

## EDUCATION

- **State University, Ohio.** \$400M - Assisted a State University's strategic procurement decision in connection with a \$400 million capital construction project, by providing an evaluation of possible contracting alternatives. The evaluation included identifying risk factors in each alternative, conducting scenario analysis and simulation to determine likely range of cost and schedule outcomes for each approach, evaluating the benefits of each approach, and providing mitigation strategies for each approach. The decision was also supplemented with an analysis of the current construction schedule and issues affecting the overall completion date.
- **Private University's Construction and Facilities Services Department, Ohio.** Performed an assessment of a private university's Construction and Facilities Services department to help identify risks, control gaps, and opportunities for improvement in the planning, design, and

construction processes. The focus was on the organization of the departments and the key controls for each in the areas of governance, project management, reporting, procurement, scheduling, change orders, and close-out.

## HEALTHCARE

- **Greenfield Research Campus, Shanghai.** Provided advisory services in connection with a major research campus in Asia for a multinational pharmaceutical company. The services focused on assisting the client in developing program and project level organizational structures as well as developing an appropriate governance model to effectively manage and control the cost, schedule, scope, risk, and quality of the project. After a baseline gap assessment was conducted, a project risk analysis was completed, and recommendations were made on the program and project level. Worked in conjunction with the client in Asia at the project site over several months to implement the process improvements and assist management with the daily operations integration. The issues identified included items such as: in-country experience of the various team members (i.e. PM/CM, architect, law firm, etc.); proper execution of the quality assurance/quality control plan; understanding the variability in the quality of construction (material and workmanship) as compared to western standards and the associated cost impacts; variable productivity of the labor force; availability of skilled labor; use of various “standard” contracts common in a particular country as opposed to an international standard contract; etc.
- **Hospital, Massachusetts.** Assisted internal audit team on an assessment of the environmental recovery program at a major hospital in the Northeast. The purpose of the assessment was to determine if controls and monitoring procedures were in place regarding the environmental recovery process, asset management, and preventative maintenance, specifically related to the recovery of power, ventilators, air conditioning, heat and other core operations important to patient care. We worked closely with the hospital management structure including the Emergency Response Group, Engineering (Operations), Facilities (Construction), Environmental Health and Safety, and Clinical to review observations and recommendations as well as develop management action plans.
- **New Hospital Construction, New Jersey.** \$500M - Conducted a construction cost benchmarking study of a planned 240-bed new green field hospital project and subsequently performed quarterly cost assessment services on the payment applications, change orders, and financial reports in connection with the \$500-million GMP contract and nearby renovation project. Identified numerous instances of cost savings associated with overbillings and unsubstantiated costs.
- **University Healthcare System, Ohio.** Performed a management assessment of a university healthcare provider’s organization, processes and systems in anticipation of a significant capital expenditure related to the expansion of its existing facilities. Identified enhancements to its organizational structure, staffing, policies/procedures, communication, systems, reporting and controls. Was retained after the initial evaluation, to assess construction manager pay applications and change orders for compliance with contract terms and conditions for the construction on a quarterly basis.

## MIXED-USE RESIDENTIAL/COMMERCIAL / HOSPITALITY

- **Mixed-Use Residential Project, New Jersey.** Performed an assessment of historical construction hard and soft costs with independent estimate utilizing RS Means estimating software. Analyzed the work product prepared by opposing experts and presented expert



witness testimony in the Superior Court of New Jersey. Also performed assessment of construction accounting of the project including review of general ledgers.

- **United Nations Headquarters, New York City.** Performed a technical construction assessment on a \$2 billion long-term capital master plan being executed in New York City to replace deteriorated systems, meet current building codes and standards, and to improve the environmental performance for the complex. Scope of work was to assess the cost overruns, identify cost savings and recoveries, and develop lessons learned. The assessment focused on initial framework and business case, including the original project design and budget; project governance, organizational structure, reporting, and risk management; swing space leasing and strategy; contracts, procurement, and the use of consultants; reasonableness of the cost overruns, including incurred and forecasted costs; payments and change orders, for cost recovery purposes
- **Mixed-Use Commercial Development Project, New York City.** Engaged by an investment firm who was informed by its development partner that there were potential cost overruns for a mixed-use commercial development project under construction. The Project included condominium units, retail, and parking with total costs expected above \$500 million. Prior to meeting with its lender to ensure continued funding, the investment firm had to quickly assess the actual costs incurred to date, estimate the cost to complete the project, as well as confirm whether cash disbursements were completed as reported. Identified suspicious payment applications, fictitious change orders, excessive pricing, and material misrepresentations.
- **Forensic Investigation Real Estate Development, New York City.** Engaged by counsel to assist a major global mining firm with the investigation of the construction costs and businesses transactions related to a real estate development remediation effort performed at a legacy manufacturing site. The work included a forensic audit of the incurred costs, computer analytics of accounting systems, and the public record searches of various entities and persons involved with the project.
- **Casino, New Jersey.** Engaged by the owners and investors of a \$2.5 billion entertainment and resort development project in New Jersey to investigate an overrun of more than \$125 million in construction costs. Analyze the costs in payment requisitions and draw requests and identify where the overrun occurred, and which party was aware of the issue.
- **Hotel Chain, United States.** Provided construction cost assessments to a financial institution in connection with its analysis of a credit facility backed by mortgage related assets including a franchised hotel portfolio. The work included reading contractual documents, conducting interviews, providing site inspection services, and evaluating payments to date as well as estimate-to-complete in relation to reported values.
- **Mixed-Use Retail Project, New York.** Performed an assessment of common area expenses for a non-residential portion of a mixed-use retail project. The assessment focused on potentially mismanaged expenses that were allocated by the outgoing managing entity of the project. Several questionable expense allocations and issues with contract compliance were identified which resulted in a settlement for significantly less than what was originally billed.
- **Residential Housing, New York.** Prior to changing out an existing management partner on a large residential portfolio asset, assessed whether the current managing partner's allocation of expenses were consistent with existing partnership agreements. Copies of historical operating financial reports focusing on individual expense line items were assessed and significant variances and items of non-conformance with partnership agreements were identified. Specific testing was performed around compliance with the allocation of expenses

as well as on the work performed on the units including costs paid against the various contracts and the construction costs incurred by major expense category.

- **Commercial Demolition Project, New York City** Engaged by counsel to provide litigation support for a multi-national construction manager as part of a significant construction claim in New York City. The work included performing analysis and assessment of costs incurred relative to work performed within the original and supplemental agreements, additional costs associated with extra work, and costs associated with counterclaims alleged by the Owner and surety. Analyzed the work product prepared by experts for the opposing counsel and lead the preparation of expert rebuttal reports.

#### **OTHER – M&A, REVENUE RECOGNITION, BANKRUPTCY**

- **Global E&C Firms, Global.** Lead construction subject matter expert for engineering and construction firms by providing assessments on risky projects as part of the financial audits, mergers, and acquisitions. Assessments include evaluating revenue recognition for current or probable change orders or claims and associated risks, and status of the project schedule and potential exposure to penalties that could affect revenues or profitability. This included US and international EPC firms constructing energy and infrastructure projects. Notable projects include: biomass energy power plants in Europe, downstream oil refineries in Middle East, chemical refining plants in Russia, Europe and United States.
- **Merger & Acquisition Due Diligence, United States.** Assisted M&A deal team to support the pre-acquisition due diligence of a large global engineering, procurement, construction firm purchasing the carve out business of another global engineering, procurement, construction firm. Reviewed work-in-progress financials to select risky or high-profile projects and assessed each of the selected projects for financial, contractual, and operational risks that could likely affect the net working capital, and overall purchase price.
- **Merger & Acquisition Due Diligence, United States.** Assisted M&A deal team to support the pre-acquisition due diligence of a mid-size construction firm being purchased by a private equity firm. Reviewed work-in-progress financials to select risky or high-profile projects and assessed each of the selected projects for financial, contractual, and operational risks that could likely affect the net working capital, and overall purchase price.
- **Merger & Acquisition Due Diligence, United States.** Assisted M&A deal team to support the pre-acquisition due diligence of a mid-size engineering, procurement, construction firm being purchased by another mid-size engineering, procurement, construction firm. Reviewed work-in-progress financials to select risky or high-profile projects and assessed each of the selected projects for financial, contractual, and operational risks that could likely affect the net working capital, and overall purchase price.