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How to Recognize, Preserve, Present, and Prosecute Construction Contractors' Delay Claims

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HOW TO RECOGNIZE, PRESERVE, PRESENT, AND PROSECUTE CONSTRUCTION CONTRACTORS' DELAY CLAIMS

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I. INTRODUCTION

In today's construction industry, the main objective of all parties is to complete the various work activities as rapidly and profitably as possible. Time is critically important because of numerous time-related factors affecting costs — including escalating wages, increasing material costs, and actual or liquidated damages for delays in completion. In the construction industry, time is money.

Most construction contracts stipulate a specific period of time for performance, either by allowing a certain number of project days or by designating a completion date. In addition, construction contracts often establish interim "milestone" dates for completion of specific important activities. To meet their contractual requirements, the parties responsible for construction must control the critical aspects of performance. In particular, they must schedule the work and then monitor job progress to ensure timely project completion.

When contractors bid or negotiate for a construction project, they estimate the costs of labor, equipment, materials, supervision, management, facilities, and financial requirements in order to determine a price for performing the work. Time requirements significantly affect the estimate. For example, to estimate labor costs, the contractor estimates how many hours of

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each craft will be required, extends these hours by the appropriate hourly rates, and then "marks up" those figures to reflect costs for insurance and other fringe benefits. Additionally, the contractor estimates how many craftsmen will be needed to perform each work activity within the allocated time, thus determining how much supervision will be needed. If delayed, contractors may lay off laborers, but may need to retain and pay supervisors, who are not so easily replaced. Therefore, although the direct labor hours required to perform the work may remain unchanged, the contractor's labor costs increase because the period of time necessary to complete the work increases. Unless the contract provides otherwise, a contractor delayed by the owner, or someone for whom the owner is responsible, is entitled to recover delay costs from the owner.

Two general categories of delays exist: excusable or inexcusable delays and compensable or non-compensable delays. If contractors are delayed through no fault of their own, but also through no fault of the owner, then the delay is excusable, but not compensable.[1] The contractor, while not liable to the owner for delaying the project, will not be entitled to recover the extra costs for the extended performance necessitated by the delay. An example of excusable delay is a labor dispute.[2] Most contracts include an excusable delay clause similar to American Institute of Architects (AIA) Form A201:

> If the Contractor is delayed at any time in progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractors' control, or by delay authorized by the Owner pending arbitration, or by other causes which the Architect determines may justify delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Architect may determine.[3]

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1. *See* W.C. James, Inc. v. Phillips Petroleum Co., 485 F.2d 22 (10th Cir. 1973); Central Coast Constr. v. Lincoln-Way Corp., 404 F.2d 1039 (10th Cir. 1968).

2. *See* United States v. Brooks-Callaway Co., 318 U.S. 120 (1943) (dicta in case mentions a labor dispute as a possible excusable delay).

3. THE AMERICAN INSTITUTE OF ARCHITECTS, AIA DOCUMENT A201, GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ¶ 8.3.1 (1987) [hereinafter AIA Doc. A201]. AIA promulgates a number of standard form contracts. These form contracts are some of

If the delay is excusable but not compensable, the contractor generally is entitled only to a time extension.

For a delay to be compensable, the contractor must prove owner responsibility.[4] The following are examples of compensable delays: failure to provide access to the job site; failure to supply owner-furnished materials in a timely manner; failure to provide adequate plans and specifications; failure to respond to contractor inquiries in a timely manner.[5] Moreover, owner responsibility may arise by the occurrence of an owner-assumed risk, even if the owner did not actively cause the delay.[6] Courts generally allow contractors to recover for these delays on the ground that the owner has breached his implied duty not to delay, hinder, or interfere with the performance of the contractor in its work.[7]

Delays are deemed to be concurrent when both the owner and contractor are partially responsible. Generally, this occurs when both parties are responsible for delays to the overall completion of the project as a result of simultaneous delays to work activities in their respective control. Most courts hold that neither party may recover damages from the other when the

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the most widely used construction documents in the United States. In 1987 the AIA introduced the latest revisions to its standard forms. AIA Doc. A201 is the basic document containing the rights and obligations of the owner and contractor.

4. *See* Glassman Constr. Co. v. Maryland City Plaza, Inc., 371 F. Supp. 1154 (D. Md. 1974); Specialty Assembling & Packing Co. v. United States, 355 F.2d 554 (Ct. Cl. 1966).

5. *See* L.L. Hall Constr. Co. v. United States, 379 F.2d 559 (Ct. Cl. 1966) (failure to supply owner-furnished materials in timely manner); Seretto v. Rockland, S.T. & O.H. Ry., 101 Me. 140, 63 A. 651 (1906); Dewey Jordan, Inc. v. Maryland-Nat'l Capital Park & Planning Comm'n, 258 Md. 490, 265 A.2d 892 (1970); *In re* Roberts Constr. Co., 172 Neb. 819, 111 N.W.2d 767 (1961); Litchfield Constr. Co. v. City of New York, 244 N.Y. 251, 155 N.E. 116 (1926); Rao Elec. Equip. Co. v. State, 36 A.D.2d 1019, 321 N.Y.S.2d 670 (Ct. App. Div. 1971); Brown v. East Carolina R.R., 154 N.C. 300, 70 S.E. 625 (1911).

6. For example, consider a project in which there are multiple prime contractors and none are specifically designated as responsible for scheduling and coordination of all work. If one contractor is delayed by a second contractor, the owner will be responsible for any costs arising from the delays. This is possible, even if the owner has not actively caused the delay because the owner assumed the risks of any scheduling or coordination delays.

7. *See, e.g.*, Peter Kiewit Sons' Co. v. Summit Constr. Co., 422 F.2d 242 (8th Cir. 1969); United States *ex rel.* E & R Constr. Co. v. James Constr. Co., 390 F. Supp. 1193 (M.D. Tenn. 1972); Lewis-Nicholson, Inc. v. United States, 550 F.2d 26 (Ct. Cl. 1977); T.C. Bateson Constr. Co. v. United States, 319 F.2d 135 (Ct. Cl. 1963); Zurn Engineers v. State *ex rel.* Dep't of Water Resources, 69 Cal. App. 3d 798, 138 Cal. Rptr. 478, *cert. denied*, 434 U.S. 985 (1977).

overall completion date is delayed because of concurrent delays.[8] The developing trend is to segregate delays if possible, thereby promoting a more equitable result by allocating responsibility for delays that occur in concurrent time periods.[9] Courts, however, will allocate compensation for such delays only if some evidence exists that indicates which party is responsible.[10]

II. RECOGNITION

The recognition phase should begin before work on the project actually starts. During the bidding or negotiation stage of a project, the contractor should thoroughly review the contract language, its general conditions, and the plans and specifications of the project. Contractors also should become familiar with the scheduling requirements of the project up front, and they should anticipate and identify the possible sources of delay before beginning work. For instance, when the contract indicates that the owner will furnish materials or equipment according to a certain schedule, delays affecting the contractor's work may arise if the owner fails to meet these scheduled delivery dates. The contractor should review all the contract documents prior to beginning performance on the project to locate potential areas of delay. Once contractors identify problem areas, they can take steps to prevent the delays before the problem arises.

After work begins, the contractor should monitor construction progress, particularly for any deviations from the project schedule. To monitor progress, the contractor continually should observe work activities at the site and check and update the

8. *See, e.g.*, United States v. United Eng'g & Contracting Co., 234 U.S. 236 (1914) (contractor only entitled to a time extension for concurrent delays); San Ore-Gardner v. Missouri Pac. R.R., 496 F. Supp. 1337 (E.D. Ark. 1980); J.A. Jones Constr. Co. v. Greenbriar Shopping Center, 332 F. Supp. 1336 (N.D. Ga. 1971), *aff'd*, 461 F.2d 1269 (5th Cir. 1972); Rapp v. Mountain States Tel. & Tel. Co., 606 P.2d 1189 (Utah 1980).

9. *See* United States *ex rel.* Heller Elec. Co. v. William F. Klingensmith, Inc., 670 F.2d 1227 (D.C. Cir. 1982); United States *ex rel.* Thorleif Larsen & Son, Inc. v. B.R. Abbot Constr. Co., 466 F.2d 712 (7th Cir. 1972); E.C. Ernst, Inc. v. Manhattan Constr. Co., 387 F. Supp. 1001 (S.D. Ala. 1974), *aff'd in part, vacated in part*, 551 F.2d 1026 (5th Cir. 1977), *cert. denied*, 434 U.S. 1067 (1978); Raymond Constructors of Africa, Ltd. v. United States, 411 F.2d 1227 (Ct. Cl. 1969); Pathman Constr. Co. v. Hi-Way Elec. Co., 65 Ill. App. 3d 480, 382 N.E.2d 453 (1978).

10. *See, e.g.*, United States *ex rel.* Heller Elec. Co. v. William F. Klingensmith, Inc., 670 F.2d 1227 (D.C. Cir. 1982).

schedule for accuracy. A delay can occur even before construction commences when the owner fails to make the job site available to the contractor on the contractually indicated commencement date. To the extent that contractors prove that the delay caused damage, they may recover their additional costs from the owner.[11] During performance contractors should look out for delays, inefficiencies, disruptions, slowdowns, stretch-outs, hindrances, and interruptions to their work on the project. When a problem arises, the contractor must fully evaluate the situation and retain appropriate records so that the cause of each delay can be identified accurately. Project documentation — including correspondence, daily reports, project meeting minutes, shop drawing logs, and change order logs — often provide valuable information about project performance. This information is vital in reconstructing an as-built schedule for comparison with the as-planned schedule to determine what interferences or delays have occurred.

In addition to owner-caused delays, the work of other contractors or subcontractors also can adversely affect the contractor's work. Delays commonly occur when preceding contractors encounter problems that stall their work, and the initial delay "ripples" through subsequent phases of work, retarding the work of any following contractors. By monitoring and regularly updating the schedule, contractors can track their activities and preceding contractors' activities to determine if the job is on schedule. Schedule updates often reflect schedule slippages, changes in sequence, and work stoppages. Therefore, the contractor should include all known delays in the schedule updates.

The contractor also should consider whether any coordination problems on the project are being adequately handled by the party responsible for coordination, who is usually the prime contractor, construction manager, or in cases of multi-prime contracts, the owner. Coordination problems generally are discussed during job progress meetings. These discussions and any agreements on how to resolve problems should be reflected in the meeting minutes. Any unusual practices or occurrences on the job also may alert the parties to delays that may be occurring on the project. These "red flags" should not be ignored. For

11. *See* Ross Eng'g Co. v. United States, 92 Ct. Cl. 253 (1940).

example, changes to the work that increase the cost or time of performance may occur if the architect begins sending "plan clarifications" to the contractor. Similarly, changes that do not *directly* affect the contractor's work nevertheless may cause a delay because a change may slow down preceding work. Thus, when contractors are sent a change order, they should scrutinize the order with an eye towards potential delays. Otherwise, because the contractor arguably failed to respond appropriately, a court may deem the contractor to have waived entitlement to a time extension and to the related extra costs. Contractors can recognize potential and actual delays only by remaining alert so that they can preserve records of the delays for presentation to the owner at some future point.

III. PRESERVATION

A contractor can and often must preserve delay claims through a variety of project documents. Project documentation may evince delays to a contractor's performance.[12] While under appropriate circumstances any project documents may preserve a contractor's delay claims, by far the most important documents for the preservation of a contractor's delay claims are written notification from the contractor to the owner of delays and the project scheduling documents.

A. Notice

Because notification requirements for time extensions and notification requirements for compensation for delays differs depending upon the contract, formulating general rules about a contractor's notification responsibility is difficult. A contractor, however, always should notify the owner immediately upon encountering owner-caused or excusable delays and notify the owner of any potential delays beyond the contractor's control. Unless a particular contract states otherwise, contractors can protect their position by writing the owner and setting forth the

12. Project documentation may include correspondence, daily reports, shop drawing submittals, shop drawing logs, meeting minutes, memoranda, schedules, updated schedules, telephone notes, inspection reports, project engineer's survey books, progress photos (annotated, signed, and dated), cost records, requests for information, change order proposals, change order logs, and progress payment requisitions.

occurrence or expectation of the delay and the known reasons. Contractors should advise the owner as soon as they reasonably are aware of a situation that *could* give rise to a delay. The initial notification always can be supplemented later by information confirming the delay and explaining the circumstances in greater detail.

While the contractor's failure to give prompt notice of delay can result in the denial of a request for time extension or an equitable adjustment, formal notice may be unnecessary or deemed "waived" when the owner has been informed or has actual knowledge of the delay.[13] Accordingly, notice may be unnecessary if the delay is the owner's direct fault or due to a cause under his control.[14] For example, when an owner is fully and continuously aware of project delays, even without notice from the contractor, the owner has "a continuing duty to inquire into the causes of such delay and to minimize potential damages."[15] Nevertheless, the construction contractor should comply with all contractual notice requirements in the contract.

Notice requirements, which vary depending upon the cause of the delay, often are located in broad contract provisions governing interferences and delays. Contract provisions that set notice requirements include the following: clauses governing changes; changed conditions; delay and time extensions; suspension of work; and claims, generally.[16] Thus, careful review and

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13. *See* GB&E Elec. Contractors, 87-3 B.C.A. (CCH) ¶ 20,119 (1987) (ASBCA No. 34026) (oral notice sufficient); Santa Fe, Inc., 84-3 B.C.A. (CCH) ¶ 17,538 (1984) (VABCA No. 1983) (constructive knowledge); Steve Nanna, Inc., 83-2 B.C.A. (CCH) ¶ 16,692 (1983) (DOT CAB No. 1343) (actual knowledge); Leiden Corp., 83-2 B.C.A. (CCH) ¶ 16,612 (ASBCA No. 26136) (constructive knowledge); Casson Constr. Co., 83-1 B.C.A. (CCH) ¶ 16,523 (1983) (GSBCA Nos. 4884, 5103) (constructive knowledge); William Passalacqua Builders, Inc., 77-1 B.C.A. (CCH) ¶ 12,406 (1977) (GSBCA No. 4205) (oral notice); ITT Commercial Serv., 75-1 B.C.A. (CCH) ¶ 11,218 (1975) (GSBCA No. 4210) (contract did not require notice of constructive changes); Lormack Corp., 69-2 B.C.A. (CCH) ¶ 7,989 (1969) (IBCA No. 652-7-67 (actual knowledge).

14. *See* Peter Kiewit Sons' Co. v. Pasadena City Junior College Dist., 59 Cal. 2d 241, 379 P.2d 18, 28 Cal. Rptr. 714 (1963); *Lormack Corp.*, ¶ 7,989; Foster Co., 71-2 B.C.A. (CCH) ¶ 8,949 (ASBCA No. 14824).

15. Vanderlinde Elec. Corp. v. City of Rochester, 54 A.D.2d 155, 158, 388 N.Y.S.2d 388, 391 (1976).

16. For example, AIA Doc. A201 (General Conditions), ¶ 4.3.6, concerning changed conditions, states that "notice by the observing party shall be given to the other party promptly before conditions are disturbed and in no event later than 21 days after first observance of the conditions." Paragraph 4.3.7, concerning claims for additional costs, provides that "written notice as provided herein shall be given before proceeding to exe-

familiarity with all provisions in the contract documents are necessary to ensure timely compliance with all contractual notice requirements.

In addition to notice letters, other project documentation — such as job meeting minutes, change order proposals, and executed change orders — may constitute satisfactory notification to the owner of either potential or actual delays. Appropriately annotated change orders can be an effective way of reserving the contractor's rights to submit claims for time extensions and delays, even for delays not apparent at the time the change order agreement is reached. A price adjustment for a change in the work or a changed condition might be resolved between the contractor and the owner at a time when delays are not foreseen. The contractor may realize, however, that the change or changed condition has caused a delay. In these cases, if contractors do not reserve their rights on the executed change order, the owner may successfully argue that the right to time extensions or to cost adjustments has been waived.[17]

B. Project-Scheduling Documents

The contractor's work progress schedule for large or complex projects should accomplish several objectives. The objectives include: (1) establishing durations of the work activities; (2) establishing relationships between particular work activities by depicting those that precede and follow; and (3) reflecting the degree of work effort, sequencing, and timing required for the procurement of labor, materials and equipment. A correct, periodically updated schedule provides an effective tracking mechanism for a project by showing actual job progress. The schedule also can be used to predict both the direct and indirect impacts of changes and to determine the ultimate effect on construction completion. Updated schedules reflect delays, disruptions, suspensions, hindrances, and interferences to the work because they

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cute the Work." Paragraph 4.3.8.1, concerning claims for additional time, specifies that "written notice as provided herein shall be given."

17. An example of a reservation of rights follows:

> The compensation allowed by this change order does not include amounts or time for changes in the sequence of the work, delays, disruptions, and/or impact costs. The right to make claims for any and all of these related costs or time prior to final payment on this project is expressly reserved.

show variations in the planned schedule.

The contract may impose scheduling requirements on the general contractor. If the contract does not contain an express provision requiring scheduling, general contractors nonetheless should maintain a network-based schedule (most commonly, the CPM) to identify and to preserve their claims for delays.[18] A CPM scheduling network details the sequence and duration of the work activities for the entire project. The network amounts to a paper model of the project in flow chart form. Processing this information creates a data base against which progress can be measured. The contractor immediately can address any impediments to progress on the scheduling network or model of the project. The schedule thus provides an effective tool for coordinating the project work. Likewise, the owner also should recognize problems in construction progress by monitoring the CPM schedule.

The CPM schedule reflects overall job progress by showing actual performance of all activities, particularly "critical activities."[19] A periodic review of the CPM schedule, updated to reflect actual dates of performance, reveals delays adversely impacting project progress by comparing actual progress to planned progress. At the same time, the schedule can be used to anticipate future delays by analyzing the long-term implications of earlier delays.

The usefulness of the CPM schedule obviously depends on the reliability of the information-gathering and the recording procedure.[20] The contractor must update the CPM schedule so

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18. For a discussion of network scheduling techniques see J. MODER, C. PHILLIPS & E. DAVIS, PROJECT MANAGEMENT WITH CPM, PORT, AND PRECEDENCE DIAGRAMMING (3d ed. 1983).

19. *See* United States Fidelity & Guar. Co. v. Orlando Utils. Comm'n, 564 F. Supp. 962 (1983).

> The critical path is the longest series of the work activities through the performance of a whole project. If an activity on the critical path exceeds its scheduled duration, the termination of the project will be delayed unless some other activity on the critical path is performed in less than its scheduled time. A work activity not on the critical path may be completed later than its scheduled time without affecting the termination of the project unless the noncritical activity exceeds its "float" and thereby becomes an activity on the critical path.

Id. at 968.

20. As stated by the Board of Contract Appeals in Ballenger Corp., 84-1 B.C.A. (CCH) ¶ 16,973 (1983) (DOT CAB No. 74-32):

that it realistically reflects actual work progress over time. Routine project records generally are used for updating the schedule. A failure to update not only may fail to preserve necessary evidence of project delays, but also may constitute a breach of contract when updates are contractually required.[21] To keep a schedule updated, all parties must communicate frequently to ensure accurate updates. The contractor must be aware of the progress on all work activities, not just activities on the critical path, because the critical path may change.

If contractors update the schedule in a timely manner, they should be able to give prompt notification to the owner of any delays, for which a time extension or price adjustment may be necessary. If contractors fail to update the schedule, they run the risk that a delay will not be recognized and that the owner, therefore, will not be notified within the required contractual time period. Moreover, some contracts state that time extensions will not be granted unless they are supported by the schedule, especially if the contract calls for scheduling by CPM or another network-based scheduling technique.[22]

IV. Preparation and Presentation

To establish entitlement for delays, contractors must prove not only that they were delayed but also that the delay was not their fault. If contractors maintain accurate and adequate project documentation, they can recreate the project and prove their claims. Contractors then can present the project history in

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> Although the CPM analysis is a well-respected tool and may be useful to a trier of facts for ascertaining the impact and interrelationship of Government [owner]-caused delays in project scheduling, its usefulness as a barometer for measuring time extensions and delay damages is necessarily circumscribed by the extent to which it is employed in an accurate and consistent manner to comport with the events actually occurring on the job. . . . [T]his is the single most important factor in determining the acceptability of a contractor's delay analysis.

Id. (citations omitted).

21. *See* Natkin & Co. v. George A. Fuller Co., 347 F. Supp. 17 (W.D. Mo. 1972).

22. For example, one public agency contract provides:

> 1. Each month just prior to the monthly update the Construction Manager shall enter each approved change occurring that month into the Schedule based on the agreed upon logic with the contractor for analysis.
> 2. The contractor shall be granted time extensions for the cumulative effect of said Change Orders on the critical path.

an organized format to the owner and, if necessary, to the arbitrators or the court. Contractors should follow three steps when preparing and presenting a delay claim: (1) gather and analyze the facts; (2) prepare a written summary of the claim; and (3) negotiate the claim. Each of these steps are analyzed below.

A. Gathering and Analyzing the Facts

For simple or single-issue claims, relatively little fact-gathering and analysis is necessary. Simple claims generally are presented as they occur. Contractors usually forward a statement of their claims to the owner with the accompanying backup documentation. The contractor can express the claim in a letter as a change order proposal or in a CPM schedule that demonstrates entitlement to a time extension. Even for a simple claim, however, contractors should involve their construction attorneys. Attorney review reduces the possibility of subsequent unanticipated and undesirable legal ramifications. An expert consultant also may be useful at this stage to analyze the delay claims.

In contrast to simple or single-issue claims, major claims usually require more effort in gathering and analyzing the facts before presentation. For major claims, the facts — sometimes involving multiple volumes of explanation and supporting documentation — should be explained in considerable detail. Contractors, construction consultants, or construction attorneys may prepare major claims. Construction consultants and construction attorneys generally are better able to invest the time and effort necessary for preparation of accurate and concise claim presentation. Moreover, if prepared by a construction attorney, the claim is more likely to address and satisfy legal considerations that otherwise could prove troublesome in negotiations, arbitration, or litigation.

The process of gathering and analyzing the facts for a major claim should be methodical. Construction attorneys should gather and organize the project documentation according to each individual claim. In addition, they should review and analyze all relevant plans and specifications, the CPM schedule and updates, the reports on job progress, and any other scheduling information. Furthermore, attorneys should carefully review and analyze the contractor's cost records, concentrate on cost over-

runs in particular work activities, and scrutinize cost categories created to recapture delay costs. Attorneys usually should interview or discuss particular aspects of job progress with the contractor's construction team. While the sequence of these events is largely a function of the person preparing the claim and what the claim involves, a thorough review of all relevant project documents and extensive discussion with construction personnel generally is necessary.

B. Preparing the Claim

Claims should be organized in a logical fashion, either by chronology, by importance, or by claim categories. Chronological order may be the easiest for preparation of the claim, but it may present major and minor items sporadically. Thus, organizing the claim by category or importance may be a better method. However the claim is organized, before drafting the claim, attorneys should consider the various claim elements and organize the claim so that the facts on which the contractor bases his position are highlighted.

Generally, the claim should be divided into sections, beginning with a brief introduction to identify the parties involved, the claims presented, and the ultimate goals sought to be accomplished. Section two should assert the facts upon which the claims are based. Section three should detail the costs and the total adjustment to the contract price sought by the claim. Section four should present the relevant legal principles upon which the claim is based. The claim should conclude with a summary and a suggestion of an appropriate resolution procedure.

The facts section should be organized so that it logically flows and narrates the story in a persuasive and forceful manner and constitutes an accurate record of what occurred on the job. The claim, by virtue of contract requirements or subsequent events, may develop into important evidence in subsequent litigation or arbitration. The facts should either refer to specific supporting documents or include copies of such documents interspersed appropriately throughout the claim. If the exhibits cannot be incorporated, then contractors should indicate that their records are available for the owner to review. In addition, drawings, photographs, charts, tables, and other graphics might portray a sequence of events far better than a factual narrative

and also may be far more persuasive.

The costs section may be the most important part of the claim because it presents material that forms the primary basis of the dispute. Therefore, the contractor must accurately present the costs. Precision implies attention to detail. Numbers that are rounded off or merely estimated raise concerns about accuracy as well as legitimacy. Documentation to support cost figures should be provided when practical. Alternately, source documentation should be identified. Contractors might consider using alternative supporting calculations, particularly for categories such as inefficiencies and home office overhead.[23]

When formulating the costs section of a claim, attorneys must recognize that, except under very limited circumstances, courts generally reject total cost claims.[24] Under the total cost method, the costs are not tied to particular acts. The contractor calculates damages simply by subtracting his estimated costs (taken from the bid) from the total costs incurred on the project. Courts dislike the total cost method because it relies upon several assumptions. Specifically, the total cost calculation assumes that the contractor's actual costs were reasonable, the contractor's bid was reasonable, the contractor was not responsible for any extra costs, and any additional costs arose solely due to the alleged delays or interferences. Thus, as a general rule, courts will allow the total cost method only if the contractor can demonstrate the existence of four conditions: (1) the contractor's damages were a result of acts of the owner, not the contractor; (2) the contractor's losses cannot be determined on a segregated damages basis; (3) the contractor's bid was reasonable; and (4)

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23. For example, New York courts consistently have rejected application of the formula announced in Eichleay Corp., 60-2 BCA (CCH) ¶ 2,688 (1960) (ASBCA No. 5183), for calculating home office overhead and, instead, applied a restricted formula promulgated in Manshul Constr. Corp. v. Dormitory Auth. of New York, 79 A.D.2d 383, 436 N.Y.S.2d 724 (Ct. App. Div. 1981). Thus, a New York contractor could begin the home office overhead costs section of a claim by showing a home office overhead calculation under the *Eichleay* formula and then introduce an alternative formula that meets the criticisms of *Eichleay* but expands the restricted formula of *Manshul*.

24. *See, e.g.*, Namekagon Dev. Co. v. Bois Forte Reservation Hous. Auth., 395 F. Supp. 23 (D. Minn. 1974); Boyajian v. United States, 423 F.2d 1231 (Ct. Cl. 1970); Huber, Hunt & Nichols, Inc. v. Moore, 67 Cal. App. 3d 278, 136 Cal. Rptr. 603 (1977); John F. Harkins Co. v. School Dist. of Philadelphia, 313 Pa. Super. 425, 460 A.2d 260 (1983); Highland Constr. Co. v. Union Pac. R.R., 683 P.2d 1042 (Utah 1984).

the contractor's actual costs of performance were reasonable.[25]

In *Department of Transportation v. Hawkins Bridge Co.*[26] the contractor proved that the owner was responsible for the delays and additional work on the project. The contractor resorted to the total cost method because its records did not allow segregation of costs to any reasonable degree of certainty. The court found sufficient evidence to meet the four conditions above and stated: "[T]here was no practicable means of measuring damages other than the total cost method in that excess costs could not be segregated due to DOT's delays causing performance of work out of sequence, and the shifting of both labor crews and material schedules."[27]

In another case, *J.D. Hedin Construction Co. v. United States*,[28] the court of claims identified a number of cases supporting use of the total cost method if the test was subjected to "proper safeguards."[29] The court recognized that in all cases, no other method of computing damages was available.[30] The *Hedin* court then turned its focus to the facts of its own case and determined that the "proper safeguards" were present, specifically that the contractor had proved the reasonableness of his bid and the actual costs.[31]

In certain instances, however, courts have allowed use of the total cost method even though all four conditions have not been met.[32] In other circumstances, courts use a modified total cost

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25. *See, e.g.*, Moorhead Constr. Co. v. City of Grand Forks, 508 F.2d 1008 (8th Cir. 1975); G.M. Shupe, Inc. v. United States, 5 Cl. Ct. 662 (1984); WRB Corp. v. United States, 183 Ct. Cl. 409 (1968); J.D. Hedin Constr. Co. v. United States, 347 F.2d 235 (Ct. Cl. 1965); Huber, Hunt & Nichols, Inc. v. Moore, 67 Cal. App. 3d 278, 136 Cal. Rptr. 603 (1977); Department of Transp. v. Hawkins Bridge Co., 457 So. 2d 525 (Fla. Dist. Ct. App. 1984); John F. Harkins Co. v. School Dist. of Philadelphia, 313 Pa. Super. 425, 460 A.2d 260 (1983); Hewitt Contracting Co., 83-2 B.C.A. (CCH) ¶ 16,816 (1983) (ENGBCA Nos. 4596, 4597).

26. 457 So. 2d 525 (Fla. Dist. Ct. App. 1984).

27. *Id.* at 528.

28. 347 F.2d 235 (Ct. Cl. 1965).

29. *See* Oliver-Finnie Co. v. United States, 279 F.2d 498 (Ct. Cl. 1960); MacDougald Constr. Co. v. United States, 122 Ct. Cl. 210 (1952); Great Lakes Dredge & Dock Co. v. United States, 96 F. Supp. 923 (Ct. Cl. 1951), *cert. denied*, 342 U.S. 953 (1952).

30. *See Hedin*, 347 F.2d at 247.

31. *See id.*

32. *See, e.g.*, Moorhead Constr. Co. v. City of Grand Forks, 508 F.2d 1008, 1016-17 (8th Cir. 1975); *Hedin*, 347 F.2d at 247 (owner responsibility clearly established and no other method feasible); Zook Bros. Constr. Co. v. State, 171 Mont. 64, 70, 556 P.2d 911, 917 (1976) (supported by actual cost records); State Highway Comm'n v. Brasel & Sims

approach or the so-called "jury verdict" method to calculate damages. When the amount of damages cannot be ascertained with certainty and only a reasonable approximation is possible, courts may implement the *modified total cost* approach or the jury verdict method.[33] The modified total cost approach makes adjustments for particular items of extra costs that are the contractor's responsibility, such as a bid error as to a particular item of work or poor performance in a certain respect. These adjustments then bring the analysis in line with the criteria imposed for applying the total cost method. The jury verdict method is calculated by apportioning damages based on the degree of responsibility derived from the evidence presented.

Another possible method for determining damages when the contractor cannot accurately pinpoint the actual delay costs is *quantum meruit*. This method compensates the contractor for the reasonable value of its labor and materials, which, if not recovered, would unjustly enrich the owner.[34] This method may be based on the value conferred, but often is computed based on the costs of performance.

After preparing an initial draft of the entire claim, attorneys should begin the process of revising and refining the claim. If the contractor has not prepared the claim, it should review the claim to verify the facts. Additionally, the contractor should evaluate whether graphics and project photographs are available for illustrating complicated or disputed points.

At this stage the attorney should consider various strategies and how most effectively to articulate liability for the claims. One question that must be addressed is how much to "attack" the other side? If the contractor is obligated to perform additional work on the project or wishes to perform work in the future for the owner, perhaps it should attack no more than is absolutely necessary. Diffusing the claim by depersonalizing the narrative and eliminating any references to particular individuals might be considered. The depersonalized approach is often

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Constr. Co., 688 P.2d 871, 877 (Wyo. 1984).

33. *See, e.g.*, McNair Constr. Co. v. Fogle Bros., 64 N.C. App. 282, 285, 307 S.E.2d 200, 204 (1983); State Highway Comm'n v. Brasel & Sims Constr. Co., 688 P.2d 871 (Wyo. 1984).

34. *See* Southern Bell Tel. & Tel. v. Acme Elec. Contractors, Inc., 418 So. 2d 1187 (Fla. Dist. Ct. App. 1982); Bignold v. King County, 65 Wash. 2d 817, 399 P.2d 611 (1965).

the best, no matter what the circumstances. Emotionalism is eliminated, and the claim, therefore, is more palatable. Another primary consideration in choosing a strategy is to determine who will be reading, analyzing, negotiating, and paying the claim. Claims should be addressed to these people and should be worded as positively as possible.

During claims preparation, attorneys also must consider the timing of delivery of the claim. If the financial status of the project or owner is uncertain, the contractor should present the claim as quickly as possible. On the other hand, presenting the claim just before a routine payment may prompt the owner to withhold payment as leverage in resolving the claim. Indeed, prior to presenting a claim before the end of the project, contractors should consider the claim's potential effect on continued relations with the owner. In summary, when contractors decide the appropriate delivery date for the claim, they must consider the response sought and the time of response.

C. Negotiating the Claim

Successful negotiation of a construction claim depends to a large extent on the personalities of the parties involved. A number of factors, however, may apply besides the personalities.

Both contractors and owners should establish a negotiating team with clearly defined roles and responsibilities. A team needs a carefully chosen, articulate, and respected lead spokesperson. All members of the negotiating team should recognize this leader. The negotiating team also should include at least one person who was present on the job site during construction and who has a working knowledge of all facts; a negotiating team without such an individual is at a disadvantage because the team cannot directly support or refute allegations. Moreover, individuals with "hands-on" experience often are persuasive because they have an eyewitness' perspective. In addition, a negotiating team should include a person who is authorized to accept a settlement offer. A decision maker, however, should be included in negotiations only when someone of equal authority is included on the other side. This strategy will preclude an imbalance in authority.

The first step in negotiating claims is to investigate all relevant facts and legal principles. A negotiator who does not have

full command of this information may be unable to present or refute subtle points that could appear. The best starting point is for all members of the negotiating team to become intimately familiar with the claim. In addition to the facts and law, negotiators also should understand the desired outcome. Understanding the goals of negotiation enhances the prospect of reaching them. Accordingly, negotiators should be sensitive to potential pitfalls. If negotiators are not fully aware of problems that could result from following a negotiation strategy, they may jeopardize their ability to negotiate a desired result. Ideally, negotiations should follow one strategy. The lead negotiator who arbitrarily changes strategy may lose credibility.

Before beginning negotiations, the opposing parties should agree on an agenda, or the parties leave themselves vulnerable to wasted time and frustration. Additionally, mutual disclosure of the negotiation team participants may be beneficial to help prevent an imbalance or conflict at the negotiating table.

Two issues must be addressed during negotiations: the contractor's entitlement to recovery and the amount of damages. Owners often take a pragmatic approach and want to know the cost of each element before discussing responsibility. Contractors, on the other hand, typically wish to resolve issues of responsibility before negotiating the dollar amounts of each problem contributing to the total claim. Contractors favor this strategy because once owners acknowledge liability for individual items, contractors have a better idea as to where they can "give and take" during negotiations or dollar amounts.

During negotiations both parties should avoid unnecessary emotionalism and antagonism, which only polarizes the parties and prevents or delays settlement. Negotiators who keep an open mind and stress a willingness to deal with uncontested facts, favorable or unfavorable, increase the chances of an amicable settlement. By squarely addressing unfavorable facts, the negotiator gains respect and credibility from the other negotiators and, in turn, may induce negotiators on the other side to conform their behavior to this standard. Negotiators also should maintain a reasonable level of flexibility. They should be prepared to deal with unexpected demands by countering with suggestions that meet the demands but protect their own interests.

Negotiators may enhance settlement prospects if they devise creative solutions that solve the other side's problems while

also achieving their own objectives. For example, claims negotiations sometime reach an impasse because the party owing money is insolvent and, thus, denies responsibility for his debt. A clever negotiator may suggest staggered or postponed payments (provided responsibility is acknowledged) or may address the obligation in some other way. A negotiator may structure interim solutions to maintain the status quo while investigation and negotiation continues. Similarly, interim cost-sharing arrangements may serve to mitigate damages by allowing disputed work to proceed pending determination of responsibility for costs.

If the parties reach an apparent impasse during negotiations, the best strategy may not be to acknowledge a deadlock. The parties, instead, could agree to provide additional data either supporting their respective positions or refuting the other side's position. Moreover, additional time between meetings will give the parties time to cool off and assess whether the impasse can be overcome. To summarize, success or failure of claims negotiations will depend largely on each side's preparation and negotiating techniques. By preparing thoroughly, applying common sense, giving the other side appropriate credit, and being creative in considering mutually beneficial solutions, a party's effectiveness in negotiations, and, therefore, its satisfaction with the results, will increase.

V. Prosecution

A. Litigation

No matter how well a negotiator conceives and executes a strategy, the parties simply cannot amicably resolve all disputes. If a solution cannot be reached, the dispute must be submitted to a third-party forum for a decision. Unless the contract states otherwise,[35] the parties generally will litigate unresolved dis-

35. Many construction contracts contain a provision requiring the arbitration of any disputes arising during construction under the contract. An example is found in the AIA Doc. A201 ¶ 4.5.2:

> Claims between the Owner and Contractor not resolved under Paragraph 4.4. shall, if subject to arbitration under Subparagraph 4.5.1, be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association currently in effect, unless the parties mutually agree otherwise.

putes. Unfortunately, litigation is expensive and time consuming.

In order for contractors to recover delay damages, they must show the following elements: (1) that the contractor, in fact, was delayed for a specific period of time; (2) that the contractor was not responsible for any part of the delay; (3) that the owner or his representative was responsible for the delay; (4) that the contractor incurred expenses resulting from the delay that otherwise would not have been incurred; and (5) the amount of delay damages incurred.[36]

During litigation of delay claims, one of the most important pieces of evidence is the project schedule. If the contract requires the contractor to maintain and update an accurate project schedule, then the schedule is binding on all parties.[37] Therefore, if a contractor is required to submit a schedule to the owner, the contractor may be entitled to time extensions and delay damages if the owner fails to comply with the time periods assigned to the owner's activities.[38] For example, in *Canon Construction Corp.*[39] the contractor used a CPM schedule to prove the length of delay caused by government revisions to housing project drawings that were necessitated by changed conditions.[40] Another example is contractor entitlement to delay damages due to the owner's failure to meet his implied obligation to furnish scheduled site access.[41]

Even if not contractually binding, contractors may use the schedule to illustrate the impact and effect of the actions taken by the owner on overall job progress. A properly maintained and updated project schedule is extremely useful in isolating the impact of owner-caused or third-party delays.[42]

Id.

36. *See* 2 R. NASH & J. CIBINIC, FEDERAL PROCUREMENT LAW 1293, 1323-26 (3d ed. 1980).

37. The schedule becomes binding if the owner approves or acquiesces to it. *See* Economy Mech. Indus., 79-1 B.C.A. (CCH) ¶ 13,571 (1979) (GSBCA No. 4683).

38. *See* Fullerton Constr. Co., 69-2 B.C.A. (CCH) ¶ 7,876 (1969) (ASBCA No. 12275).

39. 72-1 B.C.A. (CCH) ¶ 9,404 (1972) (ASBCA No. 16142).

40. *See id.*

41. *See* Blinderman Constr. Co. v. United States, 695 F.2d 552 (Fed. Cir. 1982).

42. *See* Noranda Aluminum, Inc. v. United Bhd. of Carpenters & Joiners, 528 F.2d 1304 (8th Cir.) (CPM used to estimate damages resulting from delays caused by illegal strike), *cert. denied*, 429 U.S. 835 (1976); Fischbach & Moore Int'l Corp., 77-1 B.C.A.

If a project involves multiple prime contractors, courts often hold that the owner implicitly assumed the duty of coordinating the contractors and preventing unreasonable delays.[43] For instance, if the owner issues a notice to proceed and is aware of potentially delaying circumstances, his action may amount to active interference with a follow-on contractor's work.[44] Similarly, in *Pierce Associates, Inc.*[45] a follow-on contractor recovered delay damages when the government failed to require a preceding contractor to accelerate its work in order to comply with the project schedule. In *Head Construction Co.*[46] a contractor recovered from an owner who allowed an earlier work force to delay the contractor's access to the job site.[47]

Under certain circumstances, however, owners can avoid liability for delays that occur on multiple prime contractor projects. In *Broadway Maintenance Corp. v. Rutgers State University*[48] the Supreme Court of New Jersey held that the owner had the right to absolve itself of coordination responsibility on a multiple prime contractor project by contractually designating one of the contractors as the responsible party for scheduling and coordination of all project work.

Contractors can use the project schedule to show that but for owner delays, it would have completed the project *before* the scheduled completion date. Courts have held that contractors may recover delay damages incurred as a result of the owner's actions because "an owner may not prevent a contractor's early completion."[49] In these cases, contractors must show that they

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(CCH) ¶ 12,300 (1977) (ASBCA No. 18146).

43. *See* Shea-S&M Ball v. Massman-Kiewit-Early, 606 F.2d 1245, 1251 (D.C. Cir. 1979) (owner in superior position to compel cooperation among contractors because of its unique contractual relationship); Pacoon, Inc. v. United States, 399 F.2d 162 (Ct. Cl. 1968) (owner must act in good faith); Eric A. Carlstrom Constr. Co. v. Independent School Dist., 256 N.W.2d 479 (Minn. 1977) (owner responsible for coordination notwithstanding language in contract); Broadway Maintenance Corp. v. Rutgers State University, 90 N.J. 253, 447 A.2d 906 (1982) (owner's failure to act when unnecessary and unreasonable delays evidences bad faith and breaches implied duty to coordinate).

44. *See* United States Steel Corp. v Missouri Pac. R.R., 668 F.2d 435, 439 (8th Cir.), *cert. denied*, 459 U.S. 836 (1982).

45. 77-2 B.C.A. (CCH) (1977) (GSBCA No. 4163), *aff'd*, 78-1 B.C.A. (CCH) ¶ 13,078 (1978).

46. 77-1 B.C.A. (CCH) ¶ 12,226 (1977) (ENGBCA No. 3537).

47. *See id.*

48. 90 N.J. 253, 447 A.2d 906 (1982).

49. Housing Auth. v. E.W. Johnson Constr. Co., 264 Ark. 523, 531, 573 S.W.2d 316,

would have completed their work prior to the scheduled completion date but for the delays attributable to the owner.[50]

Courts focus on the completeness and accuracy of the project schedule when it is offered as evidence to prove delays. When the schedule has not been updated properly, its evidentiary value may be diminished.[51] In *Edwin J. Dobson, Jr., Inc. v. Rutgers State University*[52] a New Jersey court focused on completeness of the schedule in deciding whether to permit the schedule to prove or refute construction delays. In *Dobson*, as often occurs on construction projects, the schedule updates did not fully integrate all of the project work when it was submitted. The *Dobson* court held that the schedule was not complete until the third update and, therefore, that the information was insufficient for an accurate measurement of the delay.[53]

In addition to completeness, a contractor must prove the information upon which the schedule is based. Courts generally require evidence that indicates the origin of the data used to prepare the schedule.[54] A schedule may not be reliable if it fails to include field conditions that may influence the construction sequence.[55] Furthermore, a court may find a schedule unreliable if it intentionally deviates from the manner in which the contractor actually intended to complete the project.[56] A court, however, may accept a schedule as a framework demonstrating delays even though the schedule was not used by the contractor to complete the project.[57]

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323 (1978).

50. *See id.*

51. *See* Haney v. United States, 676 F.2d 584 (Ct. Cl. 1982).

52. 157 N.J. Super. 357, 384 A.2d 1121 (Ct. Law Div. 1978), *aff'd sub nom.* Broadway Maintenance Corp. v. Rutgers State Univ., 180 N.J. Super. 350, 434 A.2d 1125 (Ct. App. Div. 1981), *aff'd*, 90 N.J. 253, 447 A.2d 906 (1982).

53. *Id.* at 370, 384 A.2d at 1135-36.

54. *See, e.g.*, Chaney & James Constr. Co., 66-2 B.C.A. (CCH) ¶ 6,066 (1966) (FAA CAP No. 67-18) (CPM flow charts not accepted as evidence because of questionable origins, purposes, and use by contractor); Lane-Verdugo, 73-2 B.C.A. (CCH) ¶ 10,271 (1973) (ASBCA Nos. 16327, 16328) (testimony or documentation necessary to show accuracy of information furnished to prepare CPM).

55. *See* Joseph E. Bennett Co., 72-1 B.C.A. (CCH) ¶ 9,364 (1972) (GSBCA No. 2362).

56. *See, e.g.*, E.C. Ernst, Inc. v. Manhattan Constr. Co., 387 F. Supp. 1001 (S.D. Ala. 1974), *aff'd in part, vacated in part*, 551 F.2d 1026 (5th Cir. 1977), *cert. denied*, 434 U.S. 1067 (1978).

57. *See, e.g.*, Blackhawk Heating & Plumbing Co., 75-1 B.C.A. (CCH) ¶ 11,261

Courts also may reject project schedules if they include mistakes.[58] In *E.C. Ernst, Inc. v. Koppers Co.*[59] the contractor introduced into evidence a modified schedule indicating that the subcontractor should have started work earlier than was shown on the initial schedule. The court refused to accept the modified schedule because no explanation of change was given.[60] In contrast, courts may excuse errors in the schedule that do not affect the logic or the duration. Assignment of trades to minor activities or mislabeling activities are two examples.[61]

All parties to a contract have an implied duty not to delay, hinder, or interfere with the contractual performance of the other parties.[62] Courts have held that inadequate plans or untimely actions by the owner constitute a breach of this implied duty.[63] In an attempt to eliminate or at least limit their liability for delays, owners often include a contract clause, sometimes called a "no damages for delay" clause,[64] limiting a contractor's remedy for delays to a time extension. Courts and boards of contract appeals generally uphold a "no damages for delay" clause so long as the delay was foreseeable and the owner was not an

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(1975) (GSBCA No. 2432).

58. *See id.*

59. 476 F. Supp. 729 (W.D. Pa. 1979), *aff'd in part, rev'd in part*, 626 F.2d 324 (3d Cir. 1980).

60. *See Ernst*, 476 F. Supp. at 748.

61. *See* Edwin J. Dobson, Inc. v. Rutgers State Univ., 157 N.J. Super. 357, 390, 384 A.2d 1121, 1154 (Ct. Law Div. 1978) *aff'd sub nom.* Broadway Maintenance Corp. v. Rutgers State Univ., 180 N.J. Super. 350, 434 A.2d 1125 (Ct. App. Div. 1981), *aff'd* 90 N.J. 253, 447 A.2d 906 (1982); Blackhawk Heating & Plumbing Co., 75-1 B.C.A. (CCH) ¶ 11,261 (1975).

62. *See* Peter Kiewit Sons' Co. v. Summit Constr. Co., 422 F.2d 242, 257 (8th Cir. 1969); Luria Bros. & Co., United States, 369 F.2d 701, 708 (Ct. Cl. 1966).

63. *See, e.g.*, Ascani Constr. & Realty Co., 83-2 B.C.A. (CCH) ¶ 16,635 (1983) (ASBCA No. 1572, 1589) (late decision-making); Owen L. Schwam Constr. Co., 79-2 B.C.A. (CCH) ¶ 13,919 (1979) (ASBCA No. 22407) (late drawing approvals); Sidney Constr. Co., 72-2 B.C.A. (CCH) ¶ 12,719 (1977) (ASBCA No. 21377) (delays in returning submittals).

64. A typical "no damages for delay" clause may provide:

> If delays are caused by acts of God, acts of government, unavoidable strikes, extra work, or other causes or contingencies clearly beyond the control or responsibility of the Contractor, the Contractor shall be entitled to so much additional time to perform and complete the work as the Engineer shall certify in writing to be just. The Contractor agrees that he shall not have or assert any claim for nor shall he be entitled to any additional compensation or damages on account of such delay.

active wrongdoer.[65] Courts, however, strictly construe "no damages for delay" clauses due to their harsh consequences against contractors.[66] Furthermore, some state legislatures have enacted statutory limitations on the application of the clauses.[67]

Several general exceptions to enforcement of "no damages for delay" clauses have developed in some states. The general exceptions are:

(1) that the delay is of a kind not contemplated by the parties;[68]

(2) that the delay amounts to an abandonment of the contract;[69]

(3) that the owner actively interfered with the contractor's work;[70] and

(4) that the delay resulted from the breach of a fundamen-

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65. *See, e.g.*, United States v. Howard P. Foley Co., 329 U.S. 64 (1946); Peter Kiewit Sons' Co. v. Iowa S. Util. Co., 355 F. Supp. 376 (S.D. Iowa 1973); M.A. Lombard & Son Co. v. Public Bldg. Comm'n, 101 Ill. App. 3d 514, 428 N.E.2d 889 (1981); Phoenix Contracting Corp. v. New York City Health & Hosp. Corp., 118 A.D.2d 477, 499 N.Y.S.2d 953 (Ct. App. Div. 1986); Gottlieb Contracting, Inc. v. City of New York, 86 A.D.2d 588, 446 N.Y.S.2d 311 (Ct. App. Div. 1982), *aff'd*, 58 N.Y.2d 1051, 462 N.Y.S.2d 642, 449 N.E.2d 422 (1983); Ace Stone, Inc. v. Township of Wayne, 47 N.J. 431, 221 A.2d 515 (1966).

66. *See, e.g.*, Burgess Constr. Co. v. M. Morrin & Son Co., 526 F.2d 108 (10th Cir. 1975) (delay must be one contemplated and excused by the contract), *cert. denied*, 429 U.S. 866 (1976); F.D. Rich Co. v. Wilmington Hous. Auth., 392 F.2d 841 (3d Cir. 1968).

67. *See, e.g.*, CAL. PUB. CONT. CODE § 7102 (West 1988); WASH. REV. CODE ANN. §§ 4.24.360 -.380 (1988).

68. *See* Peter Kiewit Sons' Co., 355 F. Supp. 376 (8th Cir. 1969); Hawley v. Orange County Flood Control Dist., 211 Cal. App. 2d 708, 27 Cal. Rptr. 478 (1963); Blake Constr. Co. v. C.J. Coakley Co., 431 A.2d 569 (D.C. 1981); Ace Stone, Inc. v. township of Wayne, 47 N.J. 431, 221 A.2d 515 (1966); People *ex rel.* Wells & Newton Co. v. Craig, 232 N.Y. 125, 133 N.E. 419 (1921); City of Houston v. R.F. Ball Constr. Co., 570 S.W.2d 75 (Tex. Ct. App. 1978).

69. *See* State *ex rel.* Wells & Newton Co. v. Craig, 232 N.Y. 125, 133 N.E. 419 (1921); *cf.* Cunningham Bros., Inc. v. City of Waterloo, 254 Iowa 659, 117 N.W.2d 46 (1962) (abandonment exception recognized but not followed under facts of case).

70. *See* United States Indus. v. Blake Constr. Co., 671 F.2d 539 (D.C. Cir. 1982); United States Steel Corp. v. Missouri Pac. R.R., 668 F.2d 435 (8th Cir.), *cert. denied*, 459 U.S. 836 (1982); John E. Green Plumbing & Heating Co. v. Turner Constr. Co., 500 F. Supp. 910 (E.D. Mich. 1980), *aff'd*, 742 F.2d 965 (6th Cir. 1984) *cert. denied*, 471 U.S. 1102 (1985); Hallett Constr. Co. v. Iowa State Highway Comm'n, 261 Iowa 290, 154 N.W.2d 71 (1967); Coatesville Contractors & Eng'rs, Inc. v. Borough of Ridley Park, 509 Pa. 553, 506 A.2d 862 (1986); Allen-Howe Specialties Corp. v. United States Constr., Inc., 611 P.2d 705 (Utah 1980). *But see* Kalisch-Jarcho, Inc. v. City of New York, 58 N.Y.2d 377, 448 N.E.2d 413, 461 N.Y.S.2d 746 (1983) (owner's active interference would not subject owner to liability for delay unless such interference was willful, malicious, or in bad faith).

tal contract obligation.[71]

To overcome a "a no damages for delay" clause, the contractor must present "sufficient evidence" to prove one of these exceptions.[72]

When defending against delay claims, owners frequently focus on a contractor's failure to comply with contractual notice provisions. Under recognized equitable considerations, the contractor should notify the owner of the condition so that the owner has an opportunity to remove the cause of delay and thus limit its liability. Unless the owner has waived the required notice, many courts view the contractor's failure to give prompt notice of the delay to the owner as a bar to a delay claim.[73] Owners also defend against delay claims by asserting that the contractor waived its right of recovery in other ways. Courts have held that when a contractor executes a change order that specifies an amount, the contractor has wavied further delay damages.[74]

An important issue in determining whether a contractor is entitled to recover for delay damages is whether the delayed activities were on the critical path. In critical path scheduling, activities not located on the critical path are said to be on a "float path."[75] If delays to the activities on a float path do not exceed the total number of days of "float," then the end completion date for the project will not be impacted. Conversely, if delays to

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71. *See* Northeast Clackamus County Elec. Co-op. v. Continental Casualty Co., 221 F.2d 329 (9th Cir. 1955); Corinno Civetta Constr. Corp. v. City of New York, 67 N.Y.2d 297, 493 N.E.2d 905, 502 N.Y.S.2d 681 (1986); Carlo Bianchi & Co. v. State, 17 A.D.2d 38, 230 N.Y.S.2d 471 (Ct. App. Div. 1962), *aff'd*, 28 N.Y.2d 536, 268 N.E.2d 121, 319 N.Y.S.2d 439 (1971).

72. *See* Dickinson Co. v. Iowa State Dep't of Transp., 300 N.W.2d 112 (Iowa 1981); *see also* Annotation, *Validity and Construction of "No Damage" Clauses With Respect to Delay in Building or Construction Contracts*, 74 A.L.R.3D 187 (1976) (general analysis of the validity of no damages for delay clauses).

73. *See, e.g.*, Blankenship Constr. Co. v. North Carolina State Highway Comm'n, 28 N.C. App. 593, 222 S.E.2d 452 (1976); Keith v. Burzynski, 621 P.2d 247 (Wyo. 1980); Central Pa. Indus. v. Commonwealth, 25 Pa. Commw. 25, 358 A.2d 445 (1976).

74. For this reason, contractors must take care to reserve their rights to time extensions and delay costs when executing change orders for direct costs only. See *supra* note 17 and accompanying text.

75. A float path is a path of activities through the performance of the whole project, which is not the largest path. Therefore, it is not critical because it has a certain amount of slack or leeway in actual performance time before it would become the longest path — the critical path.

the float path exceed the total number of float days on that path, then the float path becomes a critical path and a delay to overall project completion occurs.

A question that arises frequently in delay claim litigation is, Who owns the float? One view is that the float belongs to the contractors because they are responsible for the means, methods, sequences, and techniques of construction. Accordingly, contractors should be entitled to whatever benefits flow from their responsibilities.

The contractor's "claim" to the float is based, in part, on pragmatic considerations. Since the contractor must schedule the job and, through that process, determine the means, methods, sequences, and techniques of construction, any extra time built into the schedule should be available to contractors for correction of schedule deficiencies or contractor-responsible delays in construction. Moreover, since contractors prepare the schedule, they, arguably, can "use up" the float by inflating float path activity durations at the beginning of the schedule so that the benefit of the float time will not be denied them in the future. By doing so, the contractor provides the owner with a modified version of the true schedule. Contractors, thus, can deny owners the use of a "real schedule" for monitoring purposes.

The opposing view is that based upon contract language, the float belongs to the owner. Contracts often state in an indirect fashion that the owner has the right to the float. For example, when the contract indicates that the contractor will be granted a time extension only if the project completion date is extended as a result of the delay, owners have an argument that they own the float.[76]

Other views concerning who owns the float are that the float belongs to the party who uses it first or that the float belongs to the project, meaning that it may be used consistently with the overall best interests of the project. For the latter view, because both contractors and owners use the float to make up for their own delays, the contractor may be denied use of the float if the owner, while using the float for the good of the project, makes up for an owner-responsible delay. Case law does not clearly define who owns float time. Some decisions support the contrac-

76. *See* Rapp v. Mountain States Tel. & Tel., 606 P.2d 1189 (Utah 1980).

tor's right to float time[77] while other cases support the owners' entitlement.[78]

Traditionally, when owner-caused delays coincided with contractor-caused delays, courts refused recovery compensation to either party for the period of concurrent delays.[79] Thus, owners could not recover liquidated damages, and contractors could not recover delay damages. Now, however, when the effects of concurrent delays can be separated clearly by using CPM or similar scheduling techniques, the costs of such delays will be allocated between the parties.[80] The moving party has the burden of showing entitlement to the damages.[81] Contractors may recover delay damages when concurrent delays have occurred if they can demonstrate that, first, the owner's delay affected a critical path activity, and, second, that the contractor's delay affected only float activities.[82] When contractors' delays also occurred along the critical path, they may not recover delay damages.[83] If, however, the owner's delays affecting the critical path exceed those of the contractors, then the contractors may recover their appropriately apportioned delay damages.[84]

After contractors establish a delay, typically by using project schedules, they next must prove actual damages. If contractors cannot prove the economic impact of the delays, they run

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77. *See, e.g.*, Fischbach & Moore Int'l Corp., 77-1 B.C.A. (CCH) ¶ 12,300 (1977) (ASBCA No. 18146); Ferguson-Crowley, Inc., 68-2 B.C.A. (CCH) ¶ 7,194 (1968) (ASBCA Nos. 11124, 11307, 12088); Continental Consol. Corp., 67-2 B.C.A. (CCH) ¶ 6,624 (1967) (ENG BCA Nos. 2743, 2766), *aff'd in part*, 200 Ct. Cl. 737 (1972); Heat Exchanges, Inc. 1963 B.C.A. (CCH) ¶ 3881 (1963) (ASBCA No. 8705).

78. *See, e.g.*, Ballenger Corp., 84-1 B.C.A. (CCH) ¶ 16,973 (1983) (DOT CAB No. 74-32); Arntz Bros., 79-2 B.C.A. (CCH) ¶ 14,038 (1979) (ASBCA Nos. 19183); Dawson Constr. Co., 75-2 B.C.A. (CCH) ¶ 11,563 (1975) (GSBCA No. 3998).

79. *See, e.g.*, S.O.G.-San Ore-Gardner v. Missouri P.R.R., 658 F.2d 562 (8th Cir. 1981); J.A. Jones Constr. Co. v. Greenbriar Shopping Center, 332 F. Supp. 1336 (N.D. Ga. 1971), *aff'd*, 461 F.2d 1269 (5th Cir. 1972); Medema Homes, Inc. v. Lynn, 647 P.2d 664 (Colo. 1982).

80. *See* Pathman Constr. Co. v. Hi-Way Elec. Co., 65 Ill. App. 3d 480, 382 N.E.2d 453 (1978); E.J.T. Constr. Co., 83-2 B.C.A. (CCH) ¶ 16,712 (1983) (ASBCA No. 22795).

81. *See* Continental Consol. Corp., 200 Ct. Cl. 737 (1972); Blackhawk Heating & Plumbing Co., 76-1 B.C.A. (CCH) ¶ 11,649 (1976) (GSBCA No. 2432).

82. *See* Fischbach & Moore Int'l Corp., 77-1 B.C.A. (CCH) ¶ 12,300 (1977) (ASBCA No. 18146).

83. *See* Commerce Int'l Co. v. United States, 338 F.2d 81 (Ct. Cl. 1964).

84. *See* Blake Constr. Co./U.S. Indus., 82-1 B.C.A. (CCH) ¶ 15,688 (1982) (ASBCA No. 24356).

the risk that their claim may be denied.[85] To prove delay damages, detailed cost records should be introduced with a specific cost item for each delay. If such records or alternate analyses are unavailable, the contractor may be forced to utilize the total cost method or *quantum meruit*.[86]

If a contractor has introduced evidence of a compensable delay, courts generally allow certain specific items of delay damages. Examples of delay damages include extended general conditions, home office overhead, idle equipment costs, reduced productivity, inefficiency, escalation, interest, and lost profits.[87]

1. Extended General Conditions

The most common type of delay damages are increased direct costs due to the extended performance time. "Extended general conditions"[88] include extra costs for on-site personnel, equipment, facilities, and utilities. Extended general conditions almost always are recoverable.[89]

2. Home Office Overhead

When extensive delays on a construction project occur, in addition to experiencing extended general conditions in the field, a contractor also incurs additional expenses in its home office, such as supervisory and management functions that must be devoted to administration of the delayed project. The generally accepted formula for computation of extended home office overhead expenses during a delay period was developed in the

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85. *See* John E. Green Plumbing & Heating Co. v. Turner Constr. Co., 742 F.2d 965 (6th Cir. 1984), *cert. denied*, 471 U.S. 1102 (1985); Zinger Constr. Co., 84-3 B.C.A. (CCH) ¶ 17,537 (1984) (GSBCA No. 6568).

86. *See supra* text accompanying notes 19-29.

87. *See supra* text accompanying notes 79-97.

88. *See* Kemmons-Wilson, Inc. and South & Patton, Inc., A Joint Venture, 72-2 B.C.A. (CCH) ¶ 9689 (1972) (ASBCA No. 16167).

> [H]ome office expense is almost 100% a fixed expense, and will not vary solely because one job out of many is running longer than expected. On the other hand, job site indirect costs are made up of both fixed and variable items of expense, the latter varying with the degree of performance of the work.

Id. at 45,254. *See also* Note, *Home Office Overhead as Damages for Construction Delays*, 17 GA. L. REV. 761, 761 n.2 (1983).

89. *See* Lee Elec. Co., 67-1 B.C.A. (CCH) ¶ 6,263 (1967) (FAA CAP No. 67-26).

case of *Eichleay Corp.*[90]

The *Eichleay* formula determines a daily overhead rate attributable as home office overhead expense for a particular project. This daily rate then is multiplied by the number of compensable delay days in order to compute the amount of "unabsorbed" overhead. Unabsorbed overhead represents the contractor's extended, or additional, home office overhead costs. This formula may be expressed as follows:[91]

$$\frac{\text{Contract billings}}{\text{Total Billings}} \times \frac{\text{Total Overhead for Contract Period}}{\text{Actual Days of Contract Performance}}$$

$$= \text{Daily Overhead} \times \text{Compensable Delay Days}$$

$$= \text{Unabsorbed Overhead}$$

Some commentators have criticized the *Eichleay* formula because it compensates the contractor for unabsorbed home office overhead regardless of whether overhead has been unabsorbed as a result of delays on the project.[92] Commentators and courts also have criticized the *Eichleay* formula because its mechanical application of a mathematical computation does not necessarily result in a reasonable relationship to actual damages.[93] The present position of most courts and boards, however, is that home office overhead costs can be recovered utilizing the *Eichleay* formula.[94]

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90. 60-2 B.C.A. (CCH) ¶ 2,688 (1960) (ASBCA No. 5183). *See supra* note 23.

91. In *Eichleay* the Board of Contract Appeals stated, "[W]e conclude that Appellant's method of computation offers a realistic method of allocation of continuing home office expenses . . . . " *Id.* The Board's language indicates that it merely approved this formula as "realistic," not that it required use of this formula. Therefore, a contractor arguably could offer a different home office overhead calculation and, so long as "realistic," it would be acceptable. In a recent case, however, Gregory Constructors, Inc., 88-3 B.C.A. (CCH) ¶ 20,934 (1988) (ASBCA No. 35960), the Board, citing Capital Elec. Co. v. United States, 729 F.2d 743 (Fed. Cir. 1984), rejected a subcontractor's modified *Eichleay* formula, stating, "Appellant has not demonstrated that a modified version of the formula should be used instead of the Eichleay formula and therefore recovery is to be calculated in accordance with the latter." *Id.* at 747. The *Capital Electric* case suggests that to use an alternative home office overhead calculation, the contractor must offer proof that its alternative calculation is more realistic than the *Eichleay* formula.

92. *See, e.g.*, 2 R. NASH & J. CIBINIC, FEDERAL PROCUREMENT LAW 1409 (3d ed. 1980).

93. *See, e.g.*, Berley Indus. v. City of New York, 45 N.Y.2d 683, 385 N.E.2d 281, 412 N.Y.S.2d 589 (1978).

94. *See* Nebraska Pub. Power Dist. v. Austin Power, Inc., 773 F.2d 960 (8th Cir.

3. *Idle Equipment Costs*

Delays also may cause contractors to experience idle or unproductive equipment time. Thus, costs for idle or unproductive equipment, based on actual costs or reasonable rental values, are properly included in a delay claim cost calculation.[95] Contractors, however, must prove that their actual cost records are inadequate or incomplete in order to utilize published equipment rental rates from recognized industry guides.[96]

4. *Reduced Productivity*

Lost productivity is another widely recognized element of delay claim costs. Typical causes of recoverable labor productivity losses include schedule disruption, acceleration, environmental conditions, stacking of trades, reassignment of manpower, crew size, dilution of supervision, learning curve, errors and omissions, beneficial occupancy, fatigue, ripple effects, overtime, and seasonal or unexpected weather changes.[97] One preferred way to set a value on lost productivity is to compare the cost of work accomplished during the disrupted period to the cost accomplished during a nondisrupted period.[98] On severely delayed and disrupted projects, however, identifying a "standard period" against which delays and disruptions can be measured often is difficult. Thus, logical alternative methods and calculations may

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1985); Capital Elec. Co. v. United States, 729 F.2d 743 (Fed. Cir. 1984); Golf Landscaping, Inc. v. Century Constr. Co., 39 Wash. App. 895, 696 P.2d 590 (1984); George E. Jensen Contractor, Inc., 85-1 B.C.A. (CCH) ¶ 17,833 (1985) (ASBCA No. 29772); Federal Contracting, Inc., 84-2 B.C.A. (CCH) ¶ 17,482 (1984) (ASBCA No. 28957); Shirley Contracting Corp., 84-2 B.C.A. (CCH) ¶ 17,362 (1984) (DOT CAB No. 1522).

95. *See* Carlo Bianchi & Co. v. United States, 169 F. Supp. 514 (1959), *vacated on other grounds*, 373 U.S. 709 (1963); Sornsin Constr. Co. v. State, 180 Mont. 248, 590 P.2d 125 (1978); Zook Bros. Constr. Co. v. State, 171 Mont. 64, 556 P.2d 911 (1976); Peter Salvucci & Sons, Inc. v. State, 110 N.H. 136, 268 A.2d 899 (1970), *aff'd*, 111 N.H. 259, 281 A.2d 164 (1971).

96. *See* Nolan Bros. v. United States, 437 F.2d 1371 (Ct. Cl. 1971).

97. *See* DEPT. OF NAVY, OFFICE OF THE CHIEF ENGINEER, MODIFICATION IMPACT GUIDE, EP-415-1-3, at 4-6, 4-10 (July 1979); *Factors Affecting Productivity*, MECHANICAL CONTRACTOR'S A. OF AM. MANAGEMENT METHODS COMM. BULLETIN No. 58 (1976).

98. *See* General Ins. Co. v. Hercules Constr. Co., 385 F.2d 13 (8th Cir. 1967); E.C. Ernst, Inc. v. Koppers Co., 476 F. Supp. 729 (W.D. Pa. 1976); *aff'd in part, rev'd in part*, 626 F.2d 324 (3rd Cir. 1980); Natkin & Co. v. George A. Fuller Co., 347 F. Supp. 17 (W.D. Mo. 1972).

be necessary. Most alternatives invariably require expert testimony concerning the effects of the delays and disruptions on productivity.

5. *Escalation*

Cost increases due to work being performed in a period later than originally anticipated are properly included in delay claim cost calculations. For example, work that is stretched out into a period that requires higher wage rates often results in escalated labor costs. The four kinds of escalation most frequently encountered in delay claims are material,[99] equipment,[100] labor,[101] and subcontract costs.[102] To the extent that adequate and reliable evidence of these escalated costs exists, courts generally allow their recovery.

6. *Interest*

Interest may be awarded as damages in delay claims.[103] One type of recoverable interest is the interest incurred as a business cost on the use of private capital necessitated by the unanticipated delay.[104] A second type of recoverable interest is "prejudgment interest."[105] Prejudgment interest is the interest a contractor lost because money owed was not paid on time. Generally,

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99. *See* John Grace & Co. v. State Univ. Constr. Fund, 44 N.Y.2d 84, 375 N.E.2d 377, 404 N.Y.S.2d 316 (1978); George Hyman Constr. Co., 85-1 B.C.A. (CCH) ¶ 17,847 (1985) (ENG BCA No. 4541).

100. *See* Gundersons, Inc. v. Tull, 678 P.2d 1061 (Colo. Ct. App. 1983), *aff'd in part, rev'd in part*, 709 P.2d 940 (Colo. 1985).

101. *See* J.D. Hedin Constr. Co. v. United States, 347 F.2d 235, 256 (Ct. Cl. 1965).

102. *See id.* at 257.

103. *See* Metropolitan Transfer Station, Inc. v. Design Structures, Inc., 328 N.W.2d 532 (Iowa Ct. App. 1982).

104. *See* Nebraska Pub. Power Dist. v. Austin Power, Inc., 773 F.2d 960, 972-73 (8th Cir. 1985); Bell v. United States, 404 F.2d 975, 984 (Ct. Cl. 1968); *Metropolitan Transfer*, 328 N.W.2d 532; Tempo, Inc. v. Rapid Elec. Sales & Serv., Inc., 132 Mich. App. 93, 347 N.W.2d 728 (1984); Ed Goetz Painting Co., 83-1 B.C.A. (CCH) ¶ 16,134 (1983) (DOT CAB No. 1168) (contractor must prove that working capital came from loan proceeds or that loan specifically used for extra work).

105. *See* Weitz Co. v. Mo-Kan Carpet, Inc., 723 F.2d 1382, 1387 (8th Cir. 1983); Esprit Corp. v. United States, 6 Cl. Ct. 546 (1984), *aff'd*, 776 F.2d 1062 (Fed. Cir. 1985); *see also* Annotation, *Allowance of Prejudgment Interest on Builder's Recovery in Action for Breach of Construction Contract*, 60 A.L.R.3D 487 (1980) (general discussion on the recovery of prejudgment interest).

unless the amount claimed is liquidated or otherwise readily ascertainable, a contractor may recover only prejudgment interest if the contract provides for this recovery.[106]

7. *Lost Profits*

Courts may award lost profits in a delay claim. Courts, however, generally only allow contractor recovery of lost profits if the contractor can prove anticipated profits to a reasonable certainty.[107]

B. *Arbitration*

As mentioned previously, the parties generally litigate unresolved disputes unless the contract contains a clause providing for the arbitration of disputes. If so, an arbitration panel, not a judge or jury, will decide the case. Congress adopted the Federal Arbitration Act[108] to govern the arbitration of disputes involving interstate commerce, and most states have enacted some statutory equivalent.[109] Because virtually all major construction

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106. *See* Shook & Fletcher Insulation Co. v. Central Rigging & Contracting Corp., 684 F.2d 1383, 1386-87 (11th Cir. 1982); E.C. Ernst, Inc. v. Koppers Co., 626 F.2d 324, 332-33 (3rd Cir. 1980); Plantation Key Developers, Inc. v. Colonial Mortgage Co., 589 F.2d 164, 170 (5th Cir. 1979); United States *ex rel.* A.V. DeBlasio Constr., Inc. v. Mountain States Constr. Co., 588 F.2d 259, 263 (9th Cir. 1978); Singer Hous. Co. v. Seven Lakes Venture, 466 F. Supp. 369, 377 (D. Colo. 1979); Paul Hardeman, Inc. v. Arkansas Power & Light, 380 F. Supp. 298, 342 (E.D. Ark. 1974); Davis v. Carpenter, 155 Ga. App. 301, 270 S.E.2d 810 (1980), *rev'd on other grounds*, 247 Ga. 156, 274 S.E.2d 567 (1981); Manshul Constr. Corp. v. Dormitory Auth. of New York, 79 A.D.2d 383, 436 N.Y.S.2d 724 (Ct. App. Div. 1981).

107. *See, e.g.*, Moorhead Constr. Co. v. City of Grand Forks, 508 F.2d 1008, 1015-18 (8th Cir. 1975); Gundersons, Inc. v. Tull, 678 P.2d 1061 (Colo. Ct. App. 1983), *aff'd in part, rev'd in part*, 709 P.2d 940 (Colo. 1985); Tempo, Inc. v. Rapid Elec. Sales & Serv., 132 Mich. App. 93, 347 N.W.2d 728 (1984) (lost profits on other jobs on which the opportunity to work was denied due to the delays).

108. 9 U.S.C. §§ 1-15 (1982). The Federal Arbitration Act, enacted in 1925, conferred enforceability upon arbitration agreements to the same extent as other contracts. *See id.* § 2.

109. As of 1988, the following jurisdictions have adopted the Uniform Arbitration Act: Alaska, Arizona, Arkansas, Colorado, Delaware, District of Columbia, Idaho, Illinois, Indiana, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nevada, Nebraska, New Mexico, North Carolina, North Dakota, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Virginia, and Wyoming. The following jurisdictions have enacted statutes rendering arbitration agreements (present and future disputes) enforceable: California, Connecti-

projects involve interstate commerce, a contractual arbitration clause generally is enforceable pursuant to the Federal Arbitration Act.[110]

Arbitration arguably has a number of benefits over litigation, including speed, cost effectiveness, and expertise. The purported benefits of arbitration may or may not prove to be true in an actual setting. Although arbitration usually begins earlier than litigation because of congested court dockets, appeals regarding whether the dispute is arbitrable and complications arising from selecting hearing dates and arbitrators can delay matters. Unavailability of arbitrators to participate in hearings on an uninterrupted basis also may prolong the process. The longer it takes, of course, the more expensive the procedure is likely to be. Furthermore, arbitrators often charge handsome fees for their services, thus long arbitrations can involve large sums of money.

Arbitrators' expertise is not necessarily as advantageous as may be assumed. Although arbitrators generally have more construction expertise than the average judge or juror, the supply of qualified arbitrators and methods of selecting arbitrators can result in less expertise than might be expected. For example, a panel for construction arbitration may include a construction attorney, a design professional, and a contractor. Presumably, such a panel covers each point of view and offers a neutral view in others. Although architects and contractors may not need explanation of terminology or plans, architects who designs homes and contractors who build them may not necessarily be well equipped to judge the complex design problems associated with skyscrapers, processing plants, or dams. Moreover, individuals selected for the panel to represent other disciplines may lack requisite specialized knowledge. Nevertheless, the arbitrators' familarity with construction industry practices reduces the pos-

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cut, Florida, Georgia, Hawaii, Iowa, Mississippi, New Hampshire, New Jersey, New York, Ohio, Oregon, Vermont, Rhode Island, Utah, Washington, and Wisconsin. The following jurisdictions have enacted statutes allowing enforcement of arbitration agreement only for existing disputes: Alabama and West Virginia.

110. *See* C.P. Robinson Constr. Co. v. National Corp. for Hous. Partnerships, 375 F. Supp. 446 (M.D.N.C. 1974); Northwest Mechanical, Inc. v. Public Util. Comm'n of Virginia, 283 N.W.2d 522 (Minn. 1979); Blanks v. Midstate Constructors, Inc., 610 S.W.2d 220 (Tex. Civ. Ct. App. 1980). *Contra* Bryant-Durham Elec. Co. v. Durham County Hosp. Corp., 42 N.C. App. 351, 256 S.E.2d 529 (1979).

sibility of a decision predicated upon a misunderstanding or confusion of the facts.

The time frame for a particular arbitration may vary according to factors such as the number of parties involved, the number and types of claims presented, the complexity of the issues in those claims, and the arbitrators' availability to attend hearings continuously or for meaningful stretches of time without interruption. Generally, attempts to appeal or overturn arbitration awards are unsuccessful unless based upon such factors as corruption, fraud, or undue means.[111] Arbitration decisions usually are final.

V. CONCLUSION

In the construction industry, all parties must remain aware of the time constraints under which project work is to be performed. Because time is money, the parties carefully must monitor job progress and stay alert to any delaying effects on the project schedule. Attention to the contract requirements and the project schedule enables contractors to recognize, preserve, present, and, if necessary, litigate any delay claims that may arise during construction. For the prepared and alert contractor, this process is not difficult; for the unprepared, it can be a nightmare. The key to preparation is a coordinated program so that delays can be anticipated in advance, tracked when encountered, and documented as they occur. If contractors implement a proper program, they will be better prepared for any delay claims that they may face.

111. *See* Federal Arbitration Act, 9 U.S.C. § 10 (1982); *see* also *supra* note 108.