

Shipyard Claims

The nature of most shipyard work is such that it is almost impossible for the customer to write a bid specification which can adequately define the full content of work to ultimately be performed during the contract.

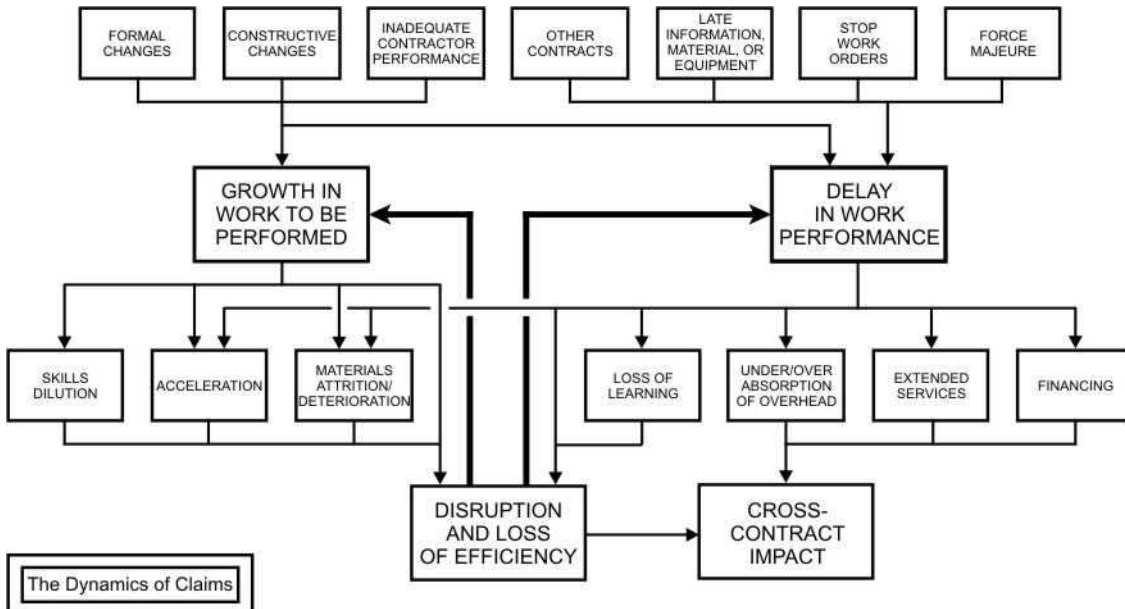
While commercial shipyard projects have a history of being competitive fixed-price contracts, the current economic environment is also forcing government contracts to be very competitively bid and mostly fixed price in nature. Along with this movement toward fixed price contracts is the production of work scope definitions that have virtually all contingencies removed in an effort to keep bid prices to a minimum. When work scopes and project schedules are trimmed to contain only the bare necessities for accomplishment of the technical objectives of the project, there will usually be unanticipated conditions or problems that require departures from the strict interpretation of the work scope or schedule. With little flexibility in project execution, the impact of these changed conditions and contract changes becomes a critical factor in the shipyard's ability to make a profit.

Shipyard claims are extremely diverse. This is primarily due to the varied nature of the work performed, such as repair, maintenance, overhaul, upgrade, and new construction. Each of these work types requires different modes of planning and operation by the shipyard as well as the widest set of work skills for any industry in the world. Shipyard labor must be skilled enough to perform in an environment that rarely presents standardized or repetitive work. Rather, the work is in varying environments of weather, space, accessibility, and material condition. Consequently, even without changes in the work scope, the best of planning must change to the realities of work performance.

Claims Costs and Complexity

For shipyards to be able to recover additional costs, they must be able to convincingly state and properly support assertions of impact either by the buyer's actions or inactions. This can be complicated and time consuming for both the shipyard and the buyer. It can also be costly to both parties. If a claim is in dispute before the project is complete, it is costly in terms of project performance. If the claim cannot be negotiated, it is costly in terms of time and money to support arbitration or litigation.

Determining and understanding the facts is usually the most difficult part of preparing a claim. As shipyard projects become more technically demanding and complex, contract claims become more technically oriented, requiring sophisticated analysis of the project's technical aspects for proper assessment and fault determination. The work required to prepare a claim is determined by the specific factors leading to that claim, their complexity, and their interaction. The complexity of claims causing factors has a high variability commensurate with the nature of the work performed, and the possible interactions between causal factors can be very large. The diagram below shows the major claims causing factors and their primary relationships while highlighting the feedback loop created by disruption and inefficiency.



Claims Development

Some claims are simple, deal with one or two change or impact issues, and the parties responsible for the contract impact are readily identifiable. These claims are usually amicably negotiated by the contract parties with little or no requirement for in-depth analysis or help by outside parties. More complicated claims require sophisticated analyses which are usually justifiable by the amount of money in dispute and usually require considerable help from claims specialists.

For most small and medium-sized claims, there are three principal elements: growth in work to be performed, delay in work performance, and disruption and loss of efficiency. For larger claims there is usually a considerable amount of impact that can be claimed on other work in the shipyard during the period of performance on the contract generating the claim. This is known as cross-contract impact and can be present in smaller claims as well, depending on the nature of the claim. These relationships can be seen in the diagram above.

The first step in any claim analysis should be a thorough examination of the contract documents. While it is essential that project familiar personnel participate in this examination, it is usually beneficial to have the principal analysis effort performed by personnel that are not biased by their previous participation in the program. The types of contract documentation which should be analyzed are:

- Contract Terms and Conditions
- Contract Specifications
- Contract Drawings
- Bid Estimate/Budget



- Change Orders/Delivery Orders
- Monthly/Quarterly Reports
- Planned and Progressed Schedules
- Contractual Correspondence
- All Project Records
- Internal Project Memoranda
- Internal and External Project Pertinent E-mail

Work Change Impacts

All government and many commercial shipyard contracts contain language defining procedures for incorporating changes. These clauses are based on the concept of an equitable adjustment in price. Because of a lack of large contracts and legal staffs, small and medium-sized shipyards are frequently not fully aware of their rights under these contract provisions and fail to take adequate action to assure their rights to price increases for contract changes.

When formal changes generated by either the customer or the shipyard fail to produce an agreed change to the contract during the contract defined procedures for changes, the shipyard must convert the unadjudicated change to what is usually referred to as a Request for Equitable Adjustment (REA). This a mini-claim that can stand alone or be submitted in conjunction with other REAs.

The examination of all contract related documentation is usually followed by interviews of key project personnel, and experienced claims analysts are able to use all this information to determine the actions or inactions of the buyer that resulted in changes to the contract. These changes discovered after the fact and not included in the formal change process are usually referred to as informal or constructive changes.

Once these constructive changes are identified, an analysis should be undertaken to determine when the changes occurred, assign responsibility for the changes, and quantify all impact of the changes. The results of this analysis should contain a detailed explanation of all causal factors leading to the change and be priced in as transparent a manner as possible.

The magnitude of such an analysis is determined by the complexity and scope of the project, the complexity and scope of the claim issues, the availability and nature of the claim's data, and whether the analysis will be used for negotiation, arbitration, or litigation. This analysis effort might be undertaken by the shipyard in its entirety, an outside firm like Contralytics might be engaged to conduct the analysis, or a shared analysis can be performed by the shipyard and a consulting firm.

The total size of a claim is determined more by the nature of the changes experienced than by the number of changes incurred. For instance, a change might impact only two craftsmen working in a small compartment on additional work that required only six total hours. Or a change might be the implementation of a new welding process that impacted large amounts of work from the time of implementation until project completion. Whether the change is small or large, it must be presented as a self-explanatory package containing all the information required for its review by the buyer and ultimately by any adjudicating body,



should that be required. This is particularly true for government contracts where individual changes are frequently disassociated from the body of the claim and provided to various technical experts for their review.

Schedule Related Impacts

Even though shipyard contracts are written with as much specificity as possible, the customer almost always fails to write a bid specification which fully anticipates the contract work as finally performed. Yet, it is important to the customer that the completion date of the work be fixed so the myriad of other activities required to complete the project or to minimize lost operating time can be properly integrated. Whenever there are formal or constructive changes to the contract and there is a fixed completion date, the contract will suffer either delay to the contract completion date, or disruption and inefficiency, or both.

Delay can result from actions or inactions of either the shipyard or the customer. Delays caused by the customer frequently result from:

- New work items added to the contract
- Changes to the scope of existing work
- Greater than anticipated work on open and inspect items
- Late or inadequate customer response to reports
- Late customer furnished information or equipment
- Customer direction having an unanticipated impact

Many contracts contain provisions for the assessment of liquidated damages due to delay in project completion when that delay is the responsibility of the shipyard. These damages can be extensive, which makes it imperative that the responsibility for any delay resulting in a slippage of the completion date be accurately assessed to the proper contract party.

What frequently happens in shipyard contracts is that the work grows substantially due to one reason or another and management concentrates on solving production problems in its efforts to avoid delay in contract completion. These efforts usually include an acceleration in the production effort by such means as additional shift work and overtime, and the costs of this acceleration effort should be borne by the delay responsible party.

When delay in contract completion is experienced, the shipyard is frequently forced to absorb costs in its overhead which are in excess of the amounts built into the contract price. The courts have consistently upheld the rights of contractors to recover these costs where it can be shown that the delay resulting in the increased overhead costs is the responsibility of the customer.

Delays in project completion can often result in significant direct costs which are, in whole or in part, functions of time. In most cases these time-related functions, which are essential to completing the overall project, continue for the full construction period without regard to the level of other ongoing work of the project. These increased costs should be borne by the delay responsible party.

While a schedule or delay analysis can take many forms, the most commonly accepted form is the use of the Critical Path Method (CPM) of scheduling. This method has been the invoked standard for major construction programs of the



Government for 50 years, and is usually required for both scheduling and progressing contracts. All but the smallest of U.S. shipyards utilize some form of computerized scheduling.

Contralytics can utilize virtually any of the industry standard CPM programs for schedule analysis or can apply non-computer techniques if data is not available for this court preferred approach.

Disruption and Inefficiency Impacts

The term “disruption and inefficiency” refers to the degradation of performance experienced when changes occur to the project work that prevents implementation as originally planned or as would normally be possible without such changes. Once the full process of contract performance is scheduled and implementation begun, little flexibility remains for responding to contract changes resulting from actions or inactions of the buyer that obstruct, alter, or cause any variance in the planned balance of the shipyard's resources or the planned performance of its contractual obligations without causing disruption and inefficiency. If the contract is only one of many in which the shipyard is engaged, it is even more difficult to respond to any change in schedule or scope without adverse impact.

The cost and time of performance for the workscopes of changes are determined directly in the development of the change estimates, but disruption and inefficiency caused by the changed work on the unchanged work it affects must be estimated by more subjective techniques. This degradation of performance can occur in any element of the contract work including planning, design and engineering, estimating, management, and progressing as well as the more obvious degradation of production performance. Performance degradation resulting from disruption usually manifests itself as a loss of efficiency, as an extended period of performance, or both.

Inefficiency, the corollary effect of disruption, is characterized as the performance of work at a level of proficiency which is substandard. This usually results in a work product which takes longer to perform, and/or uses more resources, and/or requires rework, and/or impacts other work.

While individual changes can create disruption and inefficiency for unchanged work that it impacts, it is possible to have multiple changes impacting the same unchanged work. In this event, the actual impact experience is more than just the sum of its single change impacts; that is, there is a cumulative impact. This cumulative impact must also be determined.

Over the last 30 years, the U. S. Government has produced or had produced a great number of studies relating to contract claims in general and to disruption estimation as a part of these more global study efforts. The general conclusions of these studies with regards to disruption estimating techniques is that while some techniques make greater use of objective data than others, all the techniques rely at some level on subjective assumptions or evaluations.

Because of the complexity and feedback mechanisms of disruptive effect, a purely objective analysis and statement of disruption is not feasible. In a 1977 report on Navy claims, the Government Accounting Office summed up the



problem with disruption estimating in the following manner: “The most complex claim element, and thus the one least subject to analysis and documentation, is disruption.” The estimating techniques then and now are still basically the same, and they can be placed in the three basic categories described below:

- Subjective Causal Factoring - relies almost exclusively on the subjective judgment of the estimator and his familiarity with shipyard production processes. The primary example of the technique is known as the “Range Method.” Good for commercial and government contracts.
- Objective Causal Factoring – called objective because it utilizes fixed factors; however, there is no reasonable rationale for the derivation of factors or their relationships in the calculations other than “experience.” The primary example of this technique is known as the NAVSEA Method, which was originally developed for the forward pricing of disruption into changes. Designed for Navy contracts.
- Dynamic Modeling - uses dynamic modeling techniques which use objective data as input to the model, but the model itself is based in large part on assumptions and judgments made by the basic algorithms which seek to represent the nature and interrelationships of all the principal elements of a company’s management and operations. Good for commercial and Government contracts but expensive and esoteric.

The selection of which technique to use for estimating disruption and inefficiency should be matched to the nature of the project’s claim. Both its selection and performance should be by parties with specific experience, since its credibility will depend on experience no matter which technique is selected. Depending on the nature of the project’s contract changes, the value of an equitable adjustment for disruption and inefficiency could be a significant percentage of the total adjustment requested by your claim.