

Delay of Game

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The oft-heard statement “time is money” is nowhere truer than in the construction industry. Owners, design professionals, and contractors use time to calculate the effect of lost performance. When construction takes longer than planned, owners and contractors most certainly will lose money. Managing time in construction is difficult, because all construction projects bear some degree of confusion and

uncertainty. Indeed, one court likened the conditions on a large construction project to those on a battlefield:

[E]xcept in the middle of a battlefield, nowhere must men coordinate the movement of other men and all materials in the midst of such chaos, and with such limited certainty of present facts and future occurrences as a huge construction project. . . . Even the most painstaking planning frequently turns out to be mere conjecture[,] and accommodation to changes must necessarily be of the rough, quick, and ad hoc sort, analogous to ever-changing commands on the battlefield.²

Delay and disruption claims are some of the most expensive, difficult, and, yes, time-consuming disputes to litigate. Delay arises when the project is not completed within the agreed deadline. Disruption emerges when an owner or forces beyond the contractor’s control cause a change in the method of construction upon which the contractor based its bid. Within the rubric of disruption are claims labeled as decreased labor productivity, loss of efficiency, impact, and hindrance.

Delay and disruption often occur together. However, there is a difference between a disruption claim and a claim for pure delay. Disruption of the contractor’s planned sequence and method of construction typically causes a loss of productivity. This loss of productivity, however, does not necessarily mean that the overall contractual completion date will be delayed as a result of the disruption. Counsel’s full understanding of these claims not only will help clients avoid litigation, but also will encourage them to transform their contracts from those that increase client vulnerability to litigation to those that are resilient in the face of the confusions and setbacks of a construction project.

Over the years, the construction industry has developed

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various methods of contractually allocating the risk of project delay and disruption. Some of these methods include liquidated damages provisions, “no damages for delay” clauses,³ mutual waivers of consequential damages,⁴ provisions that limit liability,⁵ claims notice clauses, and language addressing responsibility for the adequacy of the construction plans and specifications.⁶ Parties frequently litigate the sufficiency of these risk-shifting efforts in conjunction with the underlying merits of delay and disruption disputes.

The conditions that erupt into delay and disruption claims do not occur in a vacuum. When the owner or its agents—such as the construction manager, architect, and engineer—ostensibly delay or disrupt the contractor, the actual cause may be that the owner breached one or more of its obligations to the contractor. These duties include furnishing adequate plans and specifications, providing site access, cooperating with the contractor to solve difficulties or problems, and making timely progress payments.

In 1918, the U.S. Supreme Court established the *Spearin* doctrine, which obligates owners to furnish contractors with accurate construction plans and specifications.⁷ States widely follow the *Spearin* doctrine.⁸ Unless an owner opts for a comprehensive constructability review—typically performed by a group of construction professionals, including a disinterested architect and a nonbidding contractor—to ferret out any ambiguities or omissions in the plans and specifications, defects typically are not discovered until construction is under way and thousands of dollars are being spent daily on labor, material, and equipment.

In the midst of this activity, the discovery of defects in the plans and specifications usually leads to allegations hurled back and forth among the parties, and chaos ensues. Contractors refuse to fabricate or buy critical material. Architects and engineers contend that the plans and specifications are complete and that an experienced general contractor should be able to properly read and interpret them. The owner stands in a precarious position. Further delays could result by siding with one party. Moreover, whatever side the owner chooses, increased costs are inevitable. The ability of the owner, contractor, and design professionals to work proactively through legitimate disputes regarding the adequacy of a design makes the critical difference as to whether a project will be successful or lead to multiple lawsuits involving delay and disruption claims.⁹

Owners also may cause or contribute to delay and disruption claims by failing to provide adequate site access to the contractor. If entry to the work area is restricted because of easements, or if the owners have not secured the necessary permits to allow site construction to commence, a contractor’s initial construction plan may be stymied. The inability to build according to the planned sequence can lead to delay and disruption claims.

The owner's timely payment of the contractor is the key to job site productivity. Money motivates contractors to perform. Subcontractors who are not being timely paid are reluctant to fully staff a project, and productivity invariably lessens.

The responsibility of contractors for delay and disruption tends to arise from improper planning. A contractor's obligations center on proper planning, which ensure that the work is adequately scheduled, sequenced, and coordinated. The contractor is the captain of the ship and is responsible for a coherent and logical construction plan in the form of a schedule. Schedules are typically based on "critical path" methodology. The critical path is "the longest series of the work activities to the performance of a whole project."¹⁰ A schedule based on the critical path method breaks down the activities on a given project into component parts and shows an early start/late start and early finish/late finish for any particular task. If the contractor's schedule is flawed, either because it does not permit enough time to complete critical components of the work or

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does not lay out the construction activities in a logical sequence, delay and disruption claims invariably arise. Scheduling errors can cause further delays or disruption if the work is not properly coordinated.

Contractors frequently create "look ahead" schedules, which are designed to show the work that will be performed in the subsequent two or three weeks. Once the project starts, all the major subcontractors want to start their work first, with as little interference from the other subcontractors as possible. To maximize profit, subcontractors are motivated to work quickly and expend as few worker hours as possible. If the prime contractor schedules the subcontractors so that they are forced to work together in confined spaces, the subcontractors expend more worker hours to accomplish less work. This leads to a lack of productivity and labor cost overruns. More important, the environment becomes one in which disruption claims may emerge.

Contractors also can delay a project by untimely material procurement, by providing insufficient workforce, and by not following the plans and specifications.

If a project is not completed on time, the owner can assess liquidated damages against the contractor or, in the absence of a liquidated damages clause, pursue a delay claim. The con-

tractor also may pursue a delay claim. Whatever action is taken, contractors generally bear the burden of proof to establish that (1) they are not responsible for the delay and (2) the reasons for the delay will lead to owner liability.¹¹

Prosecuting and Defending Delay Claims

Excusable delay occurs as a result of events outside a contractor's control, such as acts of God (floods, hurricanes), labor strikes, unusually severe weather, and an inability to obtain critical materials due to plant closings and product shortages. Inexcusable delay is caused by the contractor, due to a failure to properly schedule or supervise the work or to prosecute the work diligently. Generally, an excusable delay entitles a contractor to a contract time extension and relief from a potential or actual liquidated damages assessment but does not allow the contractor to recover the costs of delay.

A contractor seeking damages for a delay must prove that the delay was excusable *and* compensable. An excusable, compensable delay is caused by the owner or the owner's agent, for example, because of defective plans and specifications. Establishing proof of an excusable, compensable delay—or providing the foundation for a defense against an allegation of an excusable, compensable delay—hinges, for the most part, on the research and wisdom of experts in construction scheduling, work sequencing, and design inadequacy. The development of this expert evidence is a time-consuming and therefore expensive process.

Frequently in delay litigation, a contractor tries to prove excusable, compensable delay in response to an owner's action for a liquidated damages assessment. In the context of construction claims, a liquidated damages provision requires the contractor to pay the owner a per diem amount for every calendar day of delay. Liquidated damages can range from \$250 to \$25,000 a day depending on the project. Such clauses are presumed valid.¹² In order to invalidate the clause, the contractor must demonstrate "that the provision was unreasonable under the circumstances existing at the time the contract was made."¹³

Contractors sometimes contend that a liquidated damages clause cannot be enforced because the owner cannot establish actual damages. Under this line of attack, the contractor asserts that the clause is a penalty and therefore invalid. To date, no California case has addressed this issue. Contractors also attack the validity of an owner's liquidated damages claim time period by asserting that the owner's claimed date of completion is not based on when the project was actually finished, which should be the date the owner has "beneficial occupancy."¹⁴

The issue of concurrent delay typically is raised in the litigation of delay and liquidated damages. One court defined true concurrent delay: "If a period of delay can be attributed simultaneously to the actions of both the government and the contractor, there are said to be concurrent delays, and the result is an excusable but not compensable delay."¹⁵ The older line of California cases on concurrent delay held that if the owner bore responsibility for any of the delay, the owner was prohibited from assessing liquidated damages.¹⁶ Recent courts have opted for the doctrine of apportionment. In situations in which

the period of delay is partly the fault of the owner and partly the fault of the contractor, courts will permit the parties to apportion delay according to fault.¹⁷

Assuming a contractor can establish excusable, compensable delay, the contractor typically only recovers delay damages if the delay falls on the critical path.¹⁸ One court clearly articulated the rationale for this rule:

The reason that the determination of the critical path is crucial to the calculation of delay damages is that only construction work on the critical path had an impact upon the time in which the project was completed. If work on the critical path was delayed, then the eventual completion date of the project was delayed. Delay involving work not on the critical path generally had no impact on the eventual completion of the project.¹⁹

“Float” is the total time an activity can be delayed without delaying the entire project. If a particular activity has no float, that activity is on the critical path. An activity that has float can become a critical path activity if the preceding activities are delayed and the float is used. In delay litigation, owners and contractors contend that each owns the float. Contractors want to own the float because it gives them greater scheduling flexibility and decreases the potential for a liquidated damages assessment.

An expert may employ one or more methods of proving compensable critical path delay. The “window analysis” involves preparing an as-planned schedule together with an analysis demonstrating the delays that occurred on the project and how those delays created a new critical path. The expert then assesses responsibility for each delay and opines as to whether it is excusable and compensable.

Another method is the “collapsed schedule analysis.” Under this approach, the expert prepares an as-planned schedule and an as-built schedule. After these schedules are complete, the expert creates a collapsed schedule that removes the alleged owner-caused delay.

Some experts will not use a critical path schedule analysis to demonstrate compensable delay. Instead they will employ a “bar-chart” analysis. A bar-chart schedule is one that shows the duration of particular activities but does not necessarily show the relationship among predecessor and successor activities. Owners frequently contend that a contractor may only prove delay damages through a critical path analysis, not through a bar-chart analysis. In California, courts have held that a bar-chart schedule may be used to demonstrate delay so long as the schedule identifies the project’s critical path and the analysis demonstrates “that the delays constitute critical path delays.”²⁰

A contractor’s delay damages typically consist of direct and indirect expenses. Direct expenses are those expended at the project site for supervision, office trailers, fences, fax machines, and the like. Direct expenses are commonly referred to as general conditions. Indirect expenses are costs expended to support job site activities, such as the contractor’s office staff, office lease payments, project management, and admin-

istrative support. Indirect expenses are commonly referred to as home office overhead charges.

Part of a contractor’s proof of delay damages typically includes a per diem charge for extended general conditions. Once the contractor has established a period of excusable, compensable critical path delay, then the trier of fact will be asked to multiply the number of days of delay by the per diem charge for the contractor’s extended general conditions. This calculation is designed to capture the contractor’s delay damages for direct costs.

To establish the contractor’s claim for indirect damages, the generally preferred method is the *Eichleay* home office overhead calculation.²¹ This calculation is designed to demonstrate the contractor’s “unabsorbed” home office overhead. *Eichleay* is based on the premise that contractors pay for their fixed overhead expenses through a revenue stream generated from various construction projects. The home office overhead expenses help support the contractor’s direct job site expenses. Contractors’ bids include an amount necessary to cover home office overhead. If a project is delayed and the contractor does not receive corresponding payments from the owner to cover its overhead during the delay period, the contractor will nevertheless have to contribute some amount of its home office overhead to support its project activities. Under this scenario, the contractor experiences unabsorbed home office overhead.

The *Eichleay* formula, and the various iterations of *Eichleay*, are designed to calculate the daily home office overhead incurred to support the project during the delay period. This daily rate is given to the trier of fact together with the number of excusable, compensable days of delay. If persuaded by the analysis, the trier of fact then calculates the total extended home office overhead claim to be awarded to the contractor.

A contractor seeking to recover under *Eichleay* must demonstrate that (1) an excusable, compensable delay occurred; (2) the contractor was on working standby; and (3) the contractor was unable to take on other work.²² California courts have permitted the recovery of unabsorbed overhead, although no explicit reference to the *Eichleay* formula has been made.²³ According to the *West v. Allstate Boiler* decision, “the proper Stand By test focuses on the delay or suspension of contract performance for an uncertain duration, during which a contractor is required to remain ready to perform.”²⁴ If the contractor is able to satisfy the “stand by” test, then the burden of proof shifts to the owner to show that the contractor took on other work specifically to cover the contractor’s lost overhead.²⁵

Calculating Disruption Damages

A contractor’s disruption claim arises when an owner changes the method and/or sequence of construction from that upon which the contractor based its bid. When the planned method of completing the project is disrupted, contractors incur increased labor costs because it takes them more time to complete the task than originally contemplated. When this occurs, contractors allege either a breach of an express contract provision that requires cooperation between the owner and the contractor for project planning and coordination or a breach

of the implied duty of the owner to cooperate with the contractor or to refrain from hindering the contractor.²⁶

A nationally recognized construction law treatise elaborates on the implied duty to cooperate:

Failure to cooperate can come in the form of disapproval of an accepted method of performance, untimely progress payments, delay in approving changes or correcting design specifications and drawings, failure to disclose superior knowledge or provide timely information, disruptive inspections, poor coordination of other contractors, and refusal to permit storage or access to the site.²⁷

To counter a contractor's disruption claim, owners often argue that they had the right to change the schedule and, therefore, the sequence of construction because of the terms of the contract. Owners reason that these express terms trump the implied duty to cooperate, thereby rendering the legal basis for the contractor's claim suspect.²⁸

Owners also contend that a contractor's assumptions regarding job site access and sequencing were unrealistic and therefore not the owner's fault. When confronted with these owner defenses, contractors must prove a cause-and-effect relationship between their labor cost overrun or disruption claim and the owner's conduct.²⁹ All too frequently, disruption claims cannot be established with precise cause-and-effect proof. Courts have recognized that experts are needed to demonstrate a cause-and-effect relationship by some accepted method of proving causation and quantification:

Quantification of loss of efficiency or impact claims is a particularly vexing and complex problem. We have recognized that maintaining cost records, identifying and separating inefficiency costs to be both impractical and essentially impossible.³⁰

Another court addressed the quantification issue in a similar fashion by noting that quantification of the loss of labor productivity is difficult and the determination of exact damages is "essentially impossible." Nevertheless, the measurement of this type of damages will be determined largely by expert testimony.³¹

To support a disruption damage calculation, contractors typically refer to Civil Code section 3300—which defines the "measure of damages" for a breach contract—and case law holding that once damages have been established with "reasonable certainty," recovery will be allowed, even though the damages cannot be stated with mathematical precision.³²

There are various methods that experts use to quantify loss of productivity and show causation in labor inefficiency claims. These methods include the "measured mile" analysis, the "industry standards" approach, the "total cost" method, the "modified total cost" approach, and the "jury verdict" method.

The measured mile approach analyzes the contractor's productivity during a portion of the project in which the contractor's work was *not* impeded by the owner. This measure of productivity is then compared to the productivity experienced during the disruption. One court, in describing the measured

mile approach, also terms it the "good period *versus* bad period analysis."³³

The productivity rate for a period of disruption is quantified in lost worker hours, which are multiplied by an hourly rate to find the loss of labor productivity, or the disruption claim amount. The measured mile has been accepted by many courts and is generally the favored method of quantifying labor productivity claims.

Owners attack a measured mile calculation by claiming that the baseline productivity measure—that is, the measure of the period unaffected by disruption—is faulty. A baseline productivity measure can be inaccurate if the "good period versus bad period" comparison is not an "apples to apples" comparison. The measured mile in its purest application measures two different periods of productivity for the same type of work performed under the same type of physical conditions on the same project.

A less-favored approach is the industry study method of quantifying labor productivity. Trade groups for various contractors have published productivity tables that show how various job site conditions can affect labor productivity. Particular conditions are scored in terms of their effect on productivity. One of the more recognized industry productivity standards is the Mechanical Contractors' Association of America's (MCAA) productivity factor analysis. A contractor's expert can use the MCAA factors and opine as to how much the contractor's productivity was affected by the owner's disruption. These measurements are then quantified to show the loss of labor efficiency and the disruption claim amount.

Owners attack these standards as being biased, since they were created by contractor trade groups. Owners also contend that industry standards are factually distinguishable from the conditions actually experienced on their job sites. Nonetheless, industry standards have been used successfully as a way to measure productivity.³⁴

The total cost method is based on the premise that the resulting project is a "cardinal change" from what was originally contracted—that is, the current project is fundamentally different from the project envisioned by the contract. Once a cardinal change, or abandonment, has been established, the contractor is freed from the terms of the contract and is allowed to recover the reasonable value of the labor and materials, plus reasonable markups for overhead and profit, less what was previously paid. In effect, the total cost method turns a fixed-price contract into a time-and-materials contract.³⁵ For this reason, numerous courts have disfavored this method.³⁶

A contractor using the total cost method must satisfy a four-part test. The contractor must (1) demonstrate the impracticability of proving its actual losses directly, (2) prove that its bid was reasonable, (3) prove that its actual costs were reasonable, and (4) prove that it was not responsible for its added costs.³⁷ On a public works project, the judge first determines if the contractor submitted prima facie evidence that the four-part test has been established before the jury can be instructed on a total cost theory or a modified total cost theory of recovery.³⁸

The modified total cost method alters the total cost method by subtracting from the total costs any costs incurred by the

contractor due to its own inefficiencies.³⁹ The main criticism of the total cost and modified total cost methods is that they can be used by contractors to hide losses not caused by the owner, such as those losses due to the contractor's bidding errors or defective project management. Owners frequently seek to bar the total cost and modified total cost methods on these grounds.

Owners also contend that the contractor's cost records are sufficiently detailed so that, during the course of a project, the contractor could have tracked its costs to show an actual causal relationship between the owner's actions and the contractor's loss of production. Owners argue that to the extent the contractor failed to adjust its accounting system to track job costs, the contractor should be barred from using the total cost method.

Owners are particularly uncomfortable with allowing total cost claims to be submitted to a jury. A total cost calculation is easy for a jury to understand. Indeed, owners are loathe to allow a total cost claim to be submitted to a jury without a fight because a jury, after the presentation of a long and complex construction case, can arrive at a substantial total cost verdict after a short deliberation.

The jury verdict method is used to allow the trier of fact to determine recoverable disruption damages. Some characterize this method as a last resort. To apply this method, a party must present (1) a clear proof of injury, (2) an indication that there is a no more reliable method of computing damages than leaving the matter to the trier of fact, and (3) evidence of sufficient weight for the trier of fact to make a fair and reasonable approximation of damages.⁴⁰ Frequently, courts as the triers of fact use evidence submitted in support of different quantification methods, such as the total cost method, to derive a jury verdict calculation.⁴¹ Owners contend that the jury verdict method should not be used because the plaintiff contractor failed to meet its burden of demonstrating damages with reasonable certainty. Owners also contend that the jury verdict method, in essence, amounts to nothing more than allowing the trier of fact to make a guess regarding what the contractor's damages are, and this process frees the contractor from its normal and customary burden of showing breach, causation, and damage.

Several elements can be included in contract documents to reduce the risk of delay and disruption losses. These include "no damages for delay" clauses, claims notice provisions, scheduling provisions, claim waivers, and "limitation of liability" clauses, to name just a few. Since each of these provisions and exceptions generally will be weighted toward one of the parties, all bear serious consideration before use, with particular attention to their enforceability under California law.

Litigating delay and disruption claims can be disastrous for all parties. The best means of preventing these claims in the first place is for lawyers to properly educate owners and contractors about delay and disruption issues. Appropriate planning and awareness of all the ways owners and contractors are vulnerable to delay and disruption claims can avert a battle or, at the very least, minimize the casualties. ■

Endnotes

1. *Blake Constr. Co. v. C.J. Coakley Co., Inc.*, 431 A.2d 569, 575 (D.C. Ct. App. 1981).
2. *Yamanishi v. Bleily & Collishaw, Inc.*, 29 Cal. App. 3d 457, 463 (1972); *Hawley v. Orange County Flood Control Dist.*, 211 Cal. App. 2d 708 (1963); *Blake Constr. Co.*, 431 A.2d at 572; *E.C. Ernst v. Manhattan Constr. Co. of Tex.*, 551 F.2d 1026, 1029 (5th Cir. 1977). See PUB. CONT. CODE § 7102; see also *Howard Contracting, Inc. v. G.A. McDonald Constr.*, 71 Cal. App. 4th 38, 48 (1998) (finding in favor of the contractor and rendering the contract provision invalid).
3. See AMERICAN INSTITUTE OF ARCHITECTS, AIA A201 GENERAL CONDITIONS § 4.3.10 (1997 ed.).
4. CIV. CODE § 2782.5; *Markborough Cal., Inc. v. Superior Court of Riverside*, 227 Cal. App. 3d 705 (1991); *Palahouse Servs., Inc. v. Bechtel Corp.*, 108 S.W.3d 322 (Tex. App. Amarillo 2002); *Banner Sign and Barricade, Inc. v. Price Constr., Inc.*, 94 S.W.3d 692 (Tex. App. San Antonio 2002).
5. See AMERICAN INSTITUTE OF ARCHITECTS, *supra* note 3, §§ 3.2.1, 3.2.2, 3.12.10; Pub. Cont. Code § 1104.
6. *United States v. Spearin*, 248 U.S. 132 (1918).
7. Pub. Cont. Code § 1104; *City of Salinas v. Souza & McCue*, 66 Cal. 2d 217 (1967); *Howard Contracting, Inc.*, 71 Cal. App. 4th at 38; *Nota Constr. v. Keys Assocs., Inc.*, 694 N.E.2d 401 (Mass. App. Ct. 1998); *Talsma Builders, Inc. v. State of Illinois*, 31 Ill. Ct. Cl. 143 (1976).
8. Acceleration claims—another subset of time-related construction claims—are not included in the category of disruption claims. However, many of the legal principles underpinning disruption claims apply to issues that arise in acceleration claims.
9. *Appeal of Montgomery-Ross-Fisher, Inc.*, PSBCA (Postal Service Board of Contract Appeals) Nos. 1033, 1096, 84-2 B.C.A. (CCH) No. 7499 (1984).
10. *Bigelow, Inc.*, A.S.B.C.A. No. 24376, 81-2 B.C.A. (CCH) ¶ 15,300 (1981).
11. CIV. CODE § 1671; PUB. CONT. CODE § 10226; *Carr-Gottstein Props. v. Benedict*, 72 P.3d 308 (Alaska 2003); *The Gables, Gables/Kovens, Inc., and Gables Design Group, Inc. v. Choate*, 792 So. 2d 520 (Fla. 3d DCA 2001); *Hunts Point Multi-Serv. Ctr., Inc. v. Terra Firma Constr. Mgmt. and Gen. Contracting, LLC*, 5 A.D.3d 183, 773 N.Y.S.2d 48 (2004).
12. *Id.*
13. CIV. CODE § 3086; *Westinghouse Elec. Corp. v. County of Los Angeles*, 129 Cal. App. 3d 771, 779 (1982); *Peter Kiewit Sons Co. v. Pasadena City Junior Coll. Dist.*, 59 Cal. 2d 241, 245-46 (1963).
14. *Dawson Constr. Co.*, G.S.B.C.A. No. 3998, 75-2 B.C.A. (CCH) ¶ 11,563 (1975).
15. *Go Go v. Los Angeles Flood Control Dist.*, 45 Cal. App. 2d 334 (1941); *Aetna Cas. & Sur. Co. v. Bd. of Trs.*, 223 Cal. App. 2d 337 (1963); *Gen. Ins. Co. v. Commerce Hyatt House*, 5 Cal. App. 3d 460 (1970).
16. *Nomellini Constr. Co. v. State of Cal.*, 19 Cal. App. 3d 240 (1971); *Jasper Constr. v. Foothill Junior Coll. Dist.*, 91 Cal. App. 3d 1 (1979); *Pathan Constr. Co. v. High-Way Elec. Co.*, 65 Ill. App. 3d 480, 382 N.E.2d 453 (1978); *The Cent. Florida Plastering and Dev. v. Soriano Constr. Co., Inc.*, 679 So. 2d 1226 (Fla. 5th D.C.A. 1996); *United States v. J.H. Copeland and Sons Constr., Inc.*, 568 F.2d 1159 (5th Cir.), *cert. denied*, 437 U.S. 957 (1978).
17. *Howard Contracting, Inc. v. G.A. McDonald Constr., Inc.*, 71 Cal. App. 4th 38, 48 (1998); *Fortec Constr. v. United States*, 8 Cl. Ct. 490 (1985); *Mega Constr. Co., Inc. v. United States*, 29 Fed. Cl. 396, 424 (1993).
18. *Fortec Constr.*, 8 Cl. Ct. at 490.
19. *Howard Contracting*, 71 Cal. App. 4th at 38.
20. *Eichleay Corp.*, A.S.B.C.A. No. 5183, 60-2 B.C.A. (CCH) ¶ 2,688 (1960).
21. *West v. Allstate Boiler, Inc.*, 146 F.3d 1368, 1373 (Fed. Cir.

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1998); *Interstate Gen. Gov't Contracts, Inc. v. West*, 12 F.3d 1053, 1056 (Fed. Cir. 1993); *Complete Gen. Constr. Co. v. Ohio DOT*, 94 Ohio St. 3d 54, 760 N.E.2d 364 (2002); *Broward County v. Brooks Builders, Inc.*, 908 So. 2d 536 (Fla. Ct. App. 2005).

22. *Howard Contracting*, 71 Cal. App. 4th at 54.

23. *Allstate Boiler, Inc.*, 146 F.3d at 1373; *Complete Gen. Constr.*, 94 Ohio St. 3d at 54; *Brooks Builders*, 908 So. 2d at 536.

24. The "other work" test has been analyzed by many cases since the original *Eichleay* decision. See *Melka Marine, Inc. v. United States*, 187 F.3d 1370, 1379 (Fed. Cir. 1999). In some instances, the Federal Acquisition Regulations (FAR) apply a certain percentage on change orders to cover a contractor's home office overhead; *Brooks Builders*, 908 So. 2d at 536; *Complete Gen. Constr. Co.*, 94 Ohio St. 3d at 54.

25. *Howard Contracting, Inc. v. G.A. McDonald Constr., Inc.*, 71 Cal. App. 4th 38, 50 (1998); *Henseler v. City of L.A.*, 124 Cal. App. 2d 71, 82-83 (1954); *Shea v. City of L.A.*, 6 Cal. App. 2d 534 (1935); *McWilliams v. Holton*, 248 Cal. App. 2d 447, 451 (1967); *Blake Constr. Co. v. C.J. Coakley Co., Inc.*, 431 A.2d 569 (D.C. Ct. App. 1981); *Fowler & Butts, P.S.B.C.A. No. 2545, 91-1 B.C.A. (CCH) ¶ 23,391*, at 117,383 (1990).

26. CUSHMAN & BUTLER, CONSTRUCTION CHANGE ORDER CLAIMS § 7.11 (1994).

27. *Carma Devs. (Cal.), Inc. v. Marathon Dev. Cal.*, 2 Cal. 4th 342, 373 (1992).

28. *Lewis Mgmt. & Serv. Co.*, A.S.B.C.A. No. 24,389, 85-2 B.C.A. (CCH) ¶ 18,042, at 90,565 (1985).

29. *The Clark Constr. Group, Inc.*, V.A.B.C.A. (Veterans Affairs Board of Contract Appeals) No. 5674, 00-1 BCA ¶ 30,870 (2000).

30. *P.J. Dick, Inc.*, V.A.B.C.A. No. 5597, 01-2 B.C.A. ¶ 31,647 (2001); *Luria Bros. and Co., Inc. v. United States*, 177 Ct. Cl. 676 (1966).

31. *Allen v. Gardner*, 126 Cal. App. 2d 335, 340-42 (1954); *State of Cal. ex rel. Dep't of Transp. v. Guy F. Atkinson*, 187 Cal. App. 3d 25 (1986); *Gold v. Ziff Communications Co.*, 322 Ill. App. 3d 32 (2001); *Ashland Mgmt. Co. v. Jnien*, 82 N.Y.2d 395, 624 N.E.2d 1007 (1993).

32. *P.J. Dick, Inc.*, 01-2 B.C.A. ¶ 31,647 (italics in original); *Clark Concrete Contractors, Inc. v. Gen. Servs. Admin.*, 99-1 B.C.A. (CCH) ¶ 30,280 (1999); *U.S. Indus., Inc. v. Blake Constr. Co.*, 671 F.2d 539 (D.C. Cir. 1982).

33. *Fire Sec. Sys., Inc.*, V.A.B.C.A. No. 3086, 91-2 B.C.A. ¶ 23,743 (1991); *Luria Bros.*, 177 Ct. Cl. at 376.

34. *C. Norman Peterson Co. v. Container Corp. of Am.*, 172 Cal. App. 3d 628 (1985).

35. *Huber Hunt & Nichols, Inc. v. Moore*, 67 Cal. App. 3d 278 (1977); *Amelco Elec. v. City of Thousand Oaks*, 27 Cal. 4th 228 (2002); *Servidone Constr. Corp. v. United States*, 931 F.2d 860 (Fed. Cir. 1991); *WRB Corp. et al., a joint venture dba Robertson Constr. Co. v. United States*, 183 Ct. Cl. 409 (1968).

36. *Amelco Elec.*, 27 Cal. 4th at 243; *Servidone Constr.*, 931 F.2d at 860; *WRB Corp.*, 183 Ct. Cl. at 409.

37. *Amelco Elec.*, 27 Cal. 4th at 243, 244.

38. *Servidone v. United States*, 19 Cl. Ct. 346, 348 (1990), *aff'd*, 931 F.2d 860 (Fed. Cir. 1990); *KIP Kirschdorfer, Inc. v. United States*, 14 Ct. Cl. 594 (1988).

39. *State of Cal. ex rel. Dep't of Transp. v. Guy F. Atkinson Co.*, 187 Cal. App. 3d 25, 32-35 (1986); *WRB Corp.*, 138 Ct. Cl. at 409, 425 (1968).

40. *Tutor-Saliba-Perini, P.S.B.C.A. No. 12, 87-2 B.C.A. (CCH) ¶ 19,775* (1987).

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29. *Id.*

30. Chuck Colson, *A Necessary Show of Strength*, BreakPoint Commentary, available at <http://www.shakinandshinin.org/AnecessaryShowOfStrength.html> (last visited July 23, 2003).

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