# 5

# Contracts and Claims


5.1 Introduction
5.2 Contracts
Form of Agreement
5.3 Contract Administration
Progress Reports • Quality Records • Change Order Records • Correspondence Files • Drawings
5.4 Reasoning with Contracts
5.5 Changes
5.6 Notice Requirements
Notice Timing • Form of Notice
5.7 Oral Changes
5.8 Contract Interpretation
5.9 Defective Specifications
5.10 Misrepresentation
5.11 Differing Site Conditions
Type I Conditions • Type II Conditions
5.12 Claim Preparation
5.13 Dispute Resolution
5.14 Summary



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## 5.1 Introduction

Engineers and architects excel in their mastery of the technical aspects of planning and design, while contractors are highly proficient in identifying cost-effective process to build complex modern structures. However, when evaluated on the basis of their knowledge of contracts, many of these professionals do not understand the importance of the contract language that forms the basis for their relationship with the owner or with each other. Even small contracts have complex contract relationships, due to increased regulation of the environment and safety. Few would argue that the proliferation of contract claims consultants and attorneys reflects positively on the ability of designers and contractors to deliver quality products without litigation. While it is commonly heard that contractors actively seek claims for profit, few reputable contractors would pursue a claim that is frivolous or subjective. Owners and design professionals reflect their heightened awareness of the potential for claims by using restrictive contract language.

This section will focus on the basics: elements of contracts, contract administration, interpretation of some key clauses, the common causes of claims, and resolution alternatives. The type of contract is an important indication of how the contracting parties wish to distribute the financial risks in the project. The discussion on interpretation of contracts presents common interpretation practices and is not intended to replace competent legal advice. Good contract administration and interpretation practices are needed to ensure proper execution of the project contract requirements. In the event that circumstances do not

evolve as anticipated, a claim may be filed to settle disputed accounts. Owners and engineers often view claims as the contractor's strategy to cover bidding errors or omissions. Those who have successfully litigated a claim are not likely to agree that claims are "profitable" undertakings. A claim is a formalized complaint by the contractor, and the contractor's right to file for the claim is an important element of contract law. In many situations, court decisions related to unresolved claims help to define new areas of contract interpretation. These disputes often relate to some particularly troublesome clause interpretation and serve to provide contract administrators additional guidance on contract interpretation.

## 5.2 Contracts

*Sweet [1989, p. 4] describes contract formation as follows:*

Generally, American law gives autonomy to contracting parties to choose the substantive content of their contracts. Because most contracts are economic exchanges, giving parties autonomy allows each to value the other's performance. To a large degree, autonomy assumes and supports a marketplace where participants are free to pick the parties with whom they deal and the terms upon which they will deal.

The terms of a contract will be enforced, no matter how harshly some language treats one of the parties. Equity or fairness is occasionally used as the basis for a claim, but the courts seldom use equity to settle a dispute ensuing from a contract relationship. The most common contract relationships created by modern construction projects are:

- The owner and contractor(s)
- The owner and design professional
- The contractor and subcontractor(s)
- The contractor and the *surety*

If the owner hires a construction manager, this creates an additional contract layer between the owner and the designer or contractor. These contracts form the primary basis of the relationship among the parties. It is important that project-level personnel as well as corporate managers understand the importance of the contract and how properly to interpret the contract as a whole.

A contract is a binding agreement between the parties to exchange something of value. Contracts are generally written, but unless there is a statutory requirement that prohibits their use, oral contracts are valid agreements. The basic elements of a valid contract are:

- Competent parties
- Offer and acceptance
- Reasonable certainty of terms
- Proper subject matter
- Consideration

*Competent parties* must be of a proper age to enter into a contract and must have sufficient mental capacity to understand the nature of the agreement. *Offer and acceptance* indicates that there has been a meeting of the minds or mutual assent. A contract cannot be formed if there is economic duress, fraud, or mutual mistakes. The *terms* of the contract should be clear enough that an independent third party can determine whether the two parties performed as promised. While this is rarely a problem in public construction contracts, the private industry sector has a greater potential for problems, due to more informal exchanges in determining boundaries of a contract. Contract *subject matter* must not be something that is illegal.

The last element of a valid contract is *consideration*. Contracts are generally economic exchanges; therefore, something of value must be exchanged. Consideration need not be an equal exchange. Courts will uphold seemingly unbalanced consideration if all the elements of a contract are met, and there is no evidence of fraud or similar problems.

### Form of Agreement

The actual form of agreement, which describes the contracting parties' authority, the work in general, the consideration to be paid, penalties or bonuses, and time for performance, is often a brief document containing under a dozen pages. This document is seldom the issue of concern in a dispute. More commonly, the documents that detail the relationships and project requirements are the source of disagreement. Primarily, these documents for a construction project are the general conditions, special conditions, technical specifications, and plans.

Contract types can be separated according to a variety of methods. In keeping with the concept of a contract being an economic exchange, contracts can be identified as either *fixed price* or *cost reimbursable*. Fixed price contracts establish a fixed sum of money for the execution of a defined quantity of work. These contracts are often termed *hard dollar contracts*. Fixed price contracts fall into two major categories: lump sum and unit price. *Lump sum contracts* require the contractor to assume all risks assigned by the contract for their stated price. Adjustments to costs and extensions of time require a modification to the original agreement. *Unit price contracts* permit more flexibility by establishing costs relative to measurable work unit (cubic yards and square feet are examples of work units).

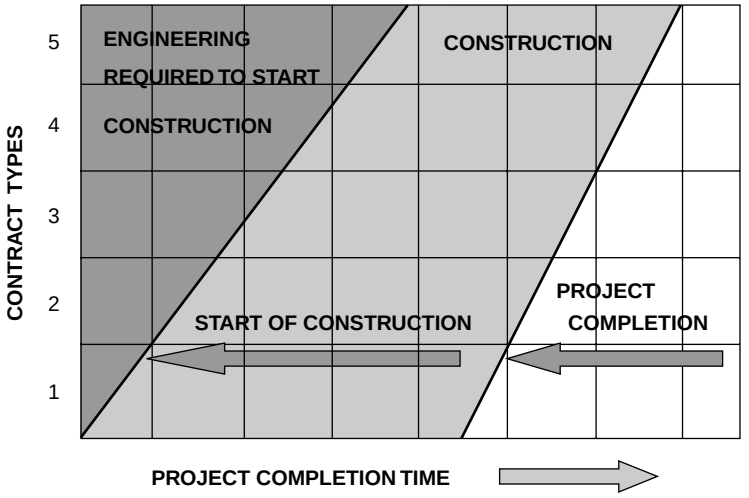
Reimbursable contracts allow for contract adjustments relative to overall project scope as determined by the cost and do not, generally, address a final fixed price. Fixed price contracts allocate more risk to the contractor and thus require more effort, money, and time on design documentation before construction is initiated. Cost-reimbursable contracts require greater risk sharing between the owner and contractor and often require more owner personnel for contract administration during the construction phase to enforce cost and schedule. Cost reimbursable contracts are more easily used for fast-tracking of design and construction. Reimbursable contracts are also flexible for changing design or scope of work and establish the basis for a less adversarial relationship between the owner and contractor [Contracts Task Force, 1986, p. 8]. Figure 5.1, from the *Construction Industry Cost Effectiveness (CICE) Project Report* portrays the time advantages associated with cost reimbursable contracts when the owner has a demand for a facility that is highly schedule-driven [CICE, 1982, p. 9]. Often, both forms of contracts exist on a project simultaneously. Prime contractors will often have cost reimbursable contracts with the owner and fixed price contracts with their subcontractors.

## 5.3 Contract Administration

The contractor must concentrate on constructing the project and concurrently attend to the terms of the contract documents. Contract administration involves numerous daily decisions based on interpretation of the contract documents. A record of these deliberations is important to both parties. The primary tools for controlling a project contract are the cost and schedule report updates. In addition, quality and safety reports are indicative of project administration success. Administration of the contract requires that accurate records be maintained as a permanent record of the contract process. In the event that the project manager would need to negotiate a change order, prepare a claim, or reconstruct specific events, the project data from records and correspondence are often needed. Figure 5.2 [Richter and Mitchell, 1982] emphasizes the importance of accurate records and documents. The relative priority of documents would be determined by the nature of the dispute.

Trauner [1993] places emphasis on professional information management as a necessary and cost-effective measure for reducing risk on the project. The following list highlights the importance of information management in contract management:

1. Appropriate documentation permits future users to verify how the project was built.
2. Lessons learned on the project are recorded for the benefit of future projects.
3. Continuous, contemporaneous documentation reduces the chance of misunderstanding day-to-day concerns.
4. Records prevent the loss of information otherwise left to memory.




CONTRACT TYPES

1 COST REIMBURSABLE WITH % FEE

2 COST REIMBURSABLE WITH FIXED FEE

3 TARGET PRICE

4 GUARANTEED MAXIMUM PRICE

5 LUMP SUM FIXED PRICE

**FIGURE 5.1** Contract time and type comparison. *Source:* CICE (Construction Industry Cost Effectiveness Project Report). 1982. *Contractual Arrangement, Report A-7.* The Business Round Table, New York, p. 9.

5. Project personnel turnover problems can be reduced with a complete project history.
6. Written reports are the best means of keeping multiple parties informed of project progress.
7. Written reports reduce oral communications and the number of meetings.
8. Information management supports documentation and monitoring of the project.
9. Establishing defined documentation requirements assists the manager in focusing on the most important aspects of the project.

## Progress Reports

Performance documentation covers a wide variety of reports and charts. The project schedule is essential for determining the status of the project at any given point in time, and it can also be used to estimate the time impact of disruptions at the project site. It is important, therefore, that the schedule be updated at frequent intervals to ensure that the actual start dates, finish dates, and percent complete are recorded.

Progress should be recorded in daily and weekly reports. Daily reports should be prepared by personnel who can report on field and office activities. Weather information, subcontractor performance, workforce data, equipment use, visitor data, meeting notations, and special or unusual occurrences are entered into a standard diary form, which is filed on-site and in the home office.

Progress reporting should include a photographic progress journal. A log of photograph dates and locations is needed to preserve the specific nature of the photograph. Photographs provide strong visual evidence of the site conditions reported in the progress reports.

The personal project diaries of superintendents also record daily activity. These records summarize key events of the day including meetings, oral agreements or disagreements, telephone discussions, and similar events. Diaries also record drawing errors, provide notations on differing conditions observed on the site, and other discrepancies. Personal project diaries should be collected at the end of the project and stored with project records.

| TYPE OF DOCUMENT | AUTHORIZATION | ISSUES | SCHEDULES | PAYMENT | AUDIT |
|---|---|---|---|---|---|
| Agreement | ** | | ** | ** | ** |
| General Conditions | ** | ** | ** | ** | ** |
| Special Conditions | ** | ** | ** | ** | ** |
| Technical Specifications | ** | ** | ** | | |
| Bid Invitation | | ** | | ** | |
| Addenda | ** | ** | ** | ** | ** |
| Drawings | ** | ** | | ** | |
| Bid Proposal | | ** | | ** | ** |
| Subject Files | ** | ** | ** | ** | |
| Chronological Files | | ** | ** | ** | |
| A/E Correspondence | ** | ** | ** | ** | |
| Contractor Correspondence | ** | ** | ** | ** | ** |
| Owner Correspondence | ** | ** | ** | ** | ** |
| Conference Notes | | ** | ** | | |
| Shop Drawing Logs | | ** | ** | | |
| Survey Books | | ** | ** | | |
| Inspection Reports | ** | ** | ** | ** | |
| Pay Requisitions | | | ** | ** | ** |
| Delivery Schedules | | ** | ** | | |
| Test Reports | | ** | | | |
| Daily Reports | ** | ** | ** | ** | ** |
| Subcontracts | ** | ** | ** | ** | ** |
| Purchase Orders | ** | ** | ** | ** | ** |
| Schedules | | ** | ** | | ** |
| Photographs | | ** | | | |
| Technical Reports | | ** | | | |
| Cost Records | | | | ** | ** |
| Estimates | | ** | | ** | ** |
| Change Order Files | ** | ** | ** | ** | ** |
| Extra Work Orders | ** | ** | ** | ** | ** |
| Payrolls | | | | ** | ** |
| Building Codes | ** | ** | | | |

**FIGURE 5.2** Contract document use in claims. *Source:* Richter, I. and Mitchell, R. 1982. *Handbook of Construction Law and Claims*. Reston Publishing Company, Inc., Reston, VA.

## Quality Records

Complete records of all quality tests performed on materials and reports from inspections should be retained. In addition to test results, plots or statistical analyses performed on the data should also be stored for later use. Inspection reports should be retained as an integral part of the quality recordation and documentation. Rework should be noted, and the retest results should be noted. Problems with quality and notes on corrective procedures applied should be evident in the records.

## Change Order Records

Changes should be tracked by a change order record system separate from other project records. Careful attention is needed to ensure compliance with notice requirements, proper documentation of costs, and estimation of the anticipated time impact. An understanding beforehand of the change order process

and the required documentation will reduce the risk of a change order request not being approved. Change orders can have a significant impact on the progress of remaining work as well as on the changed work. Typical information included in a change request includes the specification and drawings affected, the contract clauses that are appropriate for filing the change, and related correspondence. Once approved, the change order tracking system resembles traditional cost and schedule control.

### Correspondence Files

Correspondence files should be maintained in chronological order. The files may cover the contract, material suppliers, subcontracts, minutes of meetings, and agreements made subsequent to meetings. It is important that all correspondence, letters, and memorandums be used to clarify issues, not for the self-serving purpose of preparing a claim position. If the wrong approach in communications is employed, the communications may work against the author in the eventual testimony on their content. Oral communications should be followed by a memorandum to file or to the other party to ensure that the oral communication was correctly understood. Telephone logs, fax transmissions, or other information exchanges also need to be recorded and filed.

### Drawings

Copies of the drawings released for bidding and those ultimately released for construction should be archived for the permanent project records. A change log should be maintained to record the issuance or receipt of revised drawings. Obsolete drawings should be properly stamped and all copies recovered. Without a master distribution list, it is not always possible to maintain control of drawing distribution. Shop drawings should also be filed and tracked in a similar manner. Approval dates, release dates, and other timing elements are important to establishing the status of the project design and fabrication process.

## 5.4 Reasoning with Contracts

The contract determines the basic rules that will apply to the contract. However, unlike many other contracts, construction contracts usually anticipate that there will be changes. Changes or field variations are created from many different circumstances. Most of these variations are successfully negotiated in the field, and once a determination is made on the cost and time impact, the contracting parties modify the original agreement to accommodate the change. When the change order negotiation process fails, the change effectively becomes a dispute. The contractor will commonly perform a more formal analysis of the items under dispute and present a formal claim document to the owner to move the negotiations forward. When the formal claim analysis fails to yield results, the last resort is to file the claim for litigation. Even during this stage, negotiations often continue in an effort to avoid the time and cost of litigation. Unfortunately, during the maturation from a dispute to a claim, the parties in the dispute often become entrenched in positions and feelings and lose their ability to negotiate on the facts alone. Contract wording is critical, and fortunately, most standard contracts have similar language. It is important to understand the type of dispute that has developed. Figure 5.3 was developed to aid in understanding the basic relationships among the major types of changes.

## 5.5 Changes

Cardinal and bilateral changes are beyond the scope of the contract. Cardinal changes describe either a single change or an accumulation of changes that are beyond the general scope of the contract. Exactly what is beyond the scope of a particular contract is a case-specific determination based on circumstances and the contract; there is no quick solution or formula to determine what constitutes a cardinal change. Cardinal changes require thorough claim development.

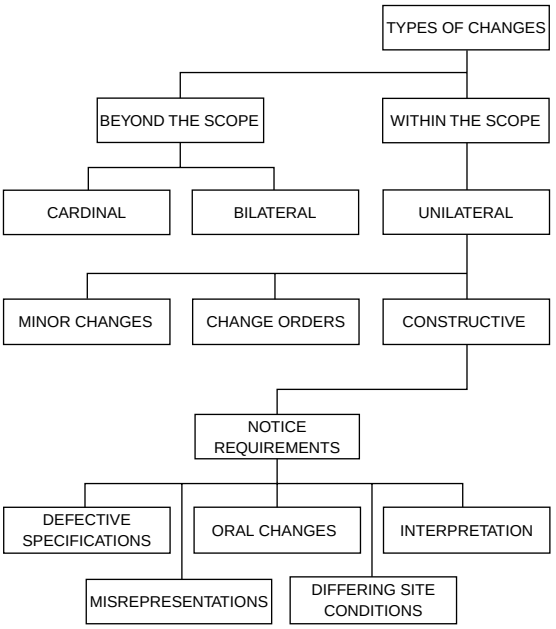



**FIGURE 5.3** Types of changes.

A bilateral change is generated by the need for a change that is recognized as being outside the contract scope and, therefore, beyond the owner's capability to issue a unilateral change. A bilateral change permits the contractor to consent to performing the work required by the change or to reject the change and not perform the additional work. Bilateral changes are also called contract modifications. Obviously, the gray area between what qualifies as a unilateral change and a bilateral change requires competent legal advice before a contractor refuses to perform the work.

Several distinctions can be made among unilateral changes. Minor changes that do not involve increased cost or time can be ordered by the owner or the owner's representative. Disputes occasionally arise when the owner believes that the request is a minor change, but the contractor believes that additional time and/or money is needed. Minor changes are also determined by specific circumstances. Change orders are those changes conducted in accordance with the change order clause of the contract, and unless the change can be categorized as a cardinal change, the contractor is obligated to perform the requested work. Constructive changes are unilateral changes not considered in the changes clause; they can be classified as oral changes, defective specifications, misrepresentation, contract interpretation, and differing site conditions. However, before constructive changes can be considered in more detail, contract notice requirements must be satisfied.

## 5.6 Notice Requirements

All contracts require the contractor to notify the owner as a precondition to claiming additional work. The reason for a written notice requirement is that the owner has the right to know the extent of the liabilities accompanying the bargained-for project. Various courts that have reviewed notice cases agree that the notice should allow the owner to investigate the situation to determine the character and scope of the problem, develop appropriate strategies to resolve the problem, monitor the effort, document the contractor resources used to perform the work, and remove interferences that may limit the contractor in performing the work.

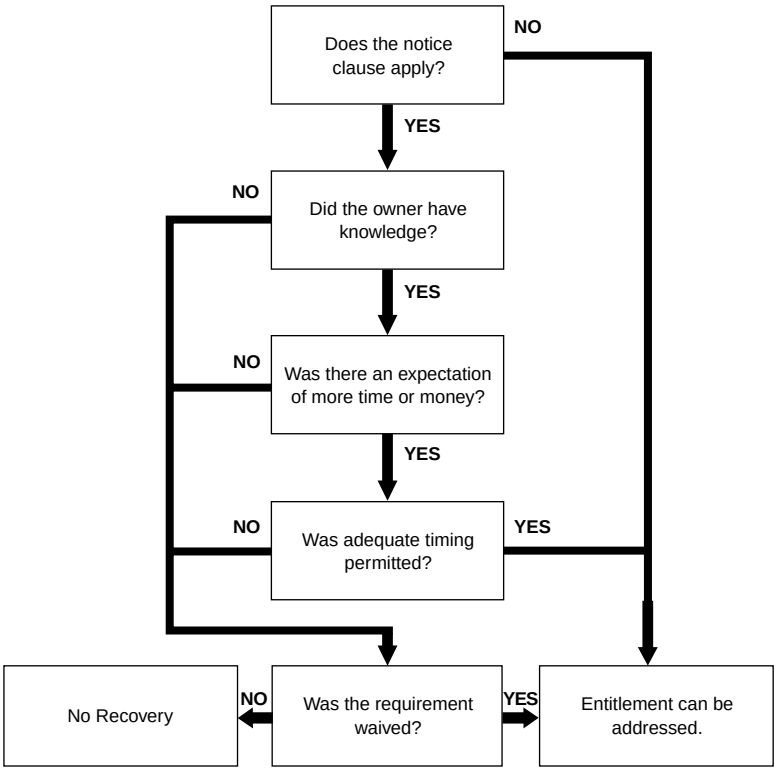



**FIGURE 5.4** Notice disputes flowchart.

Contracts often have several procedural requirements for filing the notice. Strict interpretation of the notice requirements would suggest that where the contract requires a written notice, only a formal writing will satisfy the requirement. The basic elements in most contracts' change order clauses are the following:

- Only persons with proper authority can direct changes.
- The directive must be in writing.
- The directive must be signed by a person with proper authority.
- Procedures for communicating the change are stated.
- Procedures for the contractor response are defined.

Figure 5.4 is a decision analysis diagram for disputes involving notice requirements.

The applicability of the clause should be at issue only if the contract has been written such that the notice clause is only effective for specific situations. Written notice implies that a formal letter has been delivered that clearly defines the problem, refers to the applicable contract provisions, and states that the contractor expects to be compensated for additional work and possibly given additional time to complete the work. However, notice can also be delivered in other ways. Verbal statements have been found to constitute notice to satisfy this requirement. The principal issues are owner knowledge of events and circumstances, owner knowledge that the contractor expects compensation or a time extension under some provision of the contract, and timing of the communication.

Owner knowledge is further divided into actual knowledge and constructive knowledge. Actual knowledge is clear, definite, and unmistakable. Constructive knowledge can be divided into implied knowledge and imputed knowledge. Implied knowledge is communicated by deduction from the circumstances, job site correspondence, or conduct of the parties. While this may not be complete, it is generally sufficient to alert the owner that additional investigation is warranted. Evidence of owner knowledge is more

compelling if it involves a problem caused by the owner or within the owner's control. Imputed knowledge refers to situations in which proper notice is given to an individual who has the duty to report it to the person affected.

Knowledge that the contractor is incurring additional expense is not sufficient to make the owner liable for the costs. If the owner is unaware that the contractor expects payment for the additional cost, the owner may not be held liable for payment.

### Notice Timing

Timing of the notice is important. If the notice is given too late for the owner to control the extent of its liability for additional costs, the court may not find that the notice requirement was satisfied. Generally, contracts will specify a time limit for submission of the notice. Slippage of time may not be meaningful if the character of the problem cannot be ascertained without passage of time. However, in some cases, the passage of time obscures some of the information, which will prevent the owner from verifying information or controlling costs.

### Form of Notice

If notice was not given and evidence of constructive notice is not clear, the remaining recourse is for the contractor to show that the requirement was waived. The owner cannot insist on compliance with the contract in situations where the owner's actions have conflicted with the same requirements. If a statute requires written notice, the requirement cannot be waived. Waiver can only occur by the owner or the owner's representative.

The form of communication is usually a formal letter. Notice can occur in job site correspondence, letters, memos, and other site documents. Project meeting minutes that summarize discussions about project situations may be sufficient, provided they are accurately drafted. In some instances, CPM (critical path method) updates that show delay responsibilities have been found to constitute notice of delay because they kept the owner fully informed of progress.

## 5.7 Oral Changes

Oral communication is very common on construction projects. In most cases, the oral instructions are clearly understood, and no problems result from the exchange. Oral modifications may be valid even though there may be specific contract language prohibiting oral change orders. Through their consent or mutual conduct, the parties to a contract may waive the written change requirement. Therefore, the owner must be consistent in requiring that all changes be written. The contractor must also be consistent if submitting written changes; failure to provide the written change may indicate that it was a minor change and therefore no additional time or payment was expected. Any inconsistent conduct in the handling of changes will often eliminate the written requirement.

While the actions of the parties may waive a contract clause, the requirement will be upheld when there are statutory requirements for written directives. The owner must be aware of incurring additional liability. The owner may understand that the contractor is accruing additional cost but may not know the contractor is expecting the owner to pay for the additional cost. This may happen when the contractor, in some fashion, indicates that the work is being completed on a voluntary basis. However, when the owner has made an express or implied promise to pay the contractor for the work, recovery is likely. The contractor must make the owner aware at the time of the change that the owner will be expected to pay for additional costs. Acceptance of completed work is not sufficient to show that the owner agreed to pay for the work.

The person approving the change must also have the authority to act for the owner and incur the liability for the owner on the extra work. Generally, the authority is clearly written, but there are cases in which the conduct of an individual implies that he or she has authority. Contractors need to know

who has the authority to direct changes at the site. Owners, on the other hand, may appear to extend authority to someone they know does not have explicit authority, but fail to correct the action directed by the unauthorized person. Waiver of the requirements is caused by works, actions, or inactions of the owner that result in abandonment of a contract requirement. The owner must consistently require that the changes be in writing; any deviation from this requirement will result in abandonment of the clause that specifies that all changes be in writing.

## 5.8 Contract Interpretation

The rules for contract interpretation are well established in common law. The rules are split into two major divisions: procedural and operational. Procedural rules are the rules within which the court must operate. Operational rules are applied to assist in the interpretation of the facts in the case.

Procedural rules establish the objective of interpretation, measures for the admissibility of evidence, controls on what interpretation can be adopted, and standards for evaluating interpretations. The objective of interpretation focuses on determining the intent of the parties in the contract. Courts will not uphold hidden agendas or secret intentions. The admissibility of evidence provides the court the opportunity to look at separate contracts, referenced documents, oral agreements, and parol evidence (oral evidence provided to establish the meaning of a word or term). Courts have no right to modify the contract of the parties, and they cannot enforce contracts or provisions that are illegal or against public policy or where there is evidence of fraud [Thomas and Smith, 1993]. The last function of interpretation controls is to incorporate existing law. Generally, the laws where the contract was made will govern the contract. However, in the construction business, the performance of the contract is governed by the law where the contracted work is performed.

Operational interpretation rules are primarily those applied to ascertain the meaning of the contract. The "plain meaning rule" establishes the meaning of words or phrases that appear to have an ambiguous or unclear meaning. Generally, the words will be assigned their common meaning unless the contracting parties had intended to use them differently. A patent ambiguity is an obvious conflict within the provisions of the contract. When a patent ambiguity exists, the court will look to the parties for good faith and fair dealing. Where one of the parties recognizes an ambiguity, a duty to inquire about the ambiguity is imposed on the discovering party. Practical construction of a contract's terms is based on the concept that the intentions of the contracting parties are best demonstrated by their actions during the course of the contract.

Another common rule is to interpret the contact as a whole. A frequent mistake made by contract administrators in contract interpretation is to look too closely at a specific clause to support their position. The court is not likely to approach the contract with the same narrow viewpoint. All provisions of the contract should be read in a manner that promotes harmony among the provisions. Isolation of specific clauses may work in a fashion to render a part of the clause or another clause inoperable. When a provision may lead to more than one reasonable interpretation, the court must have a tiebreaker rule. A common tiebreaker is for the court to rule against the party that wrote the contract because they failed to clearly state their intent.

When the primary rules of interpretation are not sufficient to interpret a contract, additional rules can be applied. When language is ambiguous, the additional interpretation guides suggest that technical words be given their technical meaning with the viewpoint of a person in the profession and that all words be given consistent meaning throughout the agreement. The meaning of the word may also be determined from the words associated with it.

In the case of ambiguities occurring because of a physical defect in the structure of the contract document, the court can reconcile the differences looking at the entire contract; interpret the contract so that no provision will be treated as useless; and where a necessary term was omitted inadvertently, supply it to aid in determining the meaning of the contract. Some additional guidance can be gained by providing that specific terms govern over general terms, written words prevail over printed words, and written words are chosen over figures. Generally, where words conflict with drawings, words will normally

govern. It is possible, in some cases, that the drawings will be interpreted as more specific if they provide more specific information to the solution of the ambiguity.

The standards of interpretation for choosing between meanings are the following:

- A reasonable interpretation is favored over an unreasonable one.
- An equitable interpretation is favored over an inequitable one.
- A liberal interpretation is favored over a strict one.
- An interpretation that promotes the legality of a contract is favored.
- An interpretation that upholds the validity of a contract is favored.
- An interpretation that promotes good faith and fair dealing is favored.
- An interpretation that promotes performance is favored over one that would hinder performance.

## 5.9 Defective Specifications

Defective specifications are not a subject area of the contract like a differing site condition or notice requirement. However, there is an important area of the law that considers the impact of defective specifications under implied warranties. The theory of implied warranty can be used to resolve disputes originating in the specifications or the plans; the term defective specification will refer to both. The contract contemplates defects in the plans and specifications and requires the contractor to notify the designer when errors, inconsistencies, or omissions are discovered.

Defective specifications occur most frequently when the contractor is provided a method specification. A method specification implies that the information or method is sufficient to achieve the desired result. Because many clauses are mixtures, it is imperative to identify what caused the failure. For example, was the failure caused by a poor concrete specification or poor workmanship? Another consideration in isolating the cause of the failure is to identify who had control over the aspect of performance that failed. When the contractor has a performance specification, the contractor controls all aspects of the work. If a method specification was used, it must be determined that the contractor satisfactorily followed the specifications and did not deviate from the work. If the specification is shown to be commercially impractical, the contractor may not be able to recover if it can be shown that the contractor assumed the risk of impossibility. Defective specifications are a complex area of the law, and competent legal advice is needed to evaluate all of the possibilities.

## 5.10 Misrepresentation

Misrepresentation is often used in subsurface or differing site condition claims, when the contract does not have a differing site conditions clause. In the absence of a differing site conditions clause, the owner assigns the risk for unknown subsurface conditions to the contractor [Jervis and Levin, 1988]. To prove misrepresentation, the contractor must demonstrate that he or she was justified in relying on the information, the conditions were materially different from conditions indicated in the contract documents, the owner erroneously concealed information that was material to the contractor's performance, and the contractor had an increase in cost due to the conditions encountered. More commonly, a differing site condition clause is included in the contract.

## 5.11 Differing Site Conditions

One of the more common areas of dispute involves differing site conditions. However, it is also an area in which many disputes escalate due to misunderstandings of the roles of the soil report, disclaimers, and site visit requirements. The differing site condition clause theoretically reduces the cost of construction, because the contractors do not have to include contingency funds to cover the cost of hidden or latent subsurface conditions [Stokes and Finuf, 1986]. The federal differing site conditions (DSC) clause,

or a slightly modified version, is used in most construction contracts. The clause is divided into two parts, commonly called Type I and Type II conditions. A Type I condition allows additional cost recovery if the conditions differ materially from those indicated in the contract documents. A Type II condition allows the contractor additional cost recovery if the actual conditions differ from what could have been reasonably expected for the work contemplated in the contract. Courts have ruled that when the wording is similar to the federal clause, federal precedent will be used to decide the dispute. More detailed discussions of the clause can be found elsewhere [Parvin and Araps, 1982; Currie et al., 1971].

### Type I Conditions

A Type I condition occurs when site conditions differ materially from those indicated in the contract documents. With a DSC clause, the standard of proof is an indication or suggestion that may be established through association and inference. Contract indications are normally found in the plans and specifications and may be found in borings, profiles, design details, contract clauses, and sometimes in the soil report. Information about borings, included in the contract documents, is a particularly valuable source because they are commonly held to be the most reliable reflection of the subsurface conditions. While the role of the soil report is not consistent, the courts are often willing to go beyond the contract document boundaries to examine the soil report when a DSC clause is present. This situation arises when the soil report is referred to in the contract documents but not made part of the contract documents. Groundwater is a common problem condition in DSC disputes, particularly where the water table is not indicated in the drawings. Failure to indicate the groundwater level has been interpreted as an indication that the water table exists below the level of the borings or that it is low enough not to affect the anticipated site activities.

The contractor must demonstrate, in a DSC dispute, that he or she was misled by the information. To show that he or she was misled, the contractor must show where his or her bid incorporated the incorrect information and how the bid would have been different if the information had been correct. These proofs are not difficult for the contractor to demonstrate. However, the contractor must also reasonably interpret the contract indications. The contractor's reliance on the information may be reduced by other contract language, site visit data, other data known to the contractor, and previous experience of the contractor in the area. If these reduce the contractor's reliance on the indications, the contractor will experience more difficulty in proving the interpretation.

Owners seek to reduce their exposure to unforeseen conditions by disclaiming responsibility for the accuracy of the soil report and related information. Generally, this type of disclaimer will not be effective. The disclaimers are often too general and nonspecific to be effective in overriding the DSC clause — particularly when the DSC clause serves to reduce the contractor's bid.

### Type II Conditions

A Type II DSC occurs when the physical conditions at the site are of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work. The conditions need not be bizarre but simply unknown and unusual for the work contemplated. A Type II condition would be beyond the conditions anticipated or contemplated by either the owner or the contractor. As in the Type I DSC, the contractor must show that he or she was reasonably misled by the information provided. The timing of the DSC may also be evaluated in Type II conditions. The contractor must establish that the DSC was discovered after contract award.

## 5.12 Claim Preparation

Claim preparation involves the sequential arrangement of project information and data to the extent that the issues and costs of the dispute are defined. There are many methods to approach development and cost of a claim, but all require a methodical organization of the project documents and analysis.

Assuming that it has been determined that there is entitlement to a recovery, as determined by consideration of interpretation guidelines, the feasibility of recovery should be determined. Once these determinations are complete, claims are generally prepared by using either a total-cost approach or an actual-cost approach.

An actual-cost approach, also called a discrete approach, will allocate costs to specific instances of modifications, delays, revisions, and additions where the contractor can demonstrate a cost increase. Actual costs are considered to be the most reliable method for evaluating a claim. Permissible costs are direct labor, payroll burden costs, materials, equipment, bond and insurance premiums, and subcontractor costs. Indirect costs that are recoverable include labor inefficiency, interest and financing costs, and profit. Impact costs include time impact costs, field overhead costs, home office overheads, and wage and material escalation costs. Pricing the claim requires identification and pricing of recoverable costs. The recoverable costs depend primarily on the type of claim and the specific causes of unanticipated expenses. Increased labor costs and losses of productivity can occur under a wide variety of circumstances. Increased costs for bonding and insurance may be included when the project has been delayed in completion or the scope has changed. Material price escalation may occur in some circumstances. In addition, increased storage costs or delivery costs can be associated with many of the common disputes. Equipment pricing can be complicated if a common schedule of values cannot be determined.

Total cost is often used when the cost overrun is large, but no specific items or areas can be identified as independently responsible for the increase. Stacked changes and delays often leave a contractor in a position of being unable to fully relate specific costs to a particular cause. The total-cost approach is not a preferred approach for demonstrating costs. A contractor must demonstrate that the bid and actual costs incurred were reasonable, costs increased because of actions by the defendant, and the nature of the losses make it impossible or highly impractical to determine costs accurately. Good project information management will improve the likelihood that the contractor can submit an actual-cost claim rather than a total-cost claim. However, due to the complexity of some projects, the total-cost approach may be the most appropriate method.

## 5.13 Dispute Resolution

Alternate dispute resolution (ADR) techniques have slowly gained in popularity. High cost, lost time, marred relationships, and work disruptions characterize the traditional litigation process. However, many disputes follow the litigation route as the main recourse if a significant portion of the claim involves legal issues. The alternatives — dispute review boards, arbitration, mediation**,** and minitrials — are usually established in the contract development phase of the project.

The traditional litigation process is the primary solution mechanism for many construction claims. This is particularly important if the dispute involves precedent-setting issues and is not strictly a factual dispute. The large expense of trial solutions is often associated with the cost of recreating the events on the project that created the original dispute. Proof is sought from a myriad of documents and records kept by contractors, engineers, subcontractors, and suppliers, in some cases. Once filing requirements have been met, a pretrial hearing is set to clarify the issues of the case and to establish facts agreeable to the parties.

The discovery phase of litigation is the time-consuming data-gathering phase. Requests for and exchange of documents, depositions, and interrogatories are completed during this time period. Evidence is typically presented in a chronological fashion with varying levels of detail, depending on the item's importance to the case. The witnesses are examined and cross-examined by the lawyers conducting the trial portion of the claim. Once all testimony has been presented, each side is permitted to make a summary statement. The trier of the case, a judge or jury, deliberates on the evidence and testimony and prepares the decision. Appeals may result if either party feels there is an error in the decision. Construction projects present difficult cases because they involve technological issues and terminology issues for the lay jury or judge. The actual trial time may last less than a week after several years of preparation. Due

to the high cost of this procedure, the alternative dispute resolution methods have continued to gain in popularity.

*Dispute review boards* have gained an excellent reputation for resolving complex disputes without litigation. Review boards are a real-time, project-devoted dispute resolution system. The board, usually consisting of three members, is expected to stay up-to-date with project progress. This alone relieves the time and expense of the traditional document requests and timeline reconstruction process of traditional discovery and analysis. The owner and contractor each appoint one member of the dispute review board. The two appointees select the third member, who typically acts as the chairman. The cost of the board is shared equally. Typically, board members are highly recognized experts in the type of work covered by the contract or design. The experience of the board members is valuable, because they quickly grasp the scope of a dispute and can provide their opinion on liability. Damage estimates are usually left to the parties to work out together. However, the board may make recommendations on settlement figures as well. Board recommendations are not binding but are admissible as evidence in further litigation.

*Arbitration* hearings are held before a single arbitrator or, more commonly, before an arbitration panel. A panel of three arbitrators is commonly used for more complex cases. Arbitration hearings are usually held in a private setting over a period of one or two days. Lengthy arbitrations meet at convenient intervals when the arbitrators' schedules permit the parties to meet; this often delays the overall schedule of an arbitration. Information is usually presented to the arbitration panel by lawyers, although this is not always the case. Evidence is usually submitted under the same administrative rules the courts use. Unless established in the contract or by a separate agreement, most arbitration decisions are binding. An arbitrator, however, has no power to enforce the award. The advantages of arbitration are that the hearings are private, small claims can be cost-effectively heard, knowledge of the arbitrator assists in resolution, the proceedings are flexible, and results are quickly obtained.

*Mediation* is essentially a third-party-assisted negotiation. The neutral third party meets separately with the disputing parties to hear their arguments and meets jointly with the parties to point out areas of agreement where no dispute exists. A mediator may point out weaknesses and unfounded issues that the parties have not clarified or that may be dropped from the discussion. The mediator does not participate in settlements but acts to keep the negotiations progressing to settlement.

Mediators, like all good negotiators, recognize resistance points of the parties. A primary role of a mediator is to determine whether there is an area of commonality where agreement may be reached. The mediator does not design the agreement. Confidentiality of the mediator's discussions with the parties is an important part of the process. If the parties do agree on a settlement, they sign an agreement contract. The mediator does not maintain records of the process or provide a report to the parties on the process.

A major concern that can be expressed about the ADR system is that it promotes a private legal system specifically for business, where few if any records of decisions are maintained, yet decisions may affect people beyond those involved in the dispute. ADR may also be viewed as a cure-all. Each form is appropriate for certain forms of disputes. However, when the basic issues are legal interpretations, perhaps the traditional litigation process will best match the needs of both sides.

## 5.14 Summary

Contract documents are the framework of the working relationship of all parties to a project. The contracts detail technical as well as business relationships. Claims evolve when either the relationship or the technical portion of the contract fails. While it is desirable to negotiate settlement, disputes often cannot be settled, and a formal resolution is necessary. If the contracting managers had a better understanding of the issues considered by the law in contract interpretation, perhaps there would be less of a need to litigate.

## Defining Terms

**Arbitration —** The settlement of a dispute by a person or persons chosen to hear both sides and come to a decision.

**Bilateral —** Involving two sides, halves, factions; affecting both sides equally.

**Consideration —** Something of value given or done in exchange for something of value given or done by another, in order to make a binding contract; inducement for a contract.

**Contract —** An agreement between two or more people to do something, especially, one formally set forth in writing and enforceable by law.

**Equity —** Resort to general principles of fairness and justice whenever existing law is inadequate; a system of rules and doctrines, as in the U.S., supplementing common and statute law and superseding such law when it proves inadequate for just settlement.

**Mediation —** The process on intervention, usually by consent or invitation, for settling differences between persons, companies, etc.

**Parol —** Spoken evidence given in court by a witness.

**Surety —** A person who takes responsibility for another; one who accepts liability for another's debts, defaults, or obligations.

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## Further Information

A good practical guide to construction management is *Managing the Construction Project* by Theodore J. Trauner, Jr. The author provides good practical advice on management techniques that can avoid the many pitfalls found in major projects.

A comprehensive treatment of the law can be found in *Legal Aspects of Architecture, Engineering and the Construction Process* by Justin Sweet. This book is one of the most comprehensive treatments of construction law that has been written.

The *Handbook of Modern Construction Law* by Jeremiah D. Lambert and Lawrence White is another comprehensive view of the process but more focused on the contractor's contract problems.