



Defective and Deficient Contract Documents

Richard J. Long, P.E.

Copyright © 2010 Long International, Inc.



LONG INTERNATIONAL



Defective and Deficient Contract Documents

Richard J. Long, P.E.

1. INTRODUCTION	1
1.1 THE SPEARIN DOCTRINE	2
1.2 THE OWNER'S DEFENSES AGAINST SPEARIN	5
1.2.1 Disclaimers/Assumption of Risk	5
1.2.2 Owner-Provided Information	6
1.2.3 Unjustified Reliance on Obvious Errors or Ambiguities	8
1.2.4 Commercial Impracticability	8
1.2.5 Silence in Specifications	9
1.2.6 Contractor Participates in the Preparation of Specifications	9
1.2.7 Alternate Methods Permitted	9
1.2.8 Minor Errors.....	9
1.2.9 Contractor Did Not Protect Its Work.....	9
1.2.10 Conclusion.....	10
1.3 OPTIONS FOR MITIGATION.....	10
1.3.1 Owner's Options for Mitigation	11
1.3.1.1 Design Development	11
1.3.1.2 Contract Formation.....	12
1.3.1.3 Contract Performance.....	13
1.3.2 Contractor's Options for Mitigation	14
1.3.2.1 Contract Formation.....	14
1.3.2.2 Contract Performance.....	15
1.3.3 Conclusion.....	16



Defective and Deficient Contract Documents

1. INTRODUCTION

The Owner carries an implied warranty that the drawings, specifications and other contract documents that it furnishes to a contractor are accurate and that an acceptable product will result if such specifications are met. Examples of the breach of implied warranty of the accuracy of the specifications include misrepresentations of soils conditions, misrepresentation of the availability of construction water, or structural design flaws such as bolts too small to meet loads. Examples of the breach of suitability of specifications include the design of a heating system insufficient for a building's needs, specification of roof insulation that violates the local building codes, or the specification of foundation piles or pile driving methods that provide an inadequate foundation for a building.

Defective plans and specifications can cause the contractor to perform extra work to correct the defect, delay the contractor while the owner determines how to correct the defect, disrupt the contractor's work by forcing the contractor to resequence its work to avoid the affected area until the owner decides what to, or all of the above. The contractor also may be protected against the liability resulting from defective construction if it followed the owner's drawings and specifications without deviation. The contractor's defense from consequential or liquidated damages due to delays or from personal injury damages due to failures is often based on defective plans and specifications.

A defective specification also may breach the implied warranty that the contractor will be able to perform the contract in the specified time. In such cases, the contractor may recover its damages and extended overhead costs due to delays and related impacts. This breach cannot be cured by time extensions or by the owner refraining from enforcing liquidated damages.

Defective plans and specifications can be the cause of extra work, delays, or disruption. Plans and specifications carry an implied warranty by the owner that they are adequate.

Specifications and drawings can be defective because of the following: error or omission, incompleteness, inadequate detail or description, conflicts, incompatibility or inconsistency, insufficient legibility or coordination to permit satisfactory construction, inability to use the particular materials or procedures specified, commercial unavailability of a specified item, or misleading provisions. Specifications do not have to be perfect; a reasonable number of errors are acceptable as long as the specifications are prepared with a reasonable standard of care and are of average quality as judged by industry practice.¹

¹ *John McShain, Inc. v. United States*, 412 F.2d 1281, 1283 (Ct. Cl. 1969).



Defective and Deficient Contract Documents

1.1 THE SPEARIN DOCTRINE

What are the contractor's remedies when it incurs damages because of problems with the owner's drawings and specifications? The contractor usually can base its request for an equitable contract adjustment on entitlement supported by the Spearin Doctrine.² In most cases, the courts and boards have relied on the implied warranty established by this benchmark case to find in the contractor's favor.

The Spearin court said,

“But if a contractor is bound to build according to plans and specifications prepared by the owner, the contractor will not be held responsible for the consequences of defects in the plans and specifications.”

*Helene Curtis Industries, Inc. v. United States*³ extended Spearin to cover methods of production; if a different and more expensive method of production is necessitated, and the owner did not disclose this “specific information on matters of substance,” the contractor is entitled to recover its additional costs.

The good faith intentions of the contractor are important to the court's considerations in determining entitlement. If the contractor innocently construes the provision in its favor without trying to take advantage of ambiguities, the courts will normally find in its favor. This is an application of the *contra proferentem* rule which finds that, in the case of ambiguous or conflicting specifications, interpretations will be in favor of the contractor if the specifications are written by the owner or its representative and the contractor's interpretation was reasonable.

The owner will not escape liability if the error is latent and detectable only after an exhaustive investigation. The implied warranty normally cannot be obviated by general clauses in the contract requiring the contractor to inspect the site, study the specifications, inform itself about the requirements for the work, or assume responsibility for work until completion and acceptance.⁴

The Bromley board⁵ ruled that contractors are not expected to uncover all hidden ambiguities or errors and will not be held responsible for overlooking these latent errors in the bid documents.

² *United States v. Spearin*, 248 U.S. 132 (1918).

³ *Helene Curtis Industries, Inc. v. United States*, 312 F.2d 774 (Ct. Cl. 1963).

⁴ *Nat Harrison Assoc. v. Gulf States Utilities Co.*, 491 F.2d 578 (5th Cir. 1974).

⁵ *Bromley Contracting Company*, ASBCA 14884, 16045 72-1 BCA ¶ 9252 (1972).



Defective and Deficient Contract Documents

On June 9, 1969, the Army Materiel Command issued an Invitation for Bid to replace the roof on Building 35 at the Watervliet Arsenal. The subject contract was awarded to Bromley Contracting Company on July 18, 1969 in the amount of \$179,834.

One of the drawings (No. 4235-35) furnished by the government described the ridge heights of the roof monitors as approximately seven feet. The scale of the drawings was 1" = 1'-0", and the ridge height measured 6" on the drawing. The drawing contained six General Notes in the lower right hand corner. Note 5 read, "Contractor shall verify all dimensions and conditions prior to submission of bid." The ridge was actually about 11 feet in height.

Employees from Bromley Contracting visited the roof site prior to bidding as required but failed to notice the variance between the actual elevation of the roof monitors and that shown on the drawings. Bromley claimed that the drawing error caused it to underestimate the actual surface area of the roof monitors and that it was required to expend \$43,371 in excess of its bid price to complete the work properly.

The government admitted the drawing was in error with respect to the ridge height of the roof monitors and was not checked by its engineering staff due to lack of manpower. The government contended, however, that the Invitation for Bid required the contractor to verify the roof dimensions prior to bid.

The Court of Claims found Bromley's position to be correct stating,

"Contractors are businessmen usually pressed for time and consciously seeking to underbid competitors. Consequently, they estimate only those costs which they feel the contract terms will permit the government to insist upon in the way of performance. They are not expected to ferret out hidden ambiguities or errors in the bid documents and are protected if they innocently construe in their own favor an ambiguity equally susceptible to another construction or overlook an error."

Information contained in drawings and specifications constitute a positive representation that the contractor is justified in relying upon. When this information is defective or ambiguous, the contractor is entitled to recover the additional cost of performance resulting from the defects or ambiguities.

The owner may also breach the implied warranty of suitability of the finished product by omitting vital information. Situations where the courts have ruled that owners have a duty to disclose include:

- Active concealment of specific information on matters of substance.



Defective and Deficient Contract Documents

- Statements made by the owner which would be materially qualified by other information in the owner's possession or which might mislead the contractor in the absence of the disclosure.
- Information that would have a material effect on the bid price while at the same time contractors are basing their bids on improper assumptions.

Conflicts often develop between the specifications, drawings and the contract document. When the conflict is between the contract and the specification, the contract normally prevails. If the conflict is between the specifications and drawings, the specifications normally prevail. The drawings can be dominant if they provide for some detail not in the specification and if they are not in conflict with the specifications or the contract.

It is also well settled that an owner implicitly warrants the adequacy of its specifications. In *Luria*,⁶ the United States Court of Claims defined this duty as follows:

“It is well-settled that when the Government orders a structure to be built, and in so doing prepares the specifications prescribing the character, dimension, and location of the construction work it implicitly warrants that if the specifications are complied with, satisfactory performance will result... When as here, defective specifications delay completion of the contract, the contractor is entitled to recover damages for defendant's breach of this implied warranty.” *Id.* at 707-08.

The court in *Luria* also determined that the government had further breached the contract by failing to make timely revisions and by imposing an unreasonable trial and error method of excavation upon plaintiff. *Id.* at 708.

Delay damages resulting from faulty specifications have been awarded in the following cases: *J.T. Hedin Construction Company Inc.*, 347 F.2d 235 (Ct. Cl. 1965)(faulty specifications for piles, spread footings and sewer system); *Chaney and James Construction Company, Inc. v. United States*, 421 F.2d 728 (Ct. Cl. 1970)(defective specifications for elevation of roof leader drain pine, location of fire pump drains, and roof washdown system); *Laburnum Construction Corporation v. United States*, 325 F.2d 451 (Ct. Cl. 1963)(improper alignment for proposed 16 inch pipeline); *H. John Homan Co., Inc. v. United States*, 418 F.2d 522 (Ct. Cl. 1969) (defective site survey); *Public Constructors, Inc. v. New York*, 390 N. Y.S.2d 481 (App. Div. 1977)(misrepresenting subsurface condition and failure to disclose boring logs and other

⁶ *Luria Bros. & Co. v. United States*, 369 F.2d 701,707 177 Ct.Cl. 676 (1966);; See also *Pennsylvania v. W.P. Dickerson & Son, Inc.*, 400 A.2d 930 (Pa. Commonwealth Ct. 1979), where the contractor was entitled to recover additional costs and expenses for removing and testing beams constructed in accordance with State specifications.

Defective and Deficient Contract Documents

subsurface information); and *County Asphalt Inc. v. New York*, 311 N.Y.S.2d 650 (Ct. Cl. 1969) (State responsible for damages resulting from its gross misrepresentation of the quantity of select borrow required for the project).

An electrical subcontractor was affected by drawing revisions on the construction of a coke battery.⁷ During the course of the contract work, defendant made some 1,300 revisions to the original contract drawings, about 20 percent of which were made after the project completion date. As a defense to plaintiff's delay claim, defendant asserted that plaintiff had not complied with the contract extra work clause, which provided that claims for extra costs be made within 30 days after receipt of any drawing revision and, further, that no work was to be performed until written authorization was received from defendant. The trial court ruled that because of the massive changes and pressure placed on plaintiff by defendant to proceed with the work, defendant was estopped from relying on the extra work clause. In affirming this holding, the Third Circuit reasoned:

“The defendant submitted a huge number of revisions that drastically changed the scope of the work. It then pressed the plaintiff to hurry and complete the work, which left the plaintiff with little time to compute costs and submit them. In addition, the plaintiff notified the defendant that it felt this situation required dispensing with the 30-day clause.

Seen in this light, the district court's reference to the defendant's obligation to speak out makes sense. We cannot say that the court erred in concluding that a defendant that creates such a difficult situation for completion of the contract as that here and who has notice of the plaintiff's state of mind should speak out and say it intends the letter of some clause of the contract to be followed.” *Id.* at 330.

1.2 THE OWNER'S DEFENSES AGAINST SPEARIN

The owner's implied warranty to provide accurate and suitable drawings and specifications has been well established by the Spearin case for almost 70 years. Certain situations, however, can obviate the impact of Spearin and related decisions by imposing limitations on this implied warranty of the owner. Several examples of such situations follow.

1.2.1 Disclaimers/Assumption of Risk

In specific situations, parties to a contract can allocate, as they see fit, a particular risk of failure or error that is clearly understood by both parties. An owner may disclaim via clear, non-

⁷ *E. C. Ernst, Inc. v. Koppers Co., Inc.*, 626 F.2d 324 (3d Cir. 1980).



Defective and Deficient Contract Documents

boilerplate, exculpatory language the usual warranty of its specifications and impose a specific risk to a contractor. If such disclaimers are too general, they will not be enforced.⁸

Likewise, if the disclaimers do not clearly warn the contractor of specific problems that could be encountered, the courts may not honor the disclaimers. Clear and fair disclaimers may override the owner's implied warranty if the contractor has been put on notice to include a price contingency in its bid.⁹

1.2.2 Owner-Provided Information

The owner may provide information on soils conditions, subsurface reports and tests, etc., without making any positive factual representations. They are only treated as factual if a reasonable contractor would treat them as such and would have been compelled to rely upon them in preparing its bid. For the contractor to recover damages, it would have to show that it had no practical access to the underlying data, no independent means of verifying such data, and it was not warned in clear, non-boilerplate language that the information was unreliable.

The owner would not have breached the implied warranty if (1) the contractor had equal access to underlying data and had an equal ability to form its own independent judgment on the matter, and (2) the contractor was clearly informed of the possible inaccuracy of the owner's information and advised to perform independent verification.

An example of an Agreement that provides limits on the reliability of information that has been provided by the owner to the contractor is shown below:

ARTICLE 7 INSPECTION OF SITE, CONDITIONS, AND PLANS

7.1 Contractor represents that it has carefully examined and inspected all matters, conditions and circumstances affecting Contractor's proper and timely performance of the Work, including, without limitation, (i) the terms, conditions and obligations of this Agreement, (ii) the extent, nature and quality of the Work, (iii) the services, labor, materials and equipment necessary for the proper performance of the Work, (iv) the location and condition of the Site and its surroundings, and (v) the conditions under which the Work will be performed. Furthermore, Contractor represents that it has obtained all information available in connection therewith, and has fully examined and informed itself and its Subcontractors of all

⁸ *Woodcrest Const. Co. v. U.S.*, 408 F.2d 395 (Ct. Cl. 1969).

⁹ *Flippin Materials Co. v. United States*, 312 F.2d 408 (160 Ct. Cl. 1963).



Defective and Deficient Contract Documents

general, local and physical conditions which may affect its performance under this Agreement including, without limitation, all applicable laws, orders, codes, ordinances, and/or regulations, local labor requirements, prevailing wage rates, general working conditions in the area, ground and surface conditions, on-site security needs, access to and egress from the Site, disposal, handling and storage of all substances, materials and wastes, availability of housing, transportation laydown and the general topographic and geologic characteristics of the region. Contractor represents that it is fully aware of all existing conditions and has reviewed and acknowledges the results of all subsurface reports or tests, identified in or set forth in Exhibit E [any subsurface reports and/or information should be included in Exhibit E] hereto, and limitations including normal weather and climatic conditions, and all laws, ordinances, rules and regulations, Federal, State and local, affecting the performance of the Work. Contractor hereby waives any and all right to claim that conditions of the Site or other property in the vicinity give rise to or otherwise constitutes an excuse for delay or non-performance or the basis of a cost adjustment under this Agreement, except as provided in Article 8 of this Agreement.

- 7.2 Contractor represents that it has carefully studied in detail the job requirements and specifications provided in Exhibit E and all other documents and information furnished to it by Owner and that it is fully satisfied as to their correctness and adequacy for the proper and timely performance of the Work by Contractor.
- 7.3 Contractor recognizes that the Plant is to be constructed and operated in accordance with all local, state and federal environmental laws including those pertaining to water, air, solid waste, hazardous waste, and noise pollution. Contractor will comply with all such laws and with the rules, regulations and other requirements of the State of _____, the Federal Environmental Protection Agency, [modify as necessary for international contracts] and any and all other governmental authorities having jurisdiction over the environment or the relation of the Plant to the environment. Anything in this Paragraph 7.3 to the contrary notwithstanding, Contractor shall have the right to request a Change Order in order to comply with any environmental law, rule or regulations enacted, adopted or ratified subsequent to the date of this Agreement. The Contract Price and Schedule do not contemplate the discovery of any pre-existing hazardous materials at the Site. In the event any such materials



Defective and Deficient Contract Documents

are discovered, Contractor shall immediately notify Owner, Owner shall take such actions as appropriate and such discovery will be governed by Article 8 of this Agreement.

- 7.4 Having fully acquainted itself with the Work, the Site and its surroundings, and any risks in connection therewith, Contractor assumes full and complete responsibility for performing the Work for the compensation set forth in Exhibit B, Compensation, Payment and Taxes, and achieving Mechanical Completion by the Scheduled Mechanical Completion Date set forth in Exhibit C, Schedule of Completion. Contractor's failure to carry out the activities set forth in Articles 7.1, 7.2 and 7.3 hereof shall not relieve Contractor of any of its obligations under this Agreement.

1.2.3 Unjustified Reliance on Obvious Errors or Ambiguities

The contractor will normally recover its damages because of latent or hidden errors or ambiguities. The courts have also found, however, that the contractor is responsible for obvious or patent errors or ambiguities for which it sought no clarification prior to contract award.¹⁰ If the contractor knew or should have known about glaring errors or ambiguities, it should take proper steps by notifying the owner or stating exceptions in its bid.

The contractor's obligation to conduct a reasonably thorough site investigation is ordinarily implicit in its duty to exercise reasonable care in preparing its bid. The contractor cannot later complain it was misled by the specifications if a site visit would have made the problem obvious.

In addition, a follow-on contractor is not entitled to relief for damages if it enters a second contract with knowledge that the drawings or specifications contained defects under a prior contract.

1.2.4 Commercial Impracticability

Although the owner may direct the method of contract performance, it has not created an implied warranty that such a method can be pursued by the contractor without difficulty. The owner only warrants that performance is possible within the state of art. The contractor's claim for commercial impracticability would normally be successful only if performance was achieved at exorbitant cost.

¹⁰ *Allied Contractors, Inc. v United States*, 254 U.S. 83 (1920).



Defective and Deficient Contract Documents

1.2.5 Silence in Specifications

The owner may entirely omit from the specification any reference to a condition or requirement for a particular construction method, as long as it is not withholding specific data on matters of substance.¹¹ The contractor is then left to draw its own inferences, determine physical conditions, and devise its own construction methods, assuming the contract documents are sufficiently comprehensive to lead to a complete and functional project. The owner is protected from liability if the contractor's work does not turn out as anticipated.

1.2.6 Contractor Participates in the Preparation of Specifications

The contractor jeopardizes its recovery for defects in the drawings and specifications if it helped prepare such documents or proposed additions or substitutions that were eventually incorporated into the contract.

1.2.7 Alternate Methods Permitted

If the contractor has the option of selecting the construction method, but the owner hampers the use of the selected method, the contractor may recover its damages. If a method is recommended, however, and the contractor ignores the owner's advice and instead uses its own method, the contractor may not recover. Some contracts give the owner the right to change the contractor's "method, manner or sequence of performing the Work."¹² The owner should be aware that such changes may increase the contractor's cost or time of performance, and the contractor may request additional costs or time for this type of change.

1.2.8 Minor Errors

If the contractor's problems are created by only minor inaccuracies or discrepancies in the drawings and specifications, such problems should normally be handled through the changes clause. Most rulings have held that it is unrealistic to hold owners to a standard of absolute perfection; experienced contractors should include a contingency in their bid for minor errors.¹³

1.2.9 Contractor Did Not Protect Its Work

The owner's implied warranty ordinarily covers only suitability of the drawings and specifications to insure the structural integrity of the completed work. It does not relieve the

¹¹ *Helene Curtis Industries, Inc. v. United States*, 312 F.2d 774 (Ct. Cl. 1963).

¹² See Section III, paragraph 2.1.1.

¹³ *Wells Bros. Co. v. United States*, 254 U.S. 83 (1920).



Defective and Deficient Contract Documents

contractor of its responsibility of devising sound methods of protecting its partially completed work from deterioration or collapse. If the owner, however, dictates specific methods of temporary support and protection, and these prove to be inadequate, the contractor may recover its damages.

1.2.10 Conclusion

Although contractors should take every precaution to preserve the implied warranty of the accuracy and suitability of the drawings and specifications, the owner can, using carefully constructed contract language, transfer certain risks to the contractor.

1.3 *OPTIONS FOR MITIGATION*

The responsibility for errors and omissions in construction contract documents traditionally has been tied to the party that drafted the documents. The contract documents, which include contract terms and conditions, drawings and specifications, are usually prepared by the owner or the owner's architect/engineer. The owner is generally held to have impliedly warranted to the contractor that the documents are accurate and suitable for use. An experienced contractor cannot, however, consciously overlook patent defects or rely on this implied warranty when it knows or should have known that such documents could not produce the desired end result.

In the case of a design/build contract, the contractor is also performing the role of the architect/engineer and the constructor. The contract documents prepared by the owner in this situation will usually include the contract language, specifications and preliminary design criteria and drawings. The contractor's scope is to interpret the owner's requirements, finalize the design documents and then construct the facility. Depending on the language of the contract, the owner's approval of the final design and completed facility may occur at various milestones during the project with considerable owner participation in design reviews. In the case of a turnkey project, however, the owner's approval may not occur until the entire facility is completed and all systems have been inspected, started and determined to be functional and consistent with the owner's specifications.

Perfect contract documents and flawless designs are most uncommon. Given the complexity of the construction process and state-of-the-art advances in technology, it should not be surprising that contract documents often fail to adequately define the work to be performed. There is, however, a critical and costly difference between a normal incidence of errors and serious design flaws that cause substantial delays and cost increases.

Both owners and contractors have opportunities to mitigate the problems resulting from defective and deficient contract documents. Awareness of these options for mitigation not only lessens the



Defective and Deficient Contract Documents

likelihood of disputes but also increases the chances for a financially successful project. The following discussion can serve as a set of guidelines for both parties to follow during the design development, contract formation, and contract performance phases of a project.

1.3.1 Owner's Options for Mitigation

1.3.1.1 Design Development

The following guidelines illustrate the care that should be taken in the preparation of the design documents by the owner and its architect/engineer before the construction contract is prepared and awarded.

- Provide adequate lead time for the design process.
- Award design contracts only to firms with adequate staff and proven track records for similar work.
- Provide sufficient compensation for critically important elements of the design effort, such as top-level management attention, periodic design reviews, value engineering studies, and constructibility reviews.
- Require the designer to provide a certificate of insurance covering errors and omissions.
- Require the designer to demonstrate an effective internal QA system.
- Carefully determine whether the end result (performance) or the design detail is more important. If the end result is the controlling criteria, use performance specifications and permit the contractor to choose its own methods of achieving the end results.
- Provide clear, unambiguous requirements for design specifications set forth in great detail allowing complete certainty as to the end product which can be achieved by any capable and experienced contractor. Recognize the owner's exposure, based on the Spearin doctrine, to the extent that it retains liability and responsibility for design omissions, errors and deficiencies in the drawings and specifications.
- Thoroughly review and approve the design documents and any scale models before construction begins to avoid expensive field changes after installation.



Defective and Deficient Contract Documents

1.3.1.2 Contract Formation

Preparation of the actual contract language by the owner should convey the requirements and risks retained by the owner or transferred to the contractor. The following guidelines should be examined during the drafting of the contract to mitigate design-related problems.

- Avoid lump sum construction contracts if the design is relatively incomplete.
- Draft contracts with equitable language and allocate risks to the party that is best able to control such risks.
- Avoid using off-the-shelf specifications, general contract conditions and other contract provisions that have not been carefully reviewed and modified for specific project risks and requirements.
- Recognize that the implied warranty of the adequacy of the drawings and specifications cannot be obviated by general contract clauses requiring the contractor to inspect the site, study the drawings and specifications and assume complete responsibility for the work until completion and acceptance.
- Determine if the contractor is best able to assume responsibility for site conditions that may affect the contractor's performance. If so, require and provide an adequate amount of time for the contractor to perform a site investigation. Reveal all existing site conditions data and clearly state uncertainties in the data and the contractor's responsibilities for verification using clear, non-boilerplate language. Consider requesting the contractor to put a contingency in its bid to cover the uncertainty of site conditions if the intent is to shift this risk to the contractor.
- Clearly state in the design/build contract using unambiguous, non-boilerplate language the intent of a performance specification to shift the project design responsibility to the contractor. Do not provide excessive design details that would take away the contractor's ability to utilize its own judgment, experience and expertise to achieve the desired end results.
- Disclose all relevant information to the contractor and inform the contractor of inaccurate or misleading data so that the contractor does not rely on this information in preparing its bid.
- Inform the contractor during bid preparation of any special methods of which the contractor may not be aware but will be required to achieve satisfactory end results.
- Use the common and normal meaning of words appropriate for the trade.



Defective and Deficient Contract Documents

- Identify the order of precedence in the hierarchy of contract documents to identify the controlling document should conflicts or ambiguities exist, i.e., do specifications take precedence over detailed drawings? Avoid assigning documents a low level of precedence and then referencing the same documents in a higher level document, thus causing a precedence roll-up problem.
- Include adequate cross-referencing for all specification requirements contained in various sections of the design documents.
- Require the contractor to state all of its reservations and qualifications to the requirements in its bid.
- Clearly state all mandatory minimum requirements in the contract. Avoid optional or preferential items or require alternate pricing for options.
- Require the contractor to clearly identify all deviations from the specifications and “or equal” substitutions in its bid.
- Clearly identify any required variations from standard industry practice.
- Avoid the use of addenda as much as possible since excessive use greatly increases the likelihood of confusion.
- Consider requiring performance and payment bonds from all contractors and subcontractors.

1.3.1.3 Contract Performance

The owner has opportunities to mitigate problems associated with the contract documents during contract performance.

- Provide timely responses to the contractor’s requests for information and clarification.
- Ensure that adequate and equitable adjustments are made to the contractor’s compensation in the event that design defects or deficiencies occur which impact the construction of the project.
- Avoid directing the contractor to proceed with the performance of the work in the face of defective construction drawings and specifications unless later corrective measures will be less costly than the costs due to delays caused by correcting the defects.
- Carefully evaluate “equal” materials or equipment and consider paying extra if more costly preference items are required.



Defective and Deficient Contract Documents

- Include a reasonable allowance in the overall project budget for normal design imperfections.

1.3.2 Contractor's Options for Mitigation

1.3.2.1 Contract Formation

The contractor should carefully examine the contract provisions, drawings and specifications with the intent of mitigating the risks associated with possible defects and deficiencies.

- Seek clarification in a timely fashion if a drawing or specification is obviously defective or deficient or if an ambiguity creates a doubt about the work. Failure to seek clarification may make the contractor liable for its erroneous interpretations and may prevent the contractor from recovery of its damages for a subsequent change.
- Do not volunteer to replace defective specifications except on the condition that the owner accepts the responsibility for the substitutions.
- Read the entire contract and specifications as a whole and in detail. Include a review by the project manager, technical specialists and the cost/schedule control manager who will be performing the work. Identify and evaluate all referenced specifications and drawings even if not attached or appended
- Avoid accepting complete discretion in the selection of the method of performance for a hybrid design/performance specification unless the owner expressly agrees to assume the risk of failure to attain performance goals.
- Attempt to place the design/build contractor's bid design in the highest order of precedence in the contract documents and require the owner to thoroughly review and approve the design documents. The contractor should recognize that it may be held to the performance suggested by its proposal.
- Request from the owner all important information that may have been omitted from the specifications. This imposes an affirmative obligation to disclose all such information that the owner possesses.
- Make certain that any caveat language or disclaimers insisted on by the owner are general. If unsuccessful, provide sufficient contingency for specific disclaimers in the bid. Elect not to bid the project if the risks are unreasonably high.



Defective and Deficient Contract Documents

- Conduct independent site investigations of conditions that the owner provides as information but disclaims the warranty of the accuracy of such information. Document all findings of the site investigation and rely on these findings in preparing the bid.
- Document the basis for bid including all assumptions, bid clarifications, reservations and pre-award meetings with the owner. Preserve a copy of all bid documents and estimates, including a copy of the drawings that existed at the time of contract award.
- Make inquiries into whether any specific problems might result from using the owner's specifications.
- Be circumspect about using specifications that appear economically impractical to use.
- Evaluate cost impacts of sole source vendor requirements.
- Ask for postponements of bids for follow-on contracts containing defective specifications until the problems are remedied.

1.3.2.2 Contract Performance

Problems will develop during contract performance. The following guidelines should be followed to assure equitable recovery of the contractor's damages.

- Seek clarification as soon as the need becomes apparent.
- Provide letters of timely notice for all cost increases and schedule delays resulting from problems with the drawings and specifications.
- Do not deviate from the drawings and specifications without a written change order.
- Obtain design approvals from the owner before materials are purchased and installed.
- Clearly identify the subcontractor's scope of work where trade responsibilities may overlap. Do not award subcontracts too early while the design is being finalized since the costs for design changes may be negotiated at a disadvantage.
- Clearly establish specific cost accounts to capture impacts resulting from design-related problems.
- Clearly identify schedule impacts resulting from design-related problems.



Defective and Deficient Contract Documents

1.3.3 Conclusion

Following these guidelines will not insure a dispute-free project. Latent errors and ambiguities will still exist and unanticipated problems will occur. A clearer understanding of the requirements and risks of both the owner and the contractor, however, will result from careful consideration of these options for mitigation and may prevent the project from being completed in the courtroom.



Richard J. Long, P.E., is Founder and CEO of Long International, Inc. Mr. Long has over 40 years of U.S. and international engineering, construction, and management consulting experience involving construction contract disputes analysis and resolution, arbitration and litigation support and expert testimony, project management, engineering and construction management, cost and schedule control, and process engineering. As an internationally recognized expert in the analysis and resolution of complex construction disputes for over 25 years, Mr. Long has served as the lead expert on over 300 projects having claims ranging in size from US \$100,000 to over US \$1 billion. He has presented and published numerous articles on the subjects of claims analysis, entitlement issues, CPM schedule and damages analyses, and claims prevention. Mr. Long earned a B.S. in Chemical Engineering from the University of Pittsburgh in 1970 and an M.S. in Chemical and Petroleum Refining Engineering from the Colorado School of Mines in 1974. Mr. Long is based in Littleton, Colorado and can be contacted at rlong@long-intl.com and (303) 972-2443.

Defective and Deficient Contract Documents

Index

Ambiguities	3, 4, 9, 14, 17	Inspection.....	7
Bid.....	7, 9, 10, 13, 14, 15, 16	Liquidated Damages.....	2
Bid Exceptions.....	9	Mechanical Completion.....	9
Bonds.....	14	Method of Performance	15
Bromley	3, 4	Minor Errors.....	10
Changes Clause.....	10	Misrepresentation	2, 6
Commercial Impracticability.....	9	Mitigation	11, 12, 15, 17
Contra Proferentem.....	3	Notice	4, 6, 7, 16
Contract Documents.....	2, 11, 14, 15	Overhead.....	2
Contract Formation	13, 15	Patent Defects	11
Coordination	2	Physical Condition	7, 10
Damages	5, 6	Risk.....	6, 13, 15
Defective and Deficient Contract		Scope of Work	16
Documents	11	Silence in Specifications.....	10
Defective Plans and Specifications.....	2	Site Conditions.....	13
Defective Specifications.....	5, 15, 16	Site Investigation.....	9, 13, 16
Delay Damages	5	Spearin.....	3, 6, 12
Design Development.....	12	Spearin Doctrine.....	3, 12
Disclaimers	6, 7, 15	Time Extensions.....	2
Disruption	2	Unjustified Reliance	9
Errors and Omissions	11, 12	Warranty	6, 7, 16
Exculpatory Language.....	7	Weather.....	8
Extra Work	2, 6		

Cases

<i>Allied Contractors, Inc. v United States</i> , 254 U.S. 83 (1920).....	8
<i>Bromley Contracting Company</i> , ASBCA 14884, 16045 72-1 BCA ¶ 9252 (1972).....	2
<i>E. C. Ernst, Inc. v. Koppers Co., Inc.</i> , 626 F.2d 324 (3d Cir. 1980).....	5
<i>Flippin Materials Co. v. United States</i> , 312 F.2d 408 (160 Ct. Cl. 1963).....	6
<i>Helene Curtis Industries, Inc. v. United States</i> , 312 F.2d 774 (Ct. Cl. 1963).....	2, 9
<i>John McShain, Inc. v. United States</i> , 412 F.2d 1281, 1283 (Ct. Cl. 1969).....	1
<i>Luria Bros. & Co. v. United States</i> , 369 F.2d 701, 707 177 Ct.Cl. 676 (1966).....	4
<i>Nat Harrison Assoc. v. Gulf States Utilities Co.</i> , 491 F.2d 578 (5 th Cir. 1974).....	2
<i>Pennsylvania v. W.P. Dickerson & Son, Inc.</i> , 400 A.2d 930 (Pa. Commonwealth Ct. 1979).....	4
<i>United States v. Spearin</i> , 248 U.S. 132 (1918).....	2
<i>Wells Bros. Co. v. United States</i> , 254 U.S. 83 (1920).....	9
<i>Woodcrest Const. Co. v. U.S.</i> , 408 F.2d 395 (Ct. Cl. 1969).....	6