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## WHAT SURETIES NEED TO KNOW ABOUT CONCURRENT DELAY IN DEFAULT TERMINATION DISPUTES

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# I. Introduction

This paper examines the companion concepts of concurrency and criticality as applied to project delays so the surety may understand this evolving area of law when assessing the propriety of an owner's default termination. Default terminations are often premised on the contractor's inability to achieve the contract completion date; when the default termination occurs prior to the actual completion date, such default is considered to be one for failure to make progress. See, e.g., CJP Contractors, Inc. v. United States, 45 Fed. Cl. 343 (1999). As any decision by the owner to terminate for failure to make progress requires a proper understanding of the remaining work and the time left for completion, the surety's understanding of the concept of concurrent delay can be essential to challenging the termination.

Confronted with complicated scheduling analyses and theories presented by opposing experts, courts have defined concurrency in at least two different ways. Some courts identify concurrent delay as the delay that occurs when the owner and contractor each contribute to a single delay event, while other courts find concurrent delay present where independent delays affect separate activities. Regardless of the definition, uncovering a period of concurrent delay in the project will afford the surety a potential defense to a default termination, particularly where the owner justifies the default based upon an incomplete analysis of the project's critical path.

To better inform the surety who is exploring ways to defend a default termination occurring prior to the project's completion date, this paper is divided into three sections: Section A will discuss the default termination for failure to make progress, and how the surety may contest such grounds based upon the argument that the owner unreasonably believed that the contractor would not finish its work by the contract completion date; Section B explains the concept of concurrent delay, and how a finding of concurrent delay on a terminated project may be useful in proving the owner's termination decision was unreasonable; lastly, Section C analyzes the notion of critical path scheduling, and why the manner in which courts and boards analyze the critical path can be problematic in the context of a default termination, where the termination may result from the critical path not reflecting actual conditions on the project.

# II. Discussion

In order to present an effective challenge to a default termination for the contractor's failure to prosecute the work, the surety must understand how courts typically adjudge concurrent delays. The concept of concurrent delay becomes important in the context of default terminations because such delays have the potential of distorting the contractor's schedule for the purposes of determining its progress. The following section will provide the background for examining the concepts of concurrent delay and the critical path, including how, and under what circumstances, the courts and boards will apportion liability for delays among the parties, by addressing the surety's defense to a termination for failure to make progress.

### A. Default Termination for Failure to Make Progress

In the context of a federal government fixed price construction contract, the contracting officer may terminate a contract for default if the contractor fails to prosecute the work within the time specified in the contract. 48 C.F.R. § 52.249-10 (2008). A termination for default based on the failure to make progress is typical where the contractor is so far behind schedule that timely completion of the contract is unlikely or near impossible. See Hannon Elec. Co. v. United States, 31 Fed. Cl. 135, 143 (1994). However, if the contracting officer's decision to default terminate is to be upheld, the contracting officer must have a reasonable belief that the contractor was not reasonably likely to perform the entire contract effort within the time remaining for contract performance. McDonnell Douglas Corp. v. United States, 323 F.3d 1006 (Fed. Cir. 2003); Lisbon Contractors, Inc. v. United States, 828 F.2d at 759 (Fed. Cir. 1987). To have a reasonable belief that the contractor will not complete the contract by the specified date requires an understanding of how much work is left to do, and what is the correct contract completion date after accounting for all delays. CJP Contractors, Inc., 45 Fed. Cl. at 371.

For example, in CJP Contractors, Inc., the Government Services Administration ("GSA") terminated CJP Contractors, Inc.'s ("CJP") contract for failure to make progress because numerous delays, stop-work orders, and the level of crew size led the contracting officer to subjectively believe the contractor would not finish its work before the contract completion date. CJP Contractors, Inc., 45 Fed. Cl. at 363. CJP argued that the default termination was improper because it was entitled to time extensions for numerous GSA-caused delays, and if the extended time was added to the end of the original completion date, it could have completed the work before the extended deadline. Id. The court concluded that the GSA's stop-work orders were inappropriate and caused forty-seven days of critical delay for which the contractor was excused. Id. at 377. Thus, the court evaluated GSA's decision to terminate against the extended completion date and found that the GSA contracting officer was unreasonable in her belief that the contractor would not finish its work on time. Id. at 378. As the court explained, by not examining a time-schedule or manpower assessment, the contracting officer terminated CJP without a clear understanding of what needed to be done and how long it would reasonably take. Id. For this, the court held, the termination for default could not be sustained. Id.

As CJP Contractors, Inc. demonstrates, courts will reverse a contracting officer who makes an uninformed or erroneous decision to terminate. The contracting officer's decision must be based upon a reasonable understanding of the contractor's progress; failure to consider delays in the progress evaluation has the likely effect of a termination based on inexact information. Therefore, sureties should investigate whether the contracting officer considered accurate data against the proper completion date when the surety's principal is terminated for default.

## B. Concurrent Delay

As the example of CJP Contractors, Inc. demonstrates, a termination decision for failure to make progress must be judged for reasonableness against the correct completion date. See also Danzig v. AEC Corp., 224 F.3d 1333, 1336 (Fed. Cir. 2000) (the government must show in termination for failure to make progress cases that it was reasonable for the government to conclude that the contractor would be unable to complete the project by what the Board found to be the proper completion date). The correct completion date will only be apparent when the owner examines whether delays to the project warrant an extension of contract time. Where the owner does not consider excusable delays before terminating the contractor, the surety will have a defense to the default termination decision.

Concurrent delay is a type of delay that is often central to the default termination analysis, and a typical source of disagreement among the various parties. Thus, an understanding of the concepts behind concurrent delay is essential for two reasons. First, uncovering concurrent delay and computing the delay period is necessary to calculate the correct complete date. Second, once an improper default is proven, the surety may employ the rules relating to the apportionment of concurrent delay damages to recover any impact or acceleration costs that may be expended in an effort to meet the original contract completion date; or, when termination occurs after the contract completion date, to avoid the imposition of liquidated damages. See PCL Constr. Svcs. v. United States, 53 Fed. Cl. 479 (2002)

### 1. The Types of Concurrent Delay

The concept of concurrent delay is a bedrock principle of construction law that is central to the resolution of any dispute related to delays. Concurrent delay addresses circumstances of shared responsibility for delays between project participants. "In general, concurrent delay can be described as a situation in which two or more delays occur at the same time during all or a portion of the delay periods being considered." Robert F. Cushman et al., Construction Disputes § 17.04 (3d ed. 2001); accord Robert F. Cushman & James J. Myers, 1 Construction Law Handbook § 23.01[D] (1999). Where there is shared responsibility for delays that affect the critical path (e.g., delays that would affect the overall completion date), the contract completion date is extended to reflect the period of concurrent delay and neither party is entitled to recover delay damages for that period. Id.

The concept of concurrent delay has been applied in at least two circumstances: (i) where both parties to a contract are simultaneously at fault for a delay to one activity on the critical path; and, (ii) where each party is causing a delay to a separate activity, both of which would affect the overall completion date. Cushman et al., *supra*, § 17.04; accord Cushman & Myers, *supra*, § 23.01[D]; John Cibinic, Jr. & Ralph C. Nash, Jr., Administration of Government Contracts 609 (3d ed. 1995).

(a) Joint Fault to One Activity

The first concept of concurrency, which is based upon the notion of joint fault, has been recognized by many courts and boards. Generally, these courts and boards will disallow recovery where the contractor and owner contribute to a delay on the same aspect of the project and the contractor is unable to meet its burden to segregate its delays from those chargeable to the owner. Blinderman Constr. Co. v. United States, 695 F.2d 552 (Fed. Cir. 1982); Commerce Int'l Co. v United States, 338 F.2d 81 (Ct. Cl. 1964); S.W. Marshall, Jr. v. United States, 164 F. Supp. 221 (Ct. Cl. 1958). The concurrent delays are thus said to be "intertwined." Blinderman Constr. Co., 695 F.2d at 559. In such cases, the courts deny recovery because the delays attributable to both parties are commingled to the extent that ascertaining the measure of the contractor's damages becomes a matter of speculation. F.M. Hargrave v. United States, 130 F. Supp. 598, 602 (Ct. Cl. 1955).

In F.M. Hargrave, the plaintiff contractor, Hargrave Construction Co. ("Hargrave"), and the government each caused delays to compaction work during the performance of a contract for grading, paving, the construction of drainage facilities and an additional runway on a military airport. F.M. Hargrave, 130 F. Supp. at 599. Hargrave alleged that the government's inspectors prevented proper compaction by requiring excessive wetting of the subgrade. Id. The court agreed, finding that the government's inspectors required the use of an excessive amount of water and gave improper instructions during the work. The court went on to find, however, that Hargrave's difficulties also resulted from a lack of sufficient equipment and the contractor's inability to handle the drainage and prevent ponding on the site. Id. at 602. The court explained that even though Hargrave incurred extra costs as a result of the government's improper directives, it was not possible to determine how much of Hargrave's damages were the direct result of the actions of the government. Id. Citing the aforementioned rule, which denies recovery where the parties are jointly at fault for the delay, the court rejected Hargrave's claim. Id. at 603.

The holding in F. M. Hargrave demonstrates that, even where a court or board determines that the owner was in fact a contributor to a delay on a specific aspect of the work, losses resulting from such delay will be unrecoverable where there is insufficient evidence to establish the percentage of the delay and the increased costs that are directly attributable to the acts or omissions of the owner.[1]

[1] Notably, the courts and boards have not always adhered to this rule when joint fault exists on a particular delay. In at least one decision, the Department of Transportation Board of Contract Appeals acknowledged that both the contractor and the government had caused delay to the project, but found that the contractor and the government were equally responsible for the delay and simply awarded the contractor 50% of its total delay costs. See Circle Electrical Contractors, Inc., DOTCAB No. 76-27, 77-1 BCA ¶ 12339 (1977).

(b) Independent Delays to Separate Activities

With respect to the second type of concurrency, courts also have found that concurrent delay exist where a project would have been delayed by one cause, notwithstanding another delay caused by either party. William F. Klingensmith, Inc. v. United States, 731 F.2d 805 (Fed. Cir. 1984); Chas. I. Cunningham Co., IBCA No. 60, 57-2 BCA ¶ 1541, at 5483 (1957). The rationale provided by courts for examining concurrency arising from delays to separate activities is that it cannot be said that Party A delayed the project's completion date by a delay to Activity X if the completion date would also have been extended by a separate delay to Activity Y caused by Party B.

The facts in Young Enter. of Ga., Inc. v. Gen. Serv. Admin., GSBCA No. 14437, 00-2 BCA ¶ 31,148 (2000) demonstrate this concept in practice. In Young Enter. of Ga., Inc., the board held that the claimed delay periods resulting from unforeseen asbestos removal and tenant-requested changes were not compensable because the government-caused delays were intertwined with the contractor's ("Young") delays. The government's delays were attributable to deficient specifications and plans and the additional asbestos abatement work, which disrupted the contractor's plan to perform other work. Concurrently, but in a separate activity, Young poorly managed its staff and its subcontractors and failed to coordinate the work, resulting in the requirement to perform out-of-sequence work. Following consideration of these concurrent delays, the board rejected Young's claims for recovery of delay costs and concluded that Young did not carry its burden to prove that the delays on the project were caused solely by the government.

The Tuller Constr. Co. v. United States, 118 Ct. Cl. 509 (1951) provides another example where independent delays to separate activities led to a finding of concurrent delay. In Tuller, the government failed to supply shop drawings for equipment being furnished by the government for more than two months after the contractor originally requested the drawings. In addition, the contractor was delayed by the need to receive approvals from the War Production Board before its supplier could begin to manufacture several materials necessary for the project. The contractor, however, also bore responsibility for the delay on the project. During construction, the contractor's method for building an intake pipe in a river bed proved to be impracticable, and the work was delayed while the contractor employed an alternate method. Despite the fact that the Government and contractor-caused delays were segregable, the court denied the contractor's claim for recovery of delay damages because, "the evidence show[ed] that there would have been substantially the same delay in the completion of the job, if the government had been prompt in supplying the materials and drawings."

2. Apportionment of Damages for Concurrent Delays

Thus far, the cases addressed herein have described decisions in which courts rejected claims for delay-related damages where the contractor and surety are unable

to establish that the government or private owner was the sole cause of the delay to the work. Similarly, for many years, in cases involving projects where discrete owner-caused and contractor-caused delays both existed on the project, contractors relied on the "rule against apportionment" to defeat government claims for liquidated damages. The "rule against apportionment" prohibits the government from recovering under a contract's liquidated damages clause when the Government is responsible for any delay to the project. See Acme Process Equip. v. United States, 347 F.2d 509 (Ct. Cl. 1965) rev'd on other grounds, 385 U.S. 138 (1966) (foregoing enforcement of the liquidated damages provision does not deprive the government of damages for the contractor's delay, rather, the government merely loses its right to insist on an artificial measure of damages where it is also responsible for delay); Schmoll v. United States, 91 Ct. Cl. 1, 16 (1940) (liquidated damages provision was annulled because delays were attributable to both parties).

More recently, however, the "rule against apportionment" has been criticized as harsh and outdated. PCL Constr. Servs., Inc. v. United States, 53 Fed. Cl. 479, 485 (2002). Instead, courts have moved toward an approach that permits the award of liquidated damages to owners, or additional costs to contractors, where the party seeking recovery can clearly apportion responsibility for delays to the critical path. Id. This rule is referred to as the "clear apportionment rule." See Sauer Inc. v. Danzig, 224 F.3d 1340 (Fed. Cir. 2000); Cumberland Cas. & Sur. Co. v. United States, 2008 WL 2628433 (Fed. Cl. 2008).

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 to establish that the other party 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 the entire delay, less the two days of delay attributed to government acts and omissions.

The "clear apportionment rule" was first applied in earlier federal decisions, see e.g., William F. Klingensmith, Inc., Blinderman Constr. Co., which involved attempts by the contractor to recover for delays for which it was not responsible. PCL Constr. Servs., Inc., 53 Fed. Cl. at 487. In Sauer, however, the Federal Circuit also applied the rule of clear apportionment, developed in adjudicating claims for compensable delay, to apportion damages where the government seeks recovery of liquidated damages. Id. citing, e.g., E.C. Ernst, Inc. v. Manhattan Constr. Co., 551 F.2d 1026 (5th Cir. 1977); United States ex rel Thorleif Larsen & Son, Inc. v. B.R. Abbot Constr. Co., 446 F.2d 712 (7th Cir. 1972); J.W. Creech, Inc., ASBCA. No. 45454, 94-1 BCA (CCH) ¶ 26,459 (1993).[2]

[2] Although the modern trend in the courts and boards is towards the apportionment of delay damages, the rule against apportionment appears to remain viable in the Federal Circuit, even after Sauer. PCL Constr. Svcs, Inc., 53 Fed. Cl. at 487.

### 3. The Implications of Concurrent Delays on an Owner's Decision to Terminate for Default

The concept of concurrent delay, regardless of how defined, has a profound effect on the validity of a termination decision. A concurrent delay, being at least partially caused by the owner, distorts the time remaining for performance and the likelihood of the contractor finishing within that period of time. As a result, where a project is beset by concurrent delay, courts and boards have concluded that the owner cannot terminate the contractor in advance of the contract performance date under the Default Termination clause for late performance based upon any period of concurrent delay. See e.g., JRR Constr. Co., DOTCAB No. 1838, 88-3 BCA ¶ 20, 905, at 105,689 (1988); Tobe Deutschmann Laboratories, NASA BCA No. 73, 66-1 BCA ¶ 5413, at 25,418 (1966). The rationale behind this conclusion is that an owner who relies on a concurrent delay in its decision to terminate would not have the required reasonable basis to justify its belief that the contractor was not likely to perform within the time remaining under the contract. See Lisbon Contractors, Inc., 828 F.2d at 765.

For example, in JRR Constr. Co. the Department of Transportation Board of Contract Appeals awarded a time extension to the contractor, JRR Construction Company, Inc. ("JRR"), and stated that a termination based on concurrent delay would be improper. The contract in JRR Constr. Co. involved the construction of an air-traffic control tower and terminal radar base building for the Federal Aviation Administration ("FAA") at the Raleigh-Durham Airport in North Carolina. Delays existed on the project when the FAA delayed approval of shop drawings for thirty-two days after the period allotted by the contract, while at the same time JRR was significantly behind in its construction schedule in several areas unaffected by the government's delay in approving the drawings. Finding that the FAA's delays affected JRR's work on the critical path, the Board found the delays to be concurrent and granted JRR a thirty-two day time extensions. In doing so, the board explained that the government cannot terminate JRR's right to continue performance under the default clause for late performance based upon any period of concurrent delay, and that the time extension was necessary so that measures under the clause would not reflect just JRR's own delays.

As the Board in JRR Constr. Co. intimates, concurrent delays cannot form the basis for a termination decision. Such a decision would place all the fault for the delays on the contractor and be based upon an artificial or misrepresented view of the contractor's progress. Since a finding of concurrent delay on a terminated project may be grounds to challenge the termination decision, sureties should determine whether any concurrent delays affected the principal's performance and the overall completion date. Where it is clear that the principal would have been able to substantially complete performance had the concurrent delay not occurred, or, had the owner granted an appropriate time extension, then the surety will have grounds to challenge the owner's termination prior to the correct completion date.

### C. Potential Legal Obstacles to the Surety's Reliance on Concurrent Delay in Disputing the Propriety of a Default Termination.

While courts generally recognize that a contractor may not be properly terminated for concurrent delays, certain courts and boards have limited the application of this principle through their assessment of the critical path. For instance, certain courts have held that there can only be one critical path, relying on a mechanical analysis to identify the path of activities with the most negative float. These courts, at least implicitly, reject the notion that concurrency exists where both parties are simultaneously delaying separate activities that would delay the completion date. Similarly, other courts have held that the only relevant critical path on a project is the "ultimate" critical path, which refers to the critical path at the end of the project.

The application of these principles is difficult in a termination setting where the Owner's decision to impose a premature end date for the contractor's performance effectively freezes the critical path in time as of the termination date. In a termination, there is no single, "ultimate" critical path for the project; rather, there is only the critical path as of the termination date. Where this occurs, the as-built critical path at the time of termination may not reflect any impending major changes or delays that would have arisen if the contractor had been allowed to continue performance. The as-built critical path at the time of termination also may not properly account for the full effect of an ongoing owner delay that may ultimately be the controlling delay if the contractor were permitted to continue performance.

A hypothetical is illustrative of this point. Assume a contractor is terminated on a bridge construction project because of its alleged failure to make progress in erecting the steel substructure, resulting in a 4-month delay to the project. On the day prior to the termination, however, the owner issued a new design for the concrete deck, which will ultimately result in a 5-month delay (two months for additional submittal and review time and three months due to a more difficult method of performance). Under this scenario, the as-built critical path at the time of termination would not account for the impending major change to the deck. A strict application of the "one critical path" concept or the "ultimate critical path" analysis may cause a court to overlook the impending design change in its delay analysis. Thus, sureties should become familiar with these concepts so that they will be armed with the necessary information to assert the defense that the owner should have considered in its termination decision the projected effect of this change on the contract completion date if the contractor had not been terminated. The remainder of this section will discuss several of the court decisions applying the "one critical path" concept or an "ultimate critical path" analysis.

#### 1. The "One Critical Path" Concept

Some courts have found inherent in the "clear apportionment rule" the concept that the contractor must only be permitted to recover excess costs that result from owner-caused delays, which affect activities on a single critical path. Sauer Inc. v. Danzig, 224 F.3d at 1345. The idea behind this concept is that there is "one critical

path" and that a delay to an activity, which is on that critical path, impacts the overall contract completion date. Mega Constr. Co. v. United States, 29 Fed. Cl. 396 (1993). Delayed activities are considered to be off the critical path when they are offset by the total available float and, thus, do not affect the overall project completion. This analysis can become complicated, however, in a termination setting where the analysis of total available float is performed as of an artificial deadline, the termination date.

This "one critical path" concept has been applied by courts and boards in the context of concurrent delays to find that if only one delay is affecting the critical path, and a concurrent delay is using up available float, the non-critical delay is not delaying the completion of the project, and is therefore, not excusable. Mega Constr. Co., 29 Fed. Cl. at 425. Citing Sterling Millwrights, Inc. v. United States, 26 Cl. Ct. 49, 75 (1992), the Mega court stated as follows:

> there cannot be two concurrent delays on the critical path because there is but one critical path at any one point in time, running in sequence from one critical activity to another … The critical path may change during performance, but still remains the only critical path at any one time."

Id.; see also Essex Electro Eng'rs, Inc. v. Danzig, 224 F.3d 1283, 1296 (Fed. Cir. 2000) (the Board's inquiry should focus on the overall effect of the government-caused delay, and not on each discrete period of delay, and then automatically treat as concurrent delay any period of government-caused delay during which the contractor caused unrelated delay).

The court in George Sollitt Constr. Co. v. United States, 64 Fed. Cl. 229 (2005), asserted that concurrent delays must be on the critical path :

> Because concurrent delays which do not affect the critical path of contract work do not delay project completion, an accurate critical path analysis is essential to the determination of whether concurrent delays have caused delay damages related to the delayed completion of a complex construction project. If government-caused delays did not interfere with the project's critical path, no costs related to delayed completion of the project are owed to the contractor. To recover for the delayed completion of the project, not only must plaintiff disentangle its delays from those allegedly caused by the government, but the [government-caused] delays must have affected activities on the critical path.

Id. at 241 (internal citations omitted).

As is evident from the court's explanation in Sollitt, recovery in a concurrent delay situation often turns on how the court defines the critical path. In the hypothetical involving the bridge project, for example, a court employing this analysis might not appreciate the four months of extended duration that will ultimately result from the concrete deck design change because the start of the actual work will either have float or will have less negative float than the structural steel work at the time of termination.

2. Ultimate Critical Path Analysis

Another potential obstacle to a surety's reliance upon concurrent delay as a defense to a default termination is the concept of the "ultimate critical path." This approach often yields harsh results by exculpating one party from responsibility for delay events that may have at one time been critical, but are ultimately overcome by other project delays. As with owners that adhere to on the "one critical path" approach, sureties will often encounter termination circumstances where an owner (or subsequently, a court) may assert that the "ultimate" critical path is the path as of the date of termination. In the bridge hypothetical, this approach would have the effect of allowing an owner to declare an artificial, premature completion date (the termination date) while the contractor delays remain the controlling delay—even if a schedule analysis shows that the owner changes would have become the controlling delay if the contractor had been allowed to continue.

The "ultimate critical path" concept is illustrated in Sante Fe, Inc., VABCA No. 1943 – 1946, 84-2 BCA ¶ 17,341, where 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 "ultimate 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 schedule provision governing the allocation of non-critical delays. The contract provided, "[A]ctual 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 the "ultimate 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 board held, "[s]ince 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 board in Sante Fe further explained its reliance on the "ultimate critical path" theory in assessing liquidated damages, stating, "[i]f 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 Santa Fe and Blackhawk Heating & Plumbing Co. demonstrate, apportioning responsibility for delays will depend on when the delay analysis is performed. When the as-built and as-planned critical paths are compared *post hoc*, a single delay, or a series of delays may appear as if they were not critical to the project's completion because the cumulative period of delay is less than or equal to the total available float. Both Santa Fe and Blackhawk Heating & Plumbing Co. involved concurrent delays, yet the respective boards found that the delays caused by the Government did not delay the contracts' completion dates because the critical path models showed available float time at the end of the project. In Blackhawk Heating & Plumbing Co., the board analyzed one instance where the contractor was delayed a total of 137 days in one aspect of the project because the Government failed to make the area of the building available. Nevertheless, the board concluded that the critical path did not include this activity because there were 121 days of float time remaining and this delay did not constrain the start of any critical project activity. The board applied a similar analysis to several other delayed activities.

The board in Blackhawk Heating & Plumbing Co. recognized that the time period from which a delay is analyzed is a significant factor in whether or not a contractor will be granted a time extension. Upon the contractor's motion for reconsideration, the board conceded as follows:

> the amount of delay granted can well depend on the point in time which the delay claim is analyzed and acted upon … A contractor could be granted a time extension because of delay in an apparently critical activity when later evidence might show the activity noncritical and the time extension therefore unwarranted."

From the surety's perspective, what remains difficult to justify in the "look-back" approach embraced by Santa Fe and Blackhawk Heating & Plumbing Co. is the disincentive to permit the contractor to continue performance through the contract completion date, even if it appears beforehand that the contractor will not timely finish the work. The incentive to terminate rather than resolve delay issues as they occur has an adverse effect on the risk exposure for sureties. By terminating the contractor in advance of any further delay, the owner gains an advantage by eliminating the possibility of a future delay that would invalidate the prior justification for the termination. In the bridge hypothetical discussed earlier, the owner would have an incentive to terminate the contractor before issuing the concrete deck design change in order to avoid the potential impact of this change under an "ultimate critical path" analysis. Thus, the owner is more apt to terminate and pass along the completion costs to the surety, than risk liability for any acceleration and impact costs at the end of the project.

## III. Conclusion

Through an understanding of the law related to concurrent delays as presented in this paper, a surety will be well positioned to mitigate financial loss due to the contractor's termination for failure to make progress. The surety faces special difficulties in this regard, as the contractor and surety's preference for resolving delay issues contemporaneously may be at odds with the incentive given to owners by the courts ultimate resolution of concurrent delays and the analysis of the critical path. By assessing liability as the project progresses, risk is allocated to the party that can most efficiently control the delays. Because the critical path on the job may evolve unpredictably, at the end of the project; it may turn out that the owner's termination assessment may be deemed legally unsound depending on the analysis applied by a court later reviewing the delay.

If the "ultimate critical path" analysis is applied, as 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 the contractor was terminated for delays that ultimately didn't impact project completion. On the other hand, if the court adopts a multiple path approach, the court's resolution may be much closer to that offered by the surety and the contractor prior to the default termination.

No matter the approach taken by the courts and boards, the surety should recognize the importance of determining whether concurrent delays to the critical path, however defined, affects the propriety of the owner's termination decision. Awareness of these issues as they arise on a particular project will assist the surety in deterring a termination until the owner has justification under a correct analysis of the contractor's performance schedule.