Concurrent Delays: An Owner's Sword, Shield…or Land Mine?

Part 1-Concurrent Delays 101: A Primer

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Dr. Anamaria Popescu, PE, PSP, PMP

Berkeley Research Group

8400 East Crescent Parkway

Greenwood Village, CO 80111

I. Introduction

Concurrent Delay is otherwise known as the "misery loves company" concept. Ask any forensic scheduling expert across the globe what they consider to be the most inflammatory aspect of delay analysis, they will most surely say, "concurrent delay, of course!" As an expert in delay analysis myself, I wholeheartedly agree. In my opinion, a true forensic scheduling expert really proves his or her worth by their ability to analyze and articulate the determination of concurrency of delays on a project for their client. In fact, the Society of Construction Law (SCL), a well-known and established international organization regarding all things construction law related, in their recently updated Delay and Disruption Protocol stated[1]:

> *Concurrency is a contentious issue, both because there are differing views on the correct approach to dealing with concurrent delay when analyzing entitlement to EOT* [Extension of Time] *and because there are differences about the meaning of concurrent delay itself (10.1, page 29)… As it is in relation to EOT, concurrency is one of the most contentious issues in the determination of recoverable prolongation compensation (14.1, page 39).*

Why does such an innocuous word create such strife in the project parties? It all boils down to money. If concurrent delay is proven, a contractor will not be entitled to recover extended overhead costs during the period that the concurrency exists. But let's back up a bit and define concurrent delay before explaining this statement further.

II. Definition

The Society of Construction Law beautifully simplifies the definition:[2]

> *True concurrent delay is the occurrence of two or more delay events at the same time, one an Employer Risk Event, the other a Contractor Risk Event, and the effects of which are felt at the same time. For concurrent delay to exist, each of the Employer Risk Event and the Contractor Risk Event must be an effective cause of Delay to Completion (i.e. the delays must both affect the critical path).*

However, if that definition does not clarify the concept, the Association for the Advancement of Cost Engineering International (AACEi) has **five** other definitions of concurrent delay that you may choose from, albeit all similar but slightly different connotations. For the sake of the length of this paper, I will provide the reader with two others:[3]

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[1] SOCIETY OF CONSTRUCTION LAW DELAY AND DISRUPTION PROTOCOL 2nd Edition, February 2017
[2] Ibid., page 29
[3] AACEI Recommended Practice No. 29R-03-Forensic Schedule Analysis, Revision April 25, 2011

(1) Two or more delays that take place or overlap during the same period, either of which occurring alone would have affected the ultimate completion date. In practice, it can be difficult to apportion damages when the concurrent delays are due to the owner and contractor respectively.

(2) Concurrent delays occur when there are two or more independent causes of delay during the same time period. The "same" time period from which concurrency is measured, however, is not always literally within the exact period of time. For delays to be considered concurrent, most courts do not require that the period of concurrent delay precisely match. The period of "concurrency" of the delays can be related by circumstances, even though the circumstances may not have occurred during exactly the same time period.

However for those more graphically minded, I have illustrated the concept below.

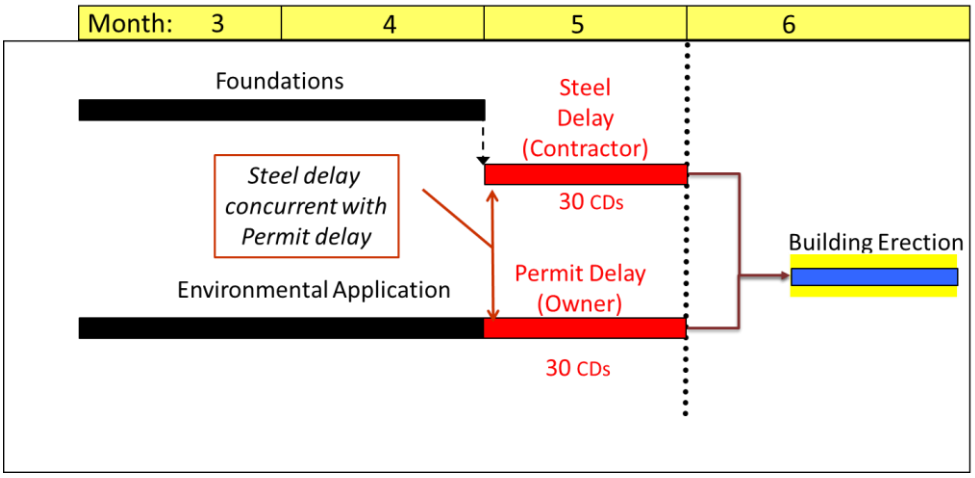

Figure 1: Concurrent Delay Illustrated with Contractor Delay and Owner Delay

The illustration is misleadingly simple but demonstrates the concept nicely. The critical path activity "building erection" is delayed by two separate delay events, one the responsibility of the owner and the other, the responsibility of the contractor. In this example, the delay periods are equal for both impacts, but in reality, that usually never is the case. Thus, one of the points of contention with the concurrency concept is defining the point in time when the two events become concurrent as well as stop being concurrent.

III. Relevance of the Concurrent Delay Concept

Hopefully by now the reader has gained a better understanding of the concurrent delay concept. Next, it is important for the reader to understand the relevance of the concept as it applies in determining contractual entitlement to cost recovery. As I stated before, it all comes down to money. The SCL Delay and Disruption Protocol states[4]:

Where Employer Delay to Completion and Contractor Delay to Completion are

[4] SOCIETY OF CONSTRUCTION LAW DELAY AND DISRUPTION PROTOCOL,page 7

concurrent and, as a result of that delay the Contractor incurs additional costs, then the Contractor should only recover compensation if it is able to separate the additional costs caused by the Employer Delay from those caused by the Contractor Delay. If it would have incurred the additional costs in any event as a result of Contractor Delay, the Contractor will not be entitled to recover those additional costs.

Furthermore, the AACEI 29R-03 Recommend Practice further clarifies the issue[5]:

Typically, when both Contractor and Owner are concurrently responsible for an extended period of performance, the Contractor is granted an extension of contract time without compensation and the Owner forgoes the collection of liquidated/stipulated damages. No time-related compensation flows from either party to the other. Generally, therefore, substantial incentive exists for:

1. The Contractor to demonstrate concurrent excusable delay during a period likely to be considered non-excusable delay; and

2. The Owner to demonstrate concurrent non-excusable delay during a period likely to be considered excusable delay.

Thus what typically happens in delay claims is that "Owners and Contractors frequently contend that concurrent delays offset each other as a defense to excuse their potential liability to compensate the other party for time related costs." [6] So the relevance of concurrent delays is the determination of how much money the Owner must pay out in extended overhead costs to the contractor or conversely, how many days of liquidated damages (LD) is the contractor waived from paying the Owner due to concurrency. Like I said previously, it all revolves around money.

IV. Key Requirements of Delay to Be Considered "Concurrent"

Before getting into the key requirements, it must be pointed out that the trier of fact as well as the expert performing the concurrency analysis must take a step back and look at the situation with a common sense approach. As the SCL Protocol so eloquently points out "that delay analysis is rarely precise down to the day (or even few days). The application of common sense requires that the margin for imprecision should be taken into account in reaching a conclusion on concurrency."[7]

As summarized by AACEI's 29R-03, the pre-requisite conditions for two or more delays to be categorized as concurrent include the following[8]:

1. The delay events are unrelated and independent.
2. The delay events are the contractual responsibility of different parties.

[5] AACEI Recommended Practice No. 29R-03, page 101
[6] Ibid., page 101
[7] SOCIETY OF CONSTRUCTION LAW DELAY AND DISRUPTION PROTOCOL,page 31
[8] AACEI Recommended Practice No. 29R-03, pages 102-103

3. The delay events must be involuntary (i.e. no delay event could be a reaction to the other event and therefore contractor is pacing).
4. The delay events must be substantial and not easily curable.
5. The delay events must occur during the same schedule analysis time period (i.e. the same window being analyzed).
6. The delay events must independently delay the critical path(s) or cause a near critical path to become critical (i.e. float erosion).

V. The Literal vs Functional Concurrency Theories

The other concept that must be considered when determining if delays are concurrent or not is the timing of the delay events themselves. "Timing" then is established based on the delay analyst's chosen theory of either "literal" or "functional" concurrency.

As stated by 29R-03, "under the Literal Theory, the delays have to be literally concurrent in time, as in 'happening at the same time.' In contrast, under the Functional Theory, the delays need to be occurring within the same analysis period. Of the two, the functional theory is more liberal in identifying and quantifying concurrency since the delays need only occur within the same measurement period, while in the literal theory, only delays require same-time occurrence. The assumption made by the functional theory practitioner is that most delays have the potential of becoming critical, once float on the path on which they resides has been consumed."[9]

"The difference in outcome between the literal and functional theory is significant. Given the same network model, the literal theory practitioner will find less concurrency -- many more compensable delays for both parties. The functional theory practitioner will find many of those delays to be concurrent and hence excusable but, depending on the terms of the contract, non-compensable for both parties."[10]

An example of the difference in outcome using a functional vs. a literal approach to concurrency is shown below in the two figures.

[9] Ibid., page 104
[10] Ibid., page 105

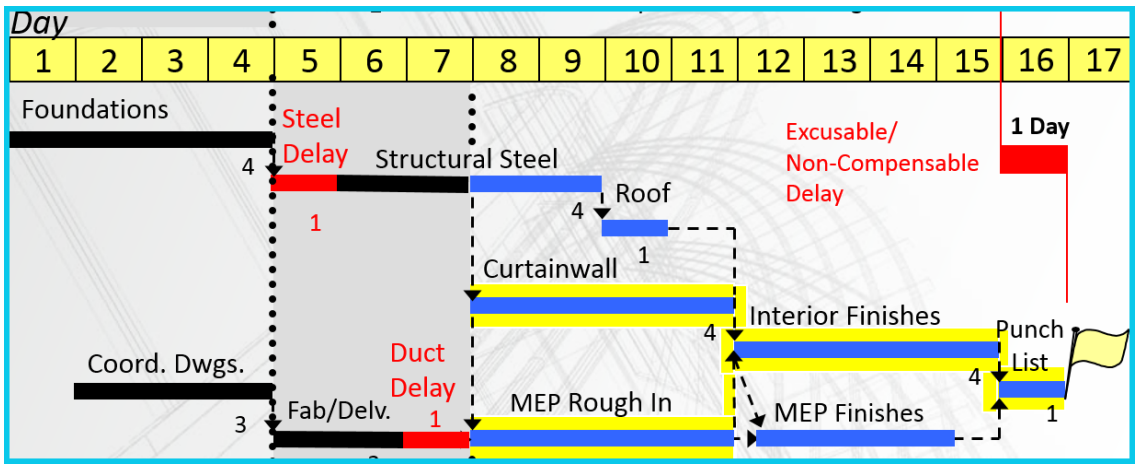

Figure 2: Functional Theory of Concurrency Applied over a Three Day Window Analysis Period

In Figure 2 above, using the functional theory, if the window period is 3 days long and the steel delay (contractor caused) and duct delay (owner caused) happens in this same period but on different days (in this case day 5 and day 7) and both affect a critical path, then they would be concurrent and considered an "excusable non-compensable delay" based on the contract requirements.

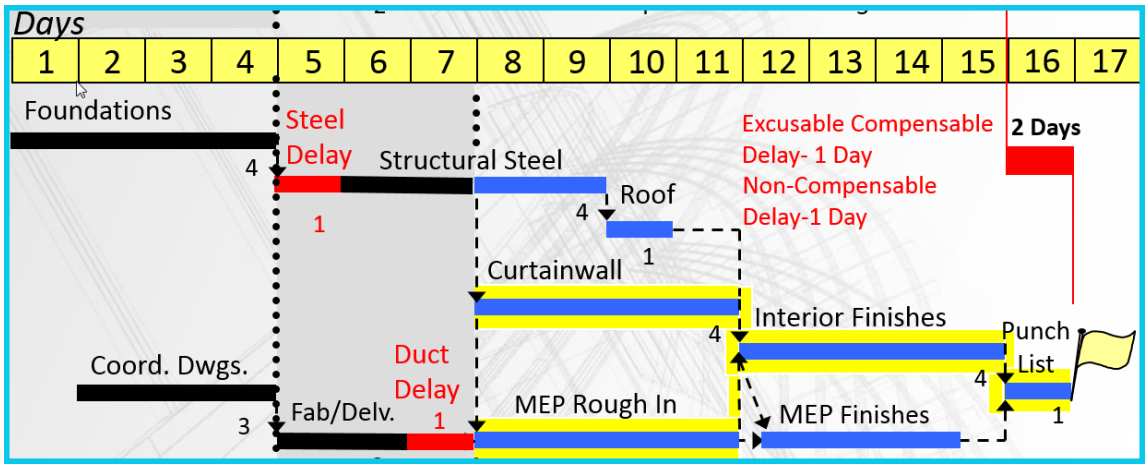

Figure 3: Literal Theory of Concurrency Applied over a Three Day Window Analysis Period

In Figure 3 above, using the literal theory, there would be no concurrency since the delays happened on different days (day 5 and day 7). Therefore the critical path delays would be considered separately, one an "excusable compensable delay" and the other a non-excusable delay.

Therefore, the Functional Theory allows for far more occurrences of concurrency than the Literal Theory. It also allows for float erosion[11] on near critical paths to the point they also become critical and thus considered in the concurrent delay determination. This concept makes sense since on a complex project, especially nearing the end of the works, there can be numerous parallel critical paths due to the substantial amount of delay affecting them. It would then make perfect sense that the delay expert needs to consider parallel critical paths when evaluating concurrency.

VI. Net Effect of Concurrent Delay Combinations

Now that the concept of concurrency has been explained, what is the contractual net effect of two concurrent delays? RP29-03 also did a nice job in providing a matrix that defines the ultimate conclusion of potential concurrent delay combinations. This of course is assuming that the contract being used is not defining the individual events in a different way (e.g. Force Majeure is excusable non-compensable).

Delay Event 1		Delay Event 2	Net Effect
Force Majeure Delay [Time / No Compensation for Extended Overhead / No Liquidated/stipulated Damage Assessment]	concurrent with	**Contractor Caused Delay** [No Time / No Compensation for Extended Overhead / Liquidated/stipulated Damage Assessment]	**Excusable** [Time / No Compensation for Extended Overhead / No Liquidated/stipulated Damage Assessment]
Force Majeure Delay [Time / No Compensation for Extended Overhead / No Liquidated/stipulated Damage Assessment]	concurrent with	**Owner Caused Delay** [Time / Compensation for Extended Overhead]	**Excusable** [Time / No Compensation for Extended Overhead / No Liquidated/stipulated Damage Assessment]
Contractor Caused Delay [No Time / No Compensation for Extended Overhead / Liquidated/stipulated Damage Assessment]	concurrent with	**Owner Caused Delay** [Time / Compensation for Extended Overhead]	**Excusable** [Time / No Compensation for Extended Overhead / No Liquidated/stipulated Damage Assessment]

Figure 4: Net Effect Matrix of Concurrent Delay Events[12]

As can be seen from the matrix above, three different potential combinations can result in a net effect delay that is excusable but non-compensable. A suggestion would be for all contract drafters to include a similar matrix in their contracts when defining concurrency as well as if the functional or literal definition will be applied. This may help lessen some of the confusion and arguments around delay entitlement if an EOT request is issued or LD's are potentially assessed.

[11] Float Erosion means that the float on the near-critical path is reduced due to delays on activities on this path. If the float on the near-critical path is reduced enough to equal the float on the critical path, then the near-critical path also becomes critical.
[12] Ibid., page 111

VII. What is the Problem with "Proving" Concurrency?

Hopefully by the time the reader reaches this particular section, he or she has comfortably grasped concurrency theory at least in principle. So why then is concurrent delay so difficult to prove and convince triers of fact of its legitimacy?

This question actually opens up the conversation more broadly in regards to the "quality" issues that plague projects today. If the pre-requisites that are necessary to prove concurrent delay are not adequately maintained contemporaneously during the life of a project, an expert will have a difficult time convincing an arbitrator or court that it did exist in hindsight.

Here are a list of some of the issues that I have encountered in my role as a delay expert to defend or dispute a concurrency argument:

- **Lack of Consistent Schedule Updates:** The schedules have not been updated in a consistent manner during the course of the project so developing adequate analysis periods may be very difficult.
- **Schedules Do Not Have Integrity:** The contemporaneous schedule updates have a host of integrity issues like numerous open ends, the entire scope of the project has not been represented, lack of a valid critical path, constraints, etc. All of which make determining the critical and near-critical paths suspect at best and therefore determining concurrency almost impossible.
- **Lack of Adequate Documentation for Causation:** The delay events for concurrency proof must be properly documented including the exact timing of these events as well as what activities they directly affected. Typically, I have observed poor documentation of delay causation recorded in the project archives.
- **Lack of Experience of the Project Team:** In addition, more and more team members that are responsible for managing large projects have not been trained in proper contract management and claims resolution processes. Because of this lack of training, the team members typically do not understand how to develop an EOT claim, nor how to perform a proper delay analysis, or even understand the types of documentation they are required to maintain to win a successful claim in arbitration or court.
- **Inadequate Schedule Analysis Methodology:** Either a team member or outside expert that tries to undertake a schedule analysis is not versed in all the schedule analysis methodologies that exist in the field of forensic delay analysis. Because of this lack of knowledge, they typically apply only the methods they are familiar with, not necessarily the best one in proving a concurrency argument. For example, I have seen the Time Impact Analysis overused in proving concurrency when a more appropriate method, the Windows Analysis, is overlooked simply because the analyst is not familiar with the method.

VIII. Conclusion

Hopefully this paper has provided the reader with a better understanding of the concept of concurrent delay, how it is applied, as well as the difficulties in performing the analysis. Concurrent delay will continue to be a contentious topic due to the fact that it is intrinsically tied to money. Is the Owner entitled to assess liquidated damages or is the Contractor entitled to recover extended overhead costs? The answer depends on concurrency.