International Experts in Claims Analysis, Dispute Resolution, and Project Management for Process, Oil & Gas, Pipeline, Power, Industrial, Infrastructure, and Building Construction Projects

LONG INTERNATIONAL

Quantum/Damages Analysis: Product Deficiency or Defective Project Performance Claims

OVERVIEW

When delay, acceleration, design changes, or other events cause capital cost overruns on a construction project, contractors try to recoup their expenses, and owners strive not to pay more than a project "should" cost. In addition to the financial problems that a facility's increased capital cost cause, if an owner's operating costs increase, then its business will be less profitable. A deficient product may also cause lost sales. Quantification and recovery of damages associated with increased capital costs, increased cost of production, and product deficiency are critical to a profitable business.

Job cost reports and general accounting ledgers do not label product deficiency or defective project performance costs as "lost profits," "damages due to defective work," or "abnormal production equipment maintenance costs." Cause-and-effect engineering and economic analyses determine the entitlement for recovery of these costs, basing the cause on facts and relevant data. Financial, accounting, and economic principles and methods form the basis for damages conclusions.

Measuring damages involves quantifying the amount of money required to put a contractor, owner, or other party in as good a position as it would have been in had a contract been performed according to specifications, terms, and conditions. Our damages experts evaluate the impact of non-performance on project outcome and, sometimes, on an owner's business profitability. Measurement of product deficiency and defective project performance damages is complex, requiring careful causation analysis from an engineering and construction perspective combined with elements of business operations, economics, and accounting.

Long International provides a combined approach to damages quantification, integrating the expertise of its engineering, accounting, and financial professionals.

An Integrated Approach

Projects are conceived to take advantage of an opportunity or solve a problem. Plants or facilities are planned to meet the needs of the market. Increased energy, more efficient transportation, improved pharmaceuticals, new consumer products, and other market needs create opportunities to develop a project, make an investment, build a facility, and operate it for decades.



Product deficiency or defective project performance claims occur when events cause a process plant or manufacturing facility to be delayed in its completion, operate less profitably, or require abnormal maintenance costs. Our engineering and construction experts study the causes of delay to project completion and identify who is responsible. We can also determine if flawed production design resulted in a product that differs from specifications, and our financial experts examine the economic impacts of these problems.

The Foundation for Financial Damages

Product deficiency or defective project performance may include defective construction, flawed design, delays in meeting end-customer orders, and regulatory penalties. These problems can also cause economic damages such as current and future warranty costs, ongoing abnormal maintenance expenses, lost profits, and regulatory fines.

Long International's engineering and construction experts and financial experts work together to analyze damages, identifying the causes of problems and linking cause with effect. For example, when our engineering experts determine that faulty construction has caused product deficiencies resulting in loss of business, our economic and financial experts quantify the dollar effect and strengthen the overall argument by evaluating and eliminating other causes. Economic analysis considers:

- The plaintiff's profitability on similar past projects
- Market size for similar products
- Competitor experience and success on similar bids
- Impact of new technology on the market for similar projects
- Existence of qualified labor and supervisors to perform the work
- Financial and/or bonding capacity to add new work

To establish causation and eliminate other potential causes of damages requires technically sound accounting, financial, economic, and business analyses together with engineering causation analysis. Long International combines all these methods to build a strong damages foundation for appropriately quantified damages.

Supportable Results

As we have stated, product deficiencies can lead to damages. Whether the product is a facility or an engineered system, damages may include incremental revenues less costs that would have been earned, excluding a party's actions or inactions, *e.g.,* lost profits.

In analyzing damages, Long International evaluates accounting and financial information according to Generally Accepted Accounting Principles (GAAP). Our experts' financial and accounting backgrounds enable them to consider how management uses underlying data to prepare accounting and financial information, evaluate the costs in cost estimates and job cost reports, and determine whether claims are for real costs incurred or based on standard rates or scheduled costs. After our experts have prepared a claim or set forth a claim evaluation, they know how to present the results of their work in ways understandable to the decision-making audience.

Any claim requires careful analysis to determine solid association of causation with effect and proper measurement of damages. Long International's experienced engineers and financial professionals provide an integrated approach for superior claim analysis. While often complex, the economic damages are often significantly greater than the underlying construction claim!

Quantum/Damages Analysis: Product Deficiency or Defective Project Performance Claims





The Project Life Path of some construction projects is not always a smooth journey.

The Project Life Path

Projects are conceived to take advantage of an opportunity or solve a problem. The decision to make an investment is made. An owner plans a facility and enters engineering and construction contracts to develop and build it. The business is intended to return a targeted profit and operate for decades. That is the Project Life Path—and it may not be a smooth journey.

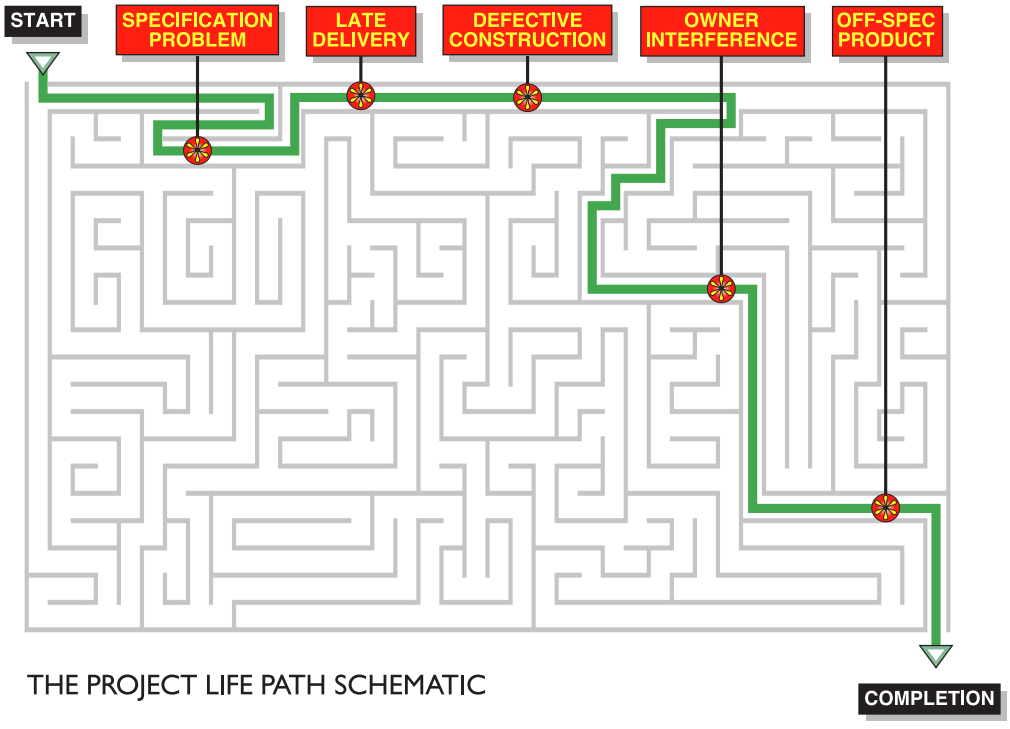
The journey may include production that does not meet original specifications, *i.e.,* production resulting from a flawed specification that a design engineer developed while working from an engineering firm's proprietary process. The journey may include, for example, defective construction of pneumatic production casting systems, resulting in decreased product throughput. Or the construction project may be delivered one year late, causing the owner to lose a market opportunity to sell its product and gain a market advantage.

Long International has the engineering, accounting, financial, and economic professionals to evaluate an owner's claims of product deficiencies and defective project performance. These types of claims often require expert engineering analysis to establish technical cause and effect. Next, financial and economic analyses address the financial impact, whether that is increased production cost, increased cost to sell, additional material handling cost during production, increased warranty costs, or even lost sales.

Our combination of financial, business, and engineering perspectives is also important in evaluating whether damages are compensable even when a contract excludes "consequential damages." Specifically, our integrated approach allows us to evaluate whether damages are necessary consequences of contract breach or are "foreseeable."

For example, our engineers can help assess whether increased maintenance effort would necessarily flow from a given design flaw. Likewise, our financial and accounting professionals can opine whether the types of costs claimed necessarily result from the extra maintenance efforts claimed. Legal counsel may then argue that "foreseeable" damages should not be excluded as consequential damages.

Damages are often claimed for economic losses beyond increased construction costs. While these damages may be harder to identify, and contractors' or owners' books and records generally do not capture them as claimable costs, they may be significant and, in the end, determine whether a project is financially successful. Long International's integrated engineering and financial approach to construction claim analysis is critical to a complete analysis of compensable product deficiency or defective project performance claims.



THE PROJECT LIFE PATH SCHEMATIC

LONG INTERNATIONAL

Long International, Inc. • 10098 Whistling Elk Drive • Littleton, Colorado 80127-6109 U.S.A. • Telephone: (303) 972-2443 • long-intl.com