SUCCESSFUL CLAIMS RESOLUTION THROUGH AN UNDERSTANDING OF THE LAW GOVERNING ALLOCATION OF RISK FOR DELAY AND DISRUPTION

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I. INTRODUCTION

Beyond setting forth the basic commercial terms, a well-drafted construction contract carefully considers the allocation of risk for foreseeable events between the parties. One foreseeable risk that a construction manager must consider is additional costs resulting from delay and disruption that seem to invariably occur on every project. In order to avoid hidden costs from contingent bids, a construction manager should consider the following guidelines in allocating risk for delay: (1) assign risk to the party who can best control it; (2) assign risk to the party who can bear it at the lowest cost; and (3) assign risk to the owner when no other party can bear the risk or control the cost.

Relatedly, from an owner's perspective, successful project delivery depends largely on effective claims resolution. Effective claims resolution requires that a construction manager be able to promptly identify and properly allocate responsibility for delay events. This paper considers contract clauses and concepts affecting the allocation of responsibility for delay and disruption, as well as the means of evaluating and calculating delay duration.

II. COMMON RISK-SHIFTING CLAUSES ALLOCATING RESPONSIBILITY FOR DELAY

After identifying a delay or disruption event, it is essential to review the contract documents to discern which party is responsible for shouldering the costs. Frequently, there are contractual prerequisites to recovery, as well as risk-shifting clauses, that must be considered when evaluating entitlement on a delay or disruption claim.

A. Notice

All applicable notice requirements under the contract must be fulfilled before a contractor is entitled to compensation for a delay claim. In federal contracts, claims for delay damages that are based on constructive changes are subject to a 20-day notice requirement specified in the "changes" clause. Private construction contracts, including the standard form contract prepared by the CMAA and AIA, contain certain similar provisions.

One of the purposes of the prompt notice requirement is to give the construction manager the opportunity to investigate and possibly alter the work so as to avoid or mitigate an excessive cost increase. See Schnip Building Co. v. United States, 645 F.2d 950 (Ct. Cl. 1981). For instance, in Schnip, the Court found that the government was prejudiced by the contractor's failure to give notice that the subsurface conditions encountered differed from the conditions described in the contract. Id. at 959-60. Since the government did not receive adequate notice, the contractor's claim for an increase in contract price was dismissed. See also Fru-Con Constr. Corp. v. United States, 43 Fed. Cl. 306 (Ct. Cl. 1999) (affirming liquidated damages award of $206,950 assessed because the

contractor failed to provide adequate notice that its productivity losses were caused by unusually severe weather).

Federal courts and boards, however, do not strictly construe written notice requirements and allow this requirement to be met by other means. Specifically, federal courts and boards examining the notice requirements under the Federal Acquisition Regulations ("FAR") have concluded that notice need not follow any specific format. Rather, proper notice merely must show the existence of the condition and notify the authorized representative of the owner. T&B Builders, Inc., ENGBCA No. 3664, 77-2 BCA ¶ 12,663. Government contract cases have also held oral notice may be sufficient, despite language in the clause requiring that notice be in writing. M.M. Sundt Constr. Co., ASBCA No. 17475, 74-1 BCA ¶ 10,627; Sheppard v. United States, 113 F. Supp. 648 (Ct. Cl. 1953). However, the burden of proving that oral notice was actually given is on the contractor. Schnip Building Co., 645 F.2d at 957-58. Once notice is given, whether oral or in writing, no further notice is required when the same conditions recur throughout the job. Allied Contractors, Inc. v. United States, 277 F.2d 464 (Ct. Cl. 1960).

For state or private contracts, a construction manager must be familiar with how state courts resolve the notice issue where the project is located. For example, Virginia courts, for the most part, have adopted a strict compliance approach to contractual notice issues, mandating strict enforcement of a party's contractual notice obligations as a prerequisite to claim recovery. D.R. Hall Constr. v. Board of Supervisors of Spotsylvania County, 1996 WL 1065599, *7 (Va. Cir.). See R.J. Crowley v. School Board of Fairfax County, 1996 WL, *1-2 (Va. Cir.) (dismissing the action because "no notice was given as required by the Procurement Act and the Contract"); General Excavation, Inc. v. Fairfax County Board of Supervisors, 1993 Va. Cir. LEXIS 825, **4 (ruling that "constructive or actual knowledge does not vitiate the requirement of actual, written notice under Virginia law"); McDevitt & Street Co. v. Marriott Corp., 713 F. Supp. 906, 919 (E.D. Va. 1989) aff'd in part, rev'd in part on other grounds 911 F.2d 723 (4th Cir. 1990) (finding the contractor's "failure to give . . . notice bars this subsequent claim for additional compensation"); Service Steel Erectors Co. v. SCE, 638 F. Supp. 411, 413 (W.D. Va. 1983) (stating "Virginia courts have upheld such contractual [notice] clauses between contractors and subcontractors for nearly a hundred years"). However, in Brinderson Corp. v. Hampton Roads Sanitation District, 825 F.2d 41, 45 (4th Cir. 1987) the Court held that even though there was no formal written notice provided by the contractor to the District, "there were engineers and representatives of the owner on site and aware of the problems, and they had abundant opportunity to inspect and investigate. This satisfied the notice requirement." Therefore, the Brinderson Court took a "more liberal approach . . . when the owner has actual or constructive notice of the conditions underlying the claim and an opportunity to investigate, that is sufficient." Id. at 44. See also Just Wood Indus., Inc. v. Centex Constr. Co., 1999 WL 606859 (4th Cir.) (awarding the contractor additional costs even though he did not strictly comply with the notice provision of a contract, "but a reasonable jury could have found [the owner] adequately informed of the problems").

In the District of Columbia, courts have strictly enforced notice provisions. See Omni Specialties-Washington, Inc. v. Esprit De Corp., 1989 WL 7410 (D.D.C. 1989) (disposing of the contractor's suit because the contractor failed to comply with the express notice provision contained within the contract). See also United States v. Becon Srvs. Corp., 837 F. Supp. 461 (D.D.C. 1993) (finding that although notice was given regarding damages resulting from labor inefficiencies, it was insufficient with regard to the intent to file a claim). When there is evidence of actual knowledge or constructive notice, D.C. courts are hesitant to allow such notice in lieu of strict compliance with the contract provisions. See Omni Specialties-Washington, Inc. v. Esprit De Corp, 902 F.2d 1009, 1990 WL 69284 (D.C. Cir.) (denying the contractor's arguments of actual knowledge or constructive notice noting that "[a]bsent any evidence of exceptional circumstances rendering inapplicable the express contract terms, the district court properly looked to those terms in ruling against [contractor]").

Likewise, California construction managers and contractors should pay particular attention to the written notice requirements in their contracts. Failure to strictly adhere to contractual notice provisions creates a risk of claim forfeiture. In Acoustics, Inc. v. Trepta Constr. Co., 14 Cal. App. 3d 887 (1971), the Court held that a contractor could not recover on its extra work claims against the State because the contractor did not comply with the notice requirements under the contract. Despite notifying the State of its protest regarding disputed work, the contractor failed to describe "in detail in what particulars the contract requirements were exceeded, and the appropriate change in cost resulting therefrom." Id. at 912; but see Department of Parks and Recreation v. West-a-Rama, Inc., 35 Cal. App. 3d 786 (1973) (holding that when the State files suit on a contract after enough time to make a full investigation of the rights and duties of the parties, the contractor is relieved of its notice requirements and permitted to cross-complain).

B. Scheduling Considerations – The Effect of Float-Sharing Provisions on Delay and Early Completion Claims

Modern scheduling clauses and techniques embrace variations of the critical path method of evaluating schedule delay. The critical path method sequences project activities by demonstrating their interrelationships in the contractor's performance plan. The "critical path" is defined as the longest direct chain of interrelated activities from the start to the finish of the project. In contrast, "total float" represents the amount of time by which the early finish date of any activity may be delayed without delaying completion of the project. From a contractor's perspective, however, float must be distinguished from "spare-time". Rather, contractors use activities with float to best manage their resources. For instance, available float may be necessary in order to have a work crew sequentially perform certain activities, as opposed to concurrently performing those same activities through the use of multiple crews. This issue of resource management makes consideration of float- sharing provisions important in the evaluation of delay and disruption claims.

To defeat contractor claims premised on the right to utilize float when performing work, owners, including federal agencies, have developed contract provisions stating that float is *not* time for the exclusive benefit of the contractor. One consequence of float-sharing clauses has been, in certain cases, to limit time extensions to circumstances where critical path activities are delayed. See Santa Fe, Inc., VABCA No. 2168, 87-3 BCA ¶ 20,104 (holding that where the parties' contract contained a float-sharing provision, the government was responsible only for its delays to the critical path). Owners have attempted to extend this logic to defeat loss of efficiency claims based on delay or disruption claims premised on the right to finish early.

1. Disruptions

Owners have relied on float-sharing provisions to argue that a disruption that did not impact the critical path cannot serve as the basis of a lost labor productivity claim. For instance, while owner delay or disruption may have caused the contractor to add additional workers causing overcrowding and diluted supervision, owners maintain that they have no liability unless this interference affected the critical path. In such a case, the contractor's retort should be that its direct cost claim for productivity losses must be distinguished from delay damages and is based on other remedy-granting clauses or implied duties prohibiting owner interferences. Lending credence to the contractor's approach, in Gulf Contracting Inc., ASBCA No. 30195, 89-2 BCA ¶ 21,812, the Board denied a loss of efficiency claim, but considered the issue notwithstanding a float-sharing clause in the contract.

2. Right to Finish Early

Owners have successfully maintained that float-sharing provisions defeat a contractor's delay claim for additional costs based on the right to finish early. See RobGlo, Inc., VABCA No. 2879, 91-1 BCA ¶ 23,357 (denying contractor's request for early completion damages on the theory that the government was entitled to the float due to the float-sharing clause, and that the contractor had not shown delay to the contract completion date). This holding could also negatively impact a lost productivity claim based on acceleration aimed at meeting an early completion date.

Other decisions, however, have permitted early finish delay claims notwithstanding a float-sharing provision. See Montgomery-Ross-Fisher, Inc., PSBCA No. 1096, 84-2 BCA ¶ 17,492 (awarding a contractor damages for the government's delay to its early completion schedule despite a float-sharing provision in the contract). In any event, contractors may be able to defeat "a float-sharing challenge" to their lost productivity claim by distinguishing the category of damages sought from delay damages and by anchoring their claim in another remedy-granting clause (i.e., changes clause), or the owner's implied duty not to hinder performance.

C. No Damages For Delay

State and local government, as well as private contracts, often include provisions designed to shift the risk of loss for delay damages to contractors.

When unambiguously drafted to communicate this purpose, most jurisdictions will enforce these clauses with certain noteworthy exceptions. When providing advice on contract formation, construction managers should consider that, when enforced, these clauses work to shift the risk of loss for delay to a party possibly unable to control the events causing the delay. As such, incorporation of this clause may result in hidden contingent charges in contractors' bids. Worse yet, as a result of the court's discomfort with enforcing these clauses, allowable exceptions may result in the owner paying both hidden contingencies and the additional costs associated with a delay claim.

Before considering the application of a no damages for delay provision to a lost productivity claim, it is important to understand whether a lost productivity claim may be accurately characterized as a delay claim. Courts have generally recognized the distinction between damages caused by disruption and delay. See L & A Contracting Co. v. Southern Concrete Servs., Inc., 17 F.3d 106, 112-13 (5th Cir. 1994) (holding a subcontractor liable for damages even though the contractor completed its project on time: "[Contractor] is entitled to recover those costs regardless of whether it timely completed its own obligation…."); Id. at 966-67. In John E. Green Plumbing & Heating Co. v. Turner Constr. Co., 742 F.2d 965, 966-67 (6th Cir. 1984), the Court distinguished lost productivity damages from delay damages by awarding the subcontractor damages for interferences despite a no damages for delay clause.

Although a scheduling analysis is often an integral component of a lost productivity claim establishing responsibility for the disruption event, a loss of efficiency claim is not necessarily considered a type of delay claim as the additional costs are not attributable to extended performance. A common example is where an owner interferes with a contractor's completion efforts, causing trade stacking and crowding necessary to avoid delaying the overall project. In this example there are no delay damages for extended performance. Instead, there is a loss of productivity resulting from the restricted work place. Consequently, a starting point in evaluating the import of a "no damages for delay clause" is to determine whether or not this clause even applies to a lost productivity claim.

As an additional threshold matter, it should be noted that a minority of jurisdictions limit the application of no damages for delay clauses by statute. California law prohibits the enforcement of no damages for delay clauses in state and local public contracts and subcontracts as against public policy. Cal. Pub. Cont. Code § 7102 (West 1985). Washington State extends this public policy concern by prohibiting the enforcement of no damages for delay clauses in all contracts. Wash. Rev. Code Ann. § 4.24.360 (West 1988).

To the extent that a no damages for delay clause is deemed applicable an inefficiency claim, the common exceptions to the enforcement of these provisions should be considered before determining if the clause constitutes a bar to recovery. The most common exceptions limiting the application of no damages for delay clauses focus on the general rule that one party cannot

frustrate the expectation of another and include: (i) active interference; (ii) bad faith breach; (iii) delays that amount to abandonment of the contract; and (iv) delays not within the contemplation of the parties. See Blake Constr. Co. v. C.J. Coakley Co., 431 A.2d 569 (D.C. 1981).

III. UNDERSTANDING THE CONCEPT OF CONCURRENT DELAY IN BOTH THE COURTS AND AT THE PROJECT SITE

In order to recover delay damages, courts generally require that the party seeking recovery establish that there was a delay that amounted to a breach of contract by the defendant that caused the sought-after damages. Thus, Courts have addressed concurrent delay as that concept relates to causation. This approach has often led courts to focus on the critical path at the conclusion of the project because delays here, concurrent or otherwise, would necessarily cause a delay to the project. Although seemingly logical, the courts' perspective in this regard can overlook the reality faced by the construction manager -- the critical path evolves throughout the life of the project and several paths may be simultaneously delayed.

A. Apportioning Concurrent Delay

As the courts' conception of concurrent delay most often considers multiple delay events affecting the ultimate critical path, the modern trend is to attempt to apportion this delay.

When a contractor seeks to recover additional monies or a time extension when there are both owner and contractor caused delay, the courts now require the contractor to apportion the delays. Historically, a federal contractor in a situation where there were both owner-caused and contractor-caused delays was able to argue that any government delay would nullify the government's right to liquidated damages. See United States v. United Engineering and Contracting Co., 234 U.S. 236 (1914). In United Engineering, the Court held that when the contractor's performance was delayed by the government, the "rule of the original contract cannot be insisted upon, and liquidated damages measured thereby are waived." Id. at 242. See also Acme Process Equipment v. United States, 347 F.2d 509 (Ct. Cl. 1966) (holding the government could not recover liquidated damages because it had interfered with the contractor's progress). Similarly, concurrent or intertwined delay also prevented a contractor from recovering delay damages. See Essex Electro Eng'r, Inc. v. Danzig, 224 F.3d 1283, 1292 (Fed. Cir. 2000).

This was commonly referred to as the "rule against apportionment," which was later viewed as "too harsh and outdated." PCL Constr. Servs., Inc. v. United States, 53 Fed. Cl. 479, 485 (2002). Recently, courts have moved away from the "rule against apportionment" towards an approach that awards liquidated damages to owners or additional costs to contractors where the party seeking recovery can apportion responsibility for critical path delays. "[S]ome courts and boards have attempted to apportion concurrent delay in assessing liquidated damages." Id. at 485.

In circumstances of shared responsibility, courts will only award damages when they can be clearly apportioned. PCL Constr. Servs., Inc. v. United States, 53 Fed. Cl. 479 (2002) (quoting Coath & Goss, Inc. v. United States, 101 Ct. Cl. at 714-15). See Manuel Brothers, Inc. v. United States, 55 Fed. Cl. 8, 54 (2002) (holding that although the government did interfere with the contractor's progress, the contractor could not recover because there was no clear apportionment of damages). This approach is more commonly referred to as the "clear apportionment rule." See Sauer Inc. v. Danzig, 224 F.3d 1340 (Fed. Cir. 2000).

The Sauer case provides an example of the application of the clear apportionment rule. In Sauer, a dispute arose concerning delays in the construction of a building on a submarine base. When the project was completed, the government assessed liquidated damages. At trial, both Sauer and the government offered expert testimony arguing that the other was responsible for at least a portion of the delay. The Court found that while the contractor was generally at fault for delaying the project, two of the delay days were attributable to government interference. Applying the "clear apportionment rule," the Court awarded the government liquidated damages for all but the two days of delay caused by the government.

It should be noted, however, that despite the modern trend, it is not clear that the rule against apportionment has been formally overruled in the Federal Circuit. See PCL Constr., 53 Fed. Cl. at 488. While at least two recent Federal Circuit cases (both decided in 2000) have allowed recovery based on the modern rule, the prior Federal Circuit cases applying the rule against apportionment can only be overruled by the Federal Circuit en banc, the Supreme Court, or a statute or regulation. Id. None of these intervening events has yet formally closed the door on the rule against apportionment. Id.

In addition to the courts now applying the clear apportionment rule, recent rulings have outlined how the "delay in contract performance should be apportioned." Essex Electro Engineers, Inc. v. Danzig, 224 F.3d 1283 (Fed. Cir. 2000). "A contractor seeking to prove the government's liability for a delay must establish the extent of the delay, the contractor's harm resulting from the delay, and the causal link between the government's wrongful acts and the delay." Id. at 1295. Further, "[i]n addition to the requirements described above, contractors can recover delay damages against the government only if there is government-caused delay and it was unnecessary or unreasonably in duration." P.R. Burke Corp. v. United States, 277 F.3d 1346, 1360 (Fed. Cir. 2002). A case-by-case analysis is required to determine whether or not the government acted reasonably. See Tri-Cor, Inc. v. United States, 458 F.2d 112, 131 (Ct. Cl. 1972); see also Amertex Enterprises, Ltd. v. United States, 1995 WL 925961 (Fed. Cl.) (finding the government acted unreasonably in rejecting first year samples of a product, thus holding the government liable for delay damages).

B. Courts' And Boards' Variable Treatment Of Criticality

Notwithstanding the general rules set forth above, construction managers should be wary that courts and boards have taken inconsistent approaches to the analysis of delay claims when concurrent delays ultimately extend a project's completion. Certain courts have sought to establish one critical path for the project, and only award damages for delays that occurred on that critical path. Other courts have attempted to apportion responsibility for delays occurring "concurrently" on multiple paths. Such variable approaches have led to disparate results being reached by courts, thus underscoring the importance of negotiating a contractual agreement for the analysis and ultimate apportionment of project delay during contract formation.

1. Ultimate Critical Path Analysis

In Sante Fe, Inc., VABCA No. 1943 – 1946, 84-2 BCA ¶ 17,341, the Veteran's Administration Board of Contract Appeals denied a contractor's claim seeking time extensions and a remission of liquidated damages for various change orders issued by the government during construction of a veterans' hospital. Because the contract was completed 101 days late, the government withheld $242,400 in liquidated damages from the contractor. The contractor argued that the government should have been prevented from assessing liquidated damages because the government's delays to the project ran concurrently with those of the contractor, albeit on a separate path, and thus, the government was jointly responsible for the delay.

The Board rejected the contractor's argument, relying upon both the contract and the theory behind critical path analysis in holding that the government was entitled to withhold liquidated damages as its delays did not affect the project's ultimate critical path. The Board's ultimate critical path analysis was premised on the contract's float provision which provided, "Actual delays in activities which…do not affect the extended and predicted contract completion dates shown by the critical path in the network will not be the basis for a change to the contract completion date." Id.

Moreover, the Board discussed the rationale behind the use of one critical path when analyzing the right of the government to assess liquidated damages against a contractor who has not met its completion deadline. Citing Blackhawk Heating & Plumbing Co., GSBCA No. 2432, 75-1 BCA ¶11,261, the Board reasoned that where the matter before the Board is the assessment of liquidated damages, only those project delays that ultimately affect the project completion date should be analyzed. Specifically, the Sante Fe Board held, "Since liquidated damages are only imposed for delays in project completion, it is manifest that only those delays should be considered which actually affect project completion. By their nature the delayed activities involved must necessarily lie on the critical path of the project as it was completed." Id.

The Sante Fe Board further explained its reliance on the "one critical path" theory in assessing liquidated damages, stating, "If the [Government's]

concurrent delays affected only work that was not on the critical path…they are not delays within the meaning of the rule since timely completion of the contract was not thereby prevented." Id. The Board flatly denied the contractor's argument that any concurrent Government delay should decrease the assessed liquidated damages, even if the delay was not on the ultimate critical path. As illustrated in Sante Fe, a legal approach only examining the ultimate critical path may produce harsh results where a contracting party is exculpated from responsibility for delay events that may have at one time been critical, but were ultimately overcome by other project delays.

2. Multiple Path Analysis

In contrast to the Board's decision in Sante Fe, the United States Court of Claims, in Toombs & Co. v. United States, 4 Cl. Ct. 535 (1984), held that where the government and contractor are concurrently responsible for delays on a project, damages for such delay may be apportioned without sole reliance on the impact to the ultimate critical path.

In Toombs, the Alaska Federal Aviation Administration hired a contractor to construct a new air traffic control tower, along with a parking lot and related mechanical and electrical work. Id. at 537. Due to a variety of causes, the government issued a number of stop work orders on the project, which eventually delayed completion by 181 days. Id. at 539. The government issued a stop work order to suspend all work that could have an effect on the correction of steel panel deficiencies, for which the government bore responsibility as a result of a faulty design. Id. at 549. The stop work order also addressed additional deficiencies with masonry work that were the fault of the contractor. Id. As result of the project's delay, the government assessed $181,000 in liquidated damages against the contractor. In response, the contractor sued the government for an equitable adjustment to the contract and a remission of the assessed liquidated damages. Id. at 539.

In its request for an equitable adjustment, the contractor argued that the government was responsible for the entire period of delay covered by the government's stop work order, as well as the time necessary to correct other project flaws. Id. at 548. The Court disagreed with the contractor's assessment, reasoning that "the fact that during most of this period, [the contractor's] shoddy work warranted concurrent suspensions." Id.

In addressing the assessment of liquidated damages, the Court did not rely solely on the project's ultimate critical path. Rather, the Court evaluated the various delays encountered throughout the project—even those that occurred on paths other than the ultimate critical path. The court held, "Where it is reasonably possible to apportion the delay among various causes, liquidated damages may be assessed notwithstanding concurrent causes attributable to both parties." Id. at 550. The Court went on to award the contractor time extensions for certain periods during the suspension of work order, even though during these periods, the contractor's own "shoddy work warranted concurrent suspensions." Id.

It is unclear if the Toombs contract contained a float provision similar to the one in Sante Fe. Nonetheless, this case represents a more global approach to evaluating and apportioning responsibility for delay with reference to the project as a whole. Under the multiple path analysis, all paths with negative float are evaluated and responsibility apportioned, as opposed to ultimate critical path analysis where only the final critical path delays are deemed meaningful.

C. Practical Implications of the Differing Legal Treatments of Concurrent Delay

An effective construction manager continually adjusts the schedule and resolves claims as the project progresses. This is important not only to ensure efficient uninterrupted work, but also to prevent everyday project disputes from turning into litigated claims after the work has been completed. Thus, there is a strong incentive to resolve claim issues as soon after the impact event as possible.

The construction manager faces special difficulties making contemporaneous liability decisions where the claim event arises from concurrent delays. Just like other types of claims there is a premium on contemporaneous resolution. By assessing liability as the project progresses, risk is allocated to the party that can most efficiently control the delays. Notice, however, that the courts ultimate resolution of a delay issue may be at odds with the construction manager's contemporaneous decision. Because the critical path on the job may evolve unpredictably, it may turn out that, at the end of the project, a contemporaneous liability assessment may we deemed legally unsound depending on the analysis applied by a court reviewing the delay.

If ultimate critical path analysis is applied, as was done in Santa Fe, the court will only look to the critical path as it is determined when the project is complete, which may be far different from what it was when the delays occurred. Thus, it may turn out that a contractor was backcharged/paid for delays that ultimately didn't impact project completion and, as far as the court is concerned, would not be compensable. On the other hand, if the court adopts a multiple path approach as was done in Toombs, the court's resolution may be much closer to that offered by the construction manager.

In order to overcome the potential disparate treatment a court may give a delay claim at the end of the day versus a contemporaneous liability assessment, the parties may include a contract clause defining how delay damages will be assessed. For instance, the following clause can be used to help ensure that the liability assessments made by the construction manager in the field will comport with liability assessments that may be made in court: "Compensation for delay to either party will be assessed with reference to the critical path as it existed in construction manager's appropriately updated schedule closest in time to the delay event."[1]

[1] Peters, Thomas F., PinnacleOne, "Dissecting the Doctrine of Concurrent Delay" (2003).

IV. METHODS OF SCHEDULING ANALYSIS USED TO SUPPORT DELAY AND DISRUPTION CLAIMS

Several techniques exist to quantify delay days caused by a particular project event. A well-trained construction manager must not only understand the benefits and shortcomings of each approach, but also why a particular approach may or may not be well suited for analyzing the delay encountered. Similarly, many lost productivity claims are dependent on establishing that the events complained of, (i.e., acceleration damages or bad weather conditions) were caused by schedule delays for which the owner bears responsibility. In these instances, preparation of a schedule analysis is necessary in order to establish the causal connection between owner-caused delays and disruptions experienced by the contractor.

Courts and boards deciding contractors' delay claims have recognized that a critical path method (CPM) analysis can effectively segregate and identify responsibility for delay. There are several distinct methods of schedule analysis, each with its own advantages and disadvantages.

A. Collapsed As-Built Approach

A contractor's delay claim can be quantified through use of the "collapsed as-built" approach. Initially, a comparison of the contractor's "as-planned" and "as-built" schedules for the work is performed to identify causes of delay and disruption. The more detailed a schedule, the more precisely the effects of project delays and disruptions will appear. A detailed as-built schedule will highlight areas of out-of-sequence work, delays, acceleration, stacking of trades, and the impact of these disruptions. Next, all owner-caused delays and disruptions are identified on the contractor's as-built schedule. These owner-caused delays and disruptions are then collapsed-out of the as-built schedule to produce the contractor's "should have been" work schedule or, put another way, the contractor's achievable schedule "but for" owner-caused delays and disruptions. Notably, only owner-caused delays and disruptions which impact the critical path will, when collapsed out, result in a shorter "should have been" schedule. The reasonableness of this final "should have been" schedule is then established through comparison to the contractor's original as-planned schedule. Upon concluding this process, delay days are ascertained by comparing the contractor's as-built schedule to the contractor's "should have been" work schedule.

The advantage of this approach is that, by performing a complete as-built analysis, it accounts for all events that actually affected performance, whether or not they support a particular position. The disadvantage or concern with this approach is that oftentimes the collapsed or "should have been" schedule is a theoretical abstraction unrelated to actual construction practices. As such, care must be taken to make certain the "should have been" schedule comports with sound construction practices and the realities of the job site.

The "as-built" collapse method presents the ultimate critical path (the final as-built critical path), as well as all other activity paths to completion (i.e., the near-critical secondary path, etc.) Thus, collapsing the ultimate critical path may expose contractor delay on a near critical path that can make it subject to disputes concerning compensability.

B. Contemporaneous Schedule Approach

In addition to the collapsed as-built approach, there are several other methods of schedule analysis used to quantify delay damages, which are based on "updating" contemporaneous project schedules to reflect changes or disruptions. Two often-used alternatives reflecting this approach are the window/snap shot and the time-impact methods. Set forth below are the analytical steps to follow with respect to each method:

1. Window/Snap Shot Approach

- Update schedule prior to delay occurrence;
- Quantify duration of delay period (estimated or actual duration);
- Insert delay into schedule update with appropriate logic;
- Calculate impact of delay (revised completion date minus original update completion date); and
- Repeat process for all delays.

The advantage of this method is that it is not dependant on events occurring after the impact event and therefore can be used to prospectively quantify delay. As is oftentimes the case, the advantage of this method, its ability to quantify delay impacts as distinct from later events, is also its disadvantage. The window-snapshot method's failure to account for actual job events that either mitigate or aggravate the impact of a particular disruption provides the construction manager a basis to challenge this approach.

2. Time Impact Approach

- Update schedule prior to delay occurrence;
- Update schedule after delay occurrence;
- Identify impacted path, choose impacted activity;
- Calculate impact of delay (post delay update completion date minus pre-delay update completion date);
- Compare impact of delay to impacted activity for causal links; and
- Repeat process for all delays.

By accounting for the actual impact of a delay event by considering the post-disruption schedule update, the time impact method improves upon the window-snapshot method's failure to consider actual project circumstances. However, construction managers should be aware that the time impact analysis is limited by its failure to reflect the entire course of project events beyond the

specific claim item. This may be particularly important when a contractor is responsible for delay to a near critical path that may call into question the magnitude of its claim for compensable time.

3. Judicial Review of Scheduling Methods

Courts have not imposed a strict requirement for the use of any particular scheduling method. However, in order to be effectively used in court to support or refute a delay claim, a schedule analysis must accurately reflect the actual events on the project both before and after the delay. See, e.g., Fortec Constructors v. United States, 8 Cl. Ct. 490, 505-08 (1985). Accordingly, while the Window/Snap Shot Approach may be useful for prospectively quantifying change orders, it will have minimal utility in supporting a delay claim in litigation. See Id. at 506 (noting that the use of a CPM analysis which did not take into account as-built information was improper). The most acceptable method is the "collapsed as-built" approach because it provides a broad picture of the actual delay impacts on the project. Norair, ENG BCA Nos. 3804, 3823, 4075, 4105, 4135, 4202, 4379, 4559, 4579, 90-1 BCA ¶ 22,327 (noting that Boards have found the use of an "as-built" comparison with original planning a "worthy" method of analysis).

V. PRICING DELAY CLAIMS

A. Calculation Of Delay Damages – The Eichleay Formula

Once issues of concurrency and responsibility for delay are resolved, and delay is apportioned between the Owner and contractor, delay damages due the contractor must be calculated. In addition to escalation costs on material and extended job site overhead, which are generally straightforward and easily calculated, home office overhead costs not particular to any project must also be priced. These time-related indirect costs are often calculated pursuant to judicially accepted formulas.

Specifically, home office overhead costs are those costs the contractor spends supporting its operations but which cannot be directly allocated to a particular project or contract. Courts and boards frequently refer to such costs as general and administrative (G&A) expenses. Examples of home office overhead costs include, but are not limited to, officers', managers' and clerical personnel salaries, legal and accounting costs, home office rent and depreciation, property taxes, insurance, utilities, telephones, photocopying, office supply costs, and data processing costs.

A contractor pays its G&A costs using revenues from its ongoing contracts. In other words, the contractor's consistent stream of incoming revenues pay for its continuing G&A expenses. If the contractor suffers delay on a particular project, the contractor is not taking in its expecting level of billings and revenues. Therefore, the delayed project does not contribute its anticipated stream of revenue to pay its expected share of the contractor's G&A expenses, resulting in

what courts and boards frequently define as "unabsorbed" or "underabsorbed" G&A expenses.

Contractors pay their G&A expenses without allocating such costs to particular projects or contracts. Consequently, it is extremely difficult, if not impossible, to directly charge unabsorbed overhead costs to the contractor's particular project that has experienced delay. This difficulty spurred the creation of the Eichleay formula in 1960, whereby the Armed Services Board of Contract Appeals devised a method by which to approximate the home office damage caused a contractor who has experienced delay on one of its projects. See Eichleay Corp., ASBCA No. 5183, 60-2 BCA ¶ 2688, aff'd on reconsid., 61-1 BCA ¶2894. As defined in Eichleay, the formula is as follows:

$$\text{Total Overhead for Contract Period} \times \frac{\text{Contract Billings}}{\text{Total Billings for Contract Period}} = \text{Overhead Allocable to the Contract}$$

Overhead Allocable to the Contract / Days of Performance = Daily Contract Overhead

Daily Contract Overhead x No. Days of Delay = Amount Claimed for "Unabsorbed" Home Office Overhead

The modern trend is for Federal courts and boards of contract appeals to use the Eichleay formula to approximate the contractor's "unabsorbed" G&A expenses (i.e., the amount of overhead costs the delayed project was expected to absorb, but did not due to Owner-caused delay). See, e.g., Prince Constr. Co., DCCAB No. D-1127, 2003 WL 21235618 (May 12, 2003) ("The Eichleay formula is a time-honored means of approximating a 'fair allocation' of unabsorbed indirect costs in situations where direct costs have been reduced during periods of compensable suspensions of work.")

B. Proving Entitlement To Eichleay Damages

In addition to the showing of an Owner-caused delay, a contractor asserting a claim for Eichleay damages must establish its right to such costs by proving that the Owner-caused delay forced the contractor to be on "standby."

In order to establish that it is effectively on "standby," not all of a contractor's workers on the project must be idle. A contractor is considered to have met its burden of proof in establishing its "standby" status when it shows that the Owner delay has interfered with the income stream otherwise used to defray home office costs; further, the contractor must be able to fully resume work at the moment the Owner-caused delay ceases to disrupt the project.

While the "standby" requirement may seem straightforward, the extent to which the contractor is not able to prosecute its work ultimately determines if the contractor can make a successful "standby" claim. In Charles G. Williams Constr., Inc. v. White, 326 F.3d 1376, 1379-80 (Fed. Cir. 2003), the United States Court of Appeals for the Federal Circuit held, "The proper standby test focuses on the delay or suspension of contract performance and its uncertain duration, during which a contractor is required to remain ready to perform...." Id. In Williams, the Court held that where a contractor merely showed that, as result of

government delay, the contractor could not perform the contract as efficiently or effectively as it was understood it should have been performed, the contractor would not be entitled to Eichleay damages. Id. at 1380. The Court reasoned that, "As long as the contractor is able to continue performing the contract, although not in the same way or as efficiently or effectively as it had anticipated it could do so, it can allocate a portion of its indirect costs to that contract." Id. at 1380-81. Consequently, the Court denied recovery under the Eichleay formula.

If a contractor establishes that it was on "standby" during the Owner-caused delay, however, the burden shifts to the Owner to "demonstrate that it was not impractical for the contractor to take on 'replacement work' and thus avoid the loss." Charles G. Williams Constr. V. White, 271 F.3d 1055 (Fed. Cir. 2001), aff'd, Charles G. Williams Constr., Inc. v. White, 326 F.3d 1376, 1379-80 (Fed. Cir. 2003). The Owner may also show that the inability of the contractor to find replacement work was not caused by the Owner's delay. Melka Marine, Inc. v. United States, 187 F.3d 1370 (Fed. Cir. 1999).

The Melka Court specifically noted that its previous decision in Satellite Elec. Co. v. Dalton, 105 F.3d 1418 (Fed. Cir. 1997), should not be read to hold that if a contractor could perform any additional work during the Owner-caused delay, it could not recover Eichleay damages. Melka, 187 F.3d at 1377. The Melka Court held that a contractor is not required to stop its normal operations and cease bidding on work in order to recover Eichleay damages. Id. (citing West v. All-State Boiler, Inc., 146 F.3d 1368 (Fed. Cir. 1998)).

The Melka Court held that courts must decide "whether the government established through rebuttal evidence or argument that [the contractor] was able to take on 'replacement work', not just any additional work." Id. In defining, "replacement work," the Court determined that the crucial factor hinges on whether the "replacement" project would or could absorb the indirect costs that would have otherwise been unabsorbed due to the Owner's suspension of the project. Id.

C. Local Courts Rely On Eichleay Formula For Damage Calculations

Local state and federal courts also have applied the Eichleay formula as the method of calculating a contractor's damages for unabsorbed home office overhead.

In Williams Enterprises, Inc., v. Sherman R. Smoot Co., 938 F.2d 230 (D.C. Cir. 1991), the United States Court of Appeals for the District of Columbia Circuit affirmed the District Court's award of Eichleay damages to a contractor who, following a project duration extension, had sued his subcontractor for damages. The Court held that in order for the contractor to prove entitlement to Eichleay damages, the contractor "must show that [it] necessarily suffered actual damage because the nature of the delay made it impractical for [it] either 'to undertake the performance or other work' or 'to [cut back on] Home Office

personnel or facilities." Id. at 235 (quoting George Hyman Constr. Co. v. Washington Metro. Area Transit Auth., 816 F.2d 753, 757 (D.C. Cir. 1987) (citations omitted)). The Smoot Court further held that a contractor must "show that it was unable to avoid the additional home office overhead costs," but the contractor does not have to show specific harm "when the delay was sudden and unpredictable." Smoot, 938 F.2d at 235. Finally, the Court held that an award of Eichleay damages was appropriate even when a contractor makes a claim of project extension, as opposed to project suspension. Specifically, the Court held, "[W]hen work is extended, the project income will be spread over a longer period of time and, consequently, less of the income may be allocated to home office overhead costs. Thus, an extended project—like a suspended project—may result in reduced income vis-a-vis overhead costs." Id.

The Virginia Supreme Court recently held that where a contractor incurred unabsorbed home office expenses as a result of a housing authority's failure to timely obtain necessary clearances, the Eichleay formula could be used to calculate the portion of the home office expenses attributable to the delay. Fairfax County Redevelopment and Housing Auth. v. Worcester Bros. Co., 514 S.E.2d 147 (Va. 1999). In Worcester, the Virginia Supreme Court upheld the findings of the Circuit Court that the government had delayed the contractor, and that the contractor suffered unabsorbed home office expenses as a result of having to keep its workforce on the delayed project while the Government obtained clearances. Id. at 151. The Court held that "the Eichleay formula is not legal standard that must be formally approved or adopted; rather, it is merely a mathematical method of prorating a contractor's total overhead expenses for a particular contract." Id. at 151-52. While the Court used the Eichleay formula to calculate damages in this case, it did note that the formula is not "the only possible method" of calculating unabsorbed home office overhead, and that "the individual circumstances of a given case" will determine if the formula can be effectively applied. Id. at 152.

Similarly, the Court of Special Appeals of Maryland upheld the use of the Eichleay formula in Gladwynne Constr. Co. v. Baltimore, 807 A.2d 1141 (Ct. Sp. App. Md. 2002). In Gladwynne, the Court remanded the trial court's denial of Eichleay damages, where the contractor had "presented evidence to satisfy the Eichleay formula for at least some portion of the total delay." Id. at 1161. While the Court acknowledged that no Maryland case has expressly adopted the Eichleay formula, it nevertheless held that "our resolution of the claim for damages for extended overhead requires us to consider the Eichleay formula." Id. at 1156.

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