OVERVIEW

Long International’s standard work plan for providing engineering and construction claims analysis and expert testimony services is to use a “phased approach.” Our task assignments are dependent on the work already performed by our client, the availability of project documentation, the issues in dispute, and the timing of required work products that are defined by the arbitration/litigation schedule. Therefore, we can make any necessary adjustments to our typical work tasks described herein.

PHASE I:

Project Orientation, Preliminary Document Review, and Work Plan Development

During Phase I, we first review any pleadings, statements of arbitration, contractor claims, and owner statements of defenses and counterclaims. We then perform a preliminary review of the relevant project documents prepared prior to and during the execution of the project. Depending on the scope of our assignment, the documents that we often review include, but are not limited to, those that describe the scope of work and basis for the contractual relationship that was developed, cost estimates, proposals, the drawings and specifications that were used to develop the control budget, pre-contract correspondence and meeting minutes, the contract terms and conditions, execution phase correspondence, meeting minutes, monthly progress reports, native baseline schedule and schedule update files, daily construction reports, job cost reports including control budgets and monthly cost reports, photographs and videos if available, pay requests and invoices, change orders, requests for information, submittals, material delivery records, subcontracts, and any other relevant documentation.

If many of the aforementioned documents are in a language other than English, we need to receive either 1) English translations of the documents if they exist, or 2) electronic or clean hard copy versions of the documents for translation to English. Optical character recognition (OCR) software is used to convert the hard copies to electronic files for automatic translation followed by human translation clean-up.

In addition, we interview key project personnel and discuss more completely the project problems and issues. If possible, we also like to visit the project site.

It normally takes two to six weeks to perform this Phase I work. The Phase I duration, depends on the complexity of the case, the volume and availability of key documents, translation requirements, availability of client personnel, as well as any other tasks that our client requests to be performed during Phase I.

After we have performed a preliminary review of the available documentation, we prepare preliminary observations and recommendations regarding the claim and counterclaim issues, including our preliminary observations and opinions on the relevant issues. We also develop Phase II work plans, schedules, and budgets corresponding to the scope of work necessary to meet our client’s objectives. We then discuss our proposed tasks to ensure that our approach is consistent with our client’s needs.
PHASE II:
Document Database Development and Preliminary Analysis

During Phase II, we perform tasks required by our client as part of the arbitration/litigation schedule. In addition, other potential Phase II tasks often include the following:

1. Develop Document Database
2. Analyze Contract
3. Review Invitation to Bid, Job Instructions, Procedures, and Contractor's Proposal
4. Review Drawings and Specifications
5. Review and Prepare (as required) a List of Problems and Issues for Claims and Counterclaims
6. Review Approved and Unapproved/Outstanding Change Orders
7. Prepare a Preliminary List of Alleged Delays
8. Identify, Organize, and Review Schedule Data
9. Identify any Schedule Software Conversion Requirements
10. Review Schedule Analysis Methodology in any Submitted Claims
11. Identify and Review Key Schedule Information
12. Identify, Organize, and Review Contractor's Man-hour Data, including Control Budget Planned Man-hours and Actual Man-hours
13. Identify, Organize, and Review Bulk Material Quantity Data
14. Identify, Organize, and Review Cost Data
15. Develop Summary Schedule Variance Comparisons
16. Develop Macro Man-hour Variance Analysis
17. Develop Macro Quantity Variance Analysis
18. Develop Macro Productivity Analysis
19. Develop Macro Cost Variance Analysis
20. Evaluate and Select Schedule Analysis Methodology Options
21. Develop Phases III and IV Work Plans, Budgets, and Schedules
22. Provide an Overall Assessment of the Strengths and Weaknesses of Issues

PHASE III:
Detailed Analysis

After performing a preliminary analysis of the documentation and technical, schedule, and cost issues, Long International then performs detailed analyses that support opinions expressed in our expert reports. The task descriptions that are listed below are definitive analyses that substantiate the preliminary findings, but they may be tailored to the needs of our client, the actual scope of work and opinions required, and the deadlines of the arbitration/litigation.

1. Prepare Issue Packages for Contractor's Claim Issues and Owner's Counterclaim Issues
2. Prepare Issue Summaries/Proof Charts
3. Prepare Detailed Narratives with Document References
4. Develop Cause-Effect Relationships
5. Prepare Detailed Schedule Analysis
   a. Prepare List of Delays/Start and Duration Variance Tables
   b. Prepare Schedule Activity Start and Duration Variance Graphics
   c. Identify Responsibility for Activity Start and Duration Delays
   d. Prepare Detailed Schedule Analyzing Calculations Based on Agreed Upon Methodologies
   e. Prepare Schedule Analysis Tabular Results
   f. Prepare Schedule Analysis Graphics
6. Prepare Detailed Damages Analysis

Our Detailed Damages Analysis provides adequate detail and supporting spreadsheets to fully explain the amount of the claim and/or counterclaim. Damages may arise from a variety of problems, and we endeavor to calculate specific damages for each problem if possible from the data available. The cause-effect relationships linking the damages to the entitlement for each problem are demonstrated, if possible. We often develop a Damages Analysis Matrix for both man-hours and costs. This matrix delineates work activities and cost types on one axis and variances between budget/contract values and actual/projected values along the other axis. These man-hour and cost variances are then allocated to problems, if possible. Subtasks may include:
   a. Evaluate Reimbursement of Bid and Calculation of Bid Error
   b. Assess Owner's Responsibility for Direct Cost Issues
   c. Assess Responsibility for Quantity Overruns
   d. Assess Contractor's Responsibility for Performance Problems
   e. Assess Responsibility for Unresolved Change Order Requests
   f. Allocate Contractor's Delay Costs
   g. Allocate Responsibility for Man-hour and Cost Overruns Associated with Welding Problems and other Rework Issues
   h. Analyze and Allocate Loss of Productivity Man-hours and Costs
   i. Prepare Detailed Man-hour Variance Analysis Matrix
   j. Prepare Detailed Cost Variance Analysis Matrix
   k. Assess Liquidated/Actual Damages
   l. Assess Costs Associated with Owner's Counterclaims
   m. Prepare Damages Tabular Results
   n. Prepare Damages Analysis Graphics

PHASE IV:
Report Preparation

The work products resulting from our detailed analyses may take many forms, including but not limited to claims/requests for equitable contract adjustments, reports supporting the defendant's positions against claims, PowerPoint presentations, or expert reports. One or more expert reports may be required for arbitration or litigation. Rebuttal reports may also be required to critique the reports of other experts. In addition, some arbitrations require that opposing experts meet to attempt to narrow the issues. Reports may be required to document this effort. For each claim document, presentation, or expert report, our work plan is as follows:

1. Prepare Draft Claims Documents/Presentations/Reports
2. Review with Client our Draft Claim Documents/Presentations/Reports
3. Prepare Final Claim Documents/Presentations/Reports

PHASE V:
Arbitration/Litigation Testimony

For each phase of arbitration or litigation, expert testimony may be required. Our work to perform this testimony includes the following:

1. Prepare for Testimony
2. Provide Expert Testimony at Depositions
3. Provide Arbitration/Litigation Experts' Testimony

Experience Matters...
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4. Provide Arbitration/Litigation Testimony

Experience Matters...
Arbitration/Litigation Support Throughout Project As Required

Other tasks that our clients may request Long International to perform during arbitration or court proceedings include:

1. Develop Requests for Arbitration
2. Develop Detailed Memorials/Statements of Claim for Arbitration
3. Develop Detailed Responses and Counterclaims
4. Assist with Settlement Negotiations
5. Prepare Presentations for Use at Mediations
6. Assist with Developing Document Requests from Opposing Party
7. Assist with Developing Deposition Questions for Opposing Witnesses
8. Assist with Developing Interrogatories
9. Prepare Presentations for Use at Mediations
10. Prepare Issue and Event Timelines
12. Prepare Multimedia Graphics Presentations for Use at Trial or Hearing
13. Prepare Document Indices
14. Attend Depositions as Requested by Counsel
15. Perform Other Tasks as Requested by Our Clients

Cost / Damages Matrix

(All Costs Shown in $000)

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<thead>
<tr>
<th>Project Work Activities</th>
<th>Original Contract Value</th>
<th>Approved Change Orders</th>
<th>Current Contract Value</th>
<th>Pending Change Orders</th>
<th>Bid Error</th>
<th>Contractor Cause of Problems</th>
<th>Inaccurate P&amp;IDs</th>
<th>Increased Piping Quantities</th>
<th>Delay</th>
<th>Disruption/Loss of Productivity</th>
<th>Total Actual Costs</th>
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Potential Compensable Damages

Issue No. 1: $1,200
Issue No. 2: $1,800
Issue No. 3: $2,000
Issue No. 4: $1,000

Total Actual Costs: $26,200

Potential Claim Value: $21,525

TOTAL COST OVERRUN = $36,095

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