



ادعاهای تاخیر، ماده‌های قانونی اشتباه و اثرات غیرقابل جبران

ارائه دهنده:

سید محمدرضا علوی‌پور

CMAA Authorized Trainer

(PhD, PMP, CMIT)

دانشگاه Illinois Tech آمریکا



What we will learn?

1. Contract risk and time management in construction contracts

- ❖ Contracts allocation of risks between parties
- ❖ Common risk sharing clauses included in construction contracts
- ❖ Typical scheduling requirements used to manage and allocate risk
- ❖ Why are scheduling requirements important in managing risk?
- ❖ How are delays calculated?

2. Delay analysis and its associated damages

- ❖ Types of delay
- ❖ How concurrent delay is addressed in the contract
- ❖ Liquidated damages
- ❖ Consequential damages
- ❖ Relationship between liquidated and consequential damages, and other contractual limitations of liability
- ❖ Best practices

Contract risk and time management in construction contracts



A construction contract allocates risks between parties

❑ **Contract** is used to:

- ❖ Assign risk to **party** who can **control** it
- ❖ Assign risk to **party** who can **bear** it at the **lowest costs**
- ❖ Assign risk to **owner** when **no other party** can **bear** the risk or control the cost

Source: Successful Claims Resolution Through an Understanding of the Law Governing Allocation of Risk for Delay and Disruption, Mark A. Sgarlata, Esq., and Christopher J. Brasco, Esq., CM eJournal, 2004.

Common risks on construction projects?



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❑ Common risks on construction projects include

1. Delay
2. Disruption

both of which have the **potential** to **impact**

1. Project duration
2. Project cost

Difference between delay and disruption?



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❑ Delay

- ❖ Delay is related to **when** an activity is **performed**
- ❖ Delay involves **slippage** of any activity, **no matter** the **criticality**
- ❖ **Critical Path Delay** involves slippage of any Contract Milestone, interim or completion, that extends the **contractual completion date**

❑ Disruption

- ❖ Disruption is related to **how** an activity is **performed**
- ❖ Disruption can occur **without slippage** of any activities
- ❖ Disruption **can still** occur **during slippage** of any activities including Contract Milestones



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❑ Concept of Delay

- ❖ In any project, **certain activities** must be **completed on time** in order to **prevent slippage** of the project completion – this is Critical work
 - ✓ The term delay **can be** slippage in **any activity**
- ❖ **Critical Path delay** is slippage in **activities on CP** that extend the project

Milestone Dates

- ✓ CP delay can also be **slippage** of activities on a Near Critical Path that **overtakes** the Critical Path and causes **slippage** of the **Milestones**
- ✓ If the **project Milestones** are completed **on time**, there is no project delay (no Critical Path delay to the project)



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❑ Concept of Disruption

“An Interference (action or event) with the orderly progress of a project or activity(ies).”

“Schedule disruption is any unfavorable change to the schedule that may, but does not necessarily, involve delays to the critical path or delayed project completion.”

“Disruption has been described as the effect of change on unchanged work which manifests itself primarily as adverse labor productivity impacts.”

- ❖ All the above are quotes from AACE's Recommended Practice for Forensic Schedule Analysis



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❑ Critical Path Delay

- ❖ **Technical CPM** concept supported by **case law**
- ❖ **Claimant** must show delays in the **Critical Path** that forced late completion of Milestones to prevail on a CP delay claim
- ❖ **Simple slippage** of any **Non-Critical activities** is **not** Critical Path delay
- ❖ Showing **slippage** without reference to the Critical Path is a **weak argument**,
not highly favored in litigation, and
unlikely to win



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❑ Disruption as related to CP Delay

- ❖ Disruption includes **all types** of non-Critical Path **slippage**
- ❖ Disruption **may include** Critical Path delay that was **mitigated** (but not recognized) such that the **completion milestone** was **not delayed**
- ❖ A project **may** have **Critical Path delay** for a **number of months** but is brought back to on-time completion, and still be subject to **disruption claims**
- ❖ Disruption and Critical Path Delay can exist on the same project at the same time
- ❖ Disruption may be **identified** by specific issues,
but is **more likely** to arise when the contractor **discovers** a significant project cost overrun.



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❑ Disruption as related to CP Delay

❖ Disruption involves labor, but sometimes equipment, **cost overruns** for a variety of reasons:

- ◆ *Inefficiency*
- ◆ *Learning curves issues*
- ◆ *Dilution of supervision*
- ◆ *Trade stacking*
- ◆ *Overcrowding*
- ◆ *Overtime*
- ◆ *Workforce size*
- ◆ *Morale*
- ◆ *Fatigue*
- ◆ *Duration compression*
- ◆ *Loss of productivity*
- ◆ *Rework*
- ◆ *Craft turnover*
- ◆ *Absenteeism*
- ◆ *Weather*
- ◆ *Project conditions*
- ◆ *Availability of skilled workers*
- ◆ *Cumulative effect of changes*
- ◆ *Project size*
- ◆ *Out-of-sequence work*

Why do we need to consider delay and disruption?



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❑ Terminology

- ❖ **Milestone:** identified for monitoring purposes
- ❖ **Liquidated Damages (“LD”)** – calculated damages to be assessed in **lieu of actual damages**

❑ Benchmarks for Analyzing Delay

- ❖ Any contractually mandated Milestone, especially those with **associated Liquidated Damages**, can be the benchmark for **assessing** a delay to the project
- ❖ Substantial Completion, Beneficial Occupancy, Certificate of Occupancy, all can be the final benchmark
- ❖ Interim Milestones can be used as benchmarks – generally only those contractually assigned

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ماده ۶۴ - تغییرات مدت پیمان

۱-۶۴ تمدید مدت پیمان

۱-۱-۶۴ شرایط تمدید مدت پیمان

تمام زمان‌ها و مدت‌های پیش‌بینی شده برای شروع و خاتمه و مقاطع زمانی قسمت‌های اصلی کارها، تنها در صورت وقوع هریک از شرایط زیر، می‌توانند افزایش یابند.

۱-۲-۶۴ در پایان مدت پیمان باید تمامی درخواست‌های پیمانکار درخصوص تمدید مدت پیمان بررسی و نتایج آن لحاظ شود. در صورتی‌که در پایان مدت پیمان (مدت پیمان با احتساب تمدید)، کار پیمان به اتمام نرسیده باشد، کلیه مفاد پیمان همچنان دارای اعتبار بوده و از مسئولیت پیمانکار در انجام تعهداتش کاسته نمی‌شود و پیمانکار باید برنامه زمانی کارهای باقی‌مانده را به کارفرما ارائه نماید. در صورت تصویب برنامه زمانی توسط کارفرما، مدت پیمان مطابق برنامه زمانی مصوب، به دلیل قصور پیمانکار تطویل می‌شود. همچنین پیمانکار به تناسب تأخیر در تحویل موقت کار، ملزم به پرداخت خسارت تأخیر مطابق ماده ۶۶ به کارفرما می‌باشد.

تبصره: در صورت عدم ارائه برنامه زمانی کارهای باقی‌مانده توسط پیمانکار، وی موظف است مطابق برنامه ارائه شده توسط کارفرما اقدام نماید. در صورت نقض تعهد مستمر پیمانکار در انجام کارهای موضوع پیمان ازجمله انجام کارهای باقی‌مانده، کارفرما محق به فسخ پیمان مطابق ماده ۶۸ خواهد بود.

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ماده ۶۶ - تأخیر در اتمام به موقع کار یا قسمت‌های اصلی کار

پیمانکار موظف به انجام کارها، طبق برنامه زمانی منضم به پیمان و آخرین تجدید نظرهای آن است. هرگاه در تاریخ‌های تعیین شده در برنامه زمانی منضم به پیمان و یا آخرین تجدید نظر آن، انجام کار یا قسمت‌های اصلی کار که در پیوست شماره ۱۴ پیمان مشخص شده است، به پایان نرسیده باشد، پیمانکار باید به منظور اتمام کارهای باقی مانده، برنامه زمانی مربوط را برای تصویب به کارفرما ارائه نماید. پیمانکار به تناسب تأخیر در تحویل موقت کار یا اتمام قسمت‌های اصلی کار، ملزم به پرداخت خسارت تأخیر، به میزان درج شده در شرایط خصوصی خواهد بود. حداکثر مبلغ خسارت نیز، در بند ۴-۵ موافقت‌نامه درج شده است. تاریخ مبنای محاسبه تأخیرها، آخرین تاریخ تغییر یافته طبق بند ۱-۶۴ یا ۲-۶۴ است. هرگاه تأخیر پیمانکار، بیشتر از حدی باشد که کارفرما را محق به دریافت حداکثر خسارت مشخص شده در موافقت‌نامه بنماید، کارفرما می‌تواند با اخطار قبلی، پیمان را طبق ماده ۶۸ به دلیل نقض تعهد پیمانکار، فسخ نماید.

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۴-۵ ← تأخیر در انجام به موقع کار:

در صورت تأخیر پیمانکار در اتمام به موقع کار یا قسمت‌های اصلی کار با لحاظ ماده ۶۶ شرایط عمومی، پیمانکار ملزم به پرداخت خسارت تأخیر در انجام کار به میزان تعیین شده در شرایط خصوصی است. مجموع مبلغ مربوط به این نوع تأخیرها حداکثر درصد مبلغ پیمان مندرج در بند ۱-۳ موافقت نامه می باشد.

۵-۵ ← پاداش تسریع کار:

به ازای هر روز تسریع در تکمیل کارهای موضوع پیمان، به میزان تعیین شده در شرایط خصوصی مرتبط با جزء ۶۴-۲-۱-۳ شرایط عمومی، پاداش تسریع کار محاسبه و به پیمانکار پرداخت می شود. مجموع مبلغ مربوط به پاداش تسریع کار حداکثر درصد مبلغ پیمان مندرج در بند ۱-۳ موافقت نامه است.

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تبصره: چنانچه تأخیر در اتمام قسمت‌های اصلی کار، منجر به تأخیر در تحویل موقت کار گردد، با توجه به پرداخت خسارت تأخیر در اتمام قسمت‌های اصلی کار توسط پیمانکار، آن بخش از تأخیر در تحویل موقت کار که ناشی از تأخیر در اتمام قسمت‌های اصلی کار می‌باشد، شامل خسارت تأخیر نمی‌شود.

Contract basis of claims?



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☐ Contract basis of claims

1. Float ownership
2. Right to finish early
3. Timing and notice issues
4. Waiver issues
5. Impact of waiver language on change orders
6. Exculpatory contract clauses



A construction contract allocates risks between parties

1. Float ownership

- ❖ Discussions of Owned Float **generally** refer to Total Float
- ❖ Float Ownership becomes an issue **because**:
 - ✓ In general, entitlement is **linked** to the concept of Critical Path delay to specific events, especially **Contractor's entitlement to time extensions**, and
 - ✓ **Float dissipation** can be an indicator and **source** of **disruption** later in project
- ❖ Ownership based on **contractual & legal** principles
- ❖ Check **contract documents**; either defined or silent



A construction contract allocates risks between parties

1. Float ownership

۲-۲۶- شناوری^{۱۳}: مقدار زمانی که یک فعالیت می‌تواند به تعویق بیفتد یا به زمان اجرای آن افزوده شود، بی‌آنکه تاریخ تکمیل کار

به تعویق بیفتد. Float^{۱۳}

float

The time available for an activity in addition to its planned duration. See free float and total float. Where the word 'float' appears in the Protocol, it means positive not negative float, unless expressly stated otherwise.

total float

The amount of time that an activity may be delayed beyond its early start/early finish dates without delaying the contract completion date.



A construction contract allocates risks between parties

1. Float ownership

- ❖ There are a number of opinions on Float Ownership:
 - ✓ Allocate TF in proportion to Activity Durations
 - ✓ Allocate TF in proportion to combination of scope, cost, & time
 - ✓ Allocate TF to party carrying risk
 - Lump-sum contracts could allocate to GC
 - Cost reimbursable contracts could allocate to Owner
 - ✓ Leave the contractor in the same risk position as before the changed condition



A construction contract allocates risks between parties

1. Float ownership

❖ Prevailing Industry View on Float Ownership

- "...the majority view..." is "...that float, a shared commodity, is available for consumption on a 'first come first served' basis." AACE, from the "Recommended Practice for Forensic Schedule Analysis"
- The generally accepted view is that the project owns the float, so "whoever gets to it first, gets to use it first.", Tom Peters, from his paper, "Dissecting the Doctrine of Concurrent Delay", 2004
- "...it belongs to the project and can be used by both owners and contractors to mitigate the potentially negative impact of delays. Utilization of float is, hence, on a "first-come, first-served" basis.", Jesus de la Garza, from his paper, "Preallocation of Total Float in the Application of a Critical Path Method Based Construction Contract", 2007

A construction contract allocates risks between parties

1. Float ownership

❖ Prevailing Industry View on Float Ownership

۵- شناوری و مالکیت آن

مالکیت شناوری در اختیار پروژه است. بدین معنا که هر یک از طرفین می‌توانند از شناوری برنامه زمانی، استفاده نمایند. در مواردی که تاخیر کارفرما رخ می‌دهد و در برنامه زمانی، شناوری کل باقی‌مانده وجود دارد، تمدید مدت پیمان صرفاً مادامی اعطا می‌گردد که شناوری کل، تحت تأثیر رویداد مذکور کمتر از صفر گردیده باشد.

8. Float as it relates to time

Float values in a programme are an indication of the relative criticality of activities and, generally, when float is exhausted, the completion date will be impacted. Unless there is express provision to the contrary in the contract, where there is remaining total float in the programme at the time of an Employer Risk Event, an EOT should only be granted to the extent that the Employer Delay is predicted to reduce to below zero the total float on the critical path affected by the Employer Delay to Completion (i.e. if the Employer Delay is predicted to extend the critical path to completion).

A construction contract allocates risks between parties

1. Float ownership

❖ Prevailing Industry View on Float Ownership

3. Shared Ownership of Network Float

In the **absence of contrary contractual** language, **network float**, as opposed to **project float**, is a **shared commodity** between the owner and the contractor. In such a case float must be shared in the **interest of the project** rather than to the **sole benefit** of one of the parties to the contract.

E. Ownership of Float

In the **absence of contrary contractual** language, network float is a shared commodity between the owner and the contractor. Conventional interpretation of the principle of shared float allows the use of float on a **first-come-first-serve basis**, thereby allowing the owner to delay activities on that path up to the point where float is consumed. Therefore, as a corollary, if **pacing is defined** as the **consumption of float**, it follows that **both owners and contractors** are allowed to pace non-critical work.

Project float is the time between the last schedule activity on the baseline schedule and the contractual completion date where the contractual completion date is later than the scheduled completion date. In this case, in the absence of contrary contractual language, project float is owned solely by the contractor.

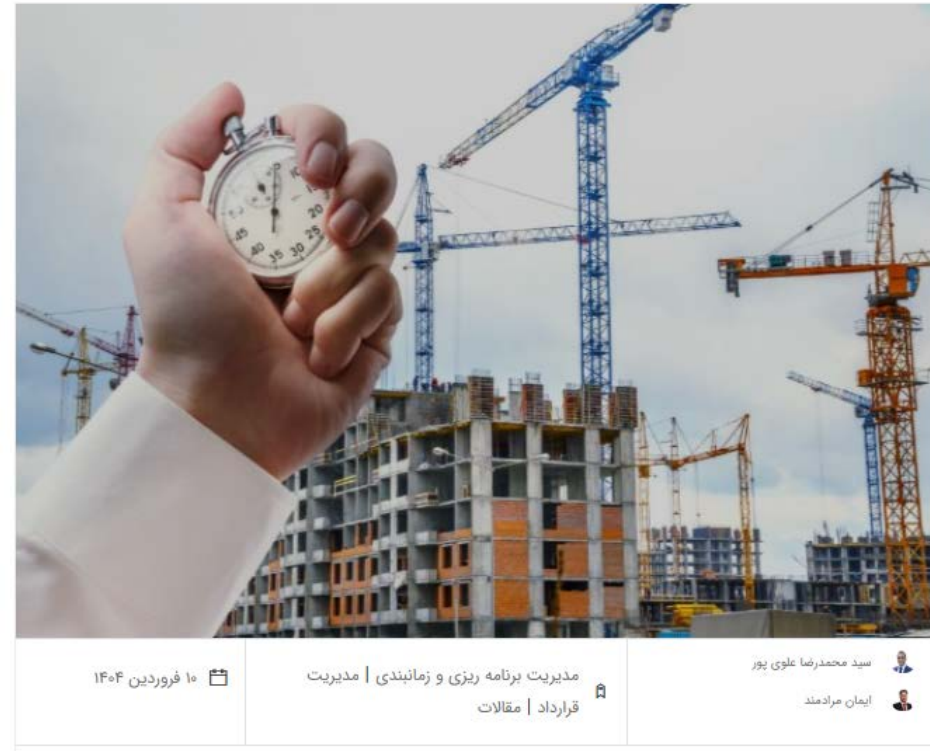
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1. Float ownership

❖ Prevailing Industry View on Float Ownership

مالکیت شناوری در پروژه؛ چالش‌ها، تبعات مالی و قراردادی آن

<https://dralavipour.com/blog/view/float-ownership>





A construction contract allocates risks between parties

2. Right to Finish Early

- ❖ Also known as “**Early Completion Schedule**”
- ❖ **Submitted** Baseline Schedule shows planned completion earlier than contractual completion requirement
- ❖ Submitted schedule contain **positive Total Float** if completion activity date is constrained to **contractually required completion** date
- ❖ This can **happen** at **any time** during the project



A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

۲-۶۴ کاهش مدت پیمان

۱-۲-۶۴ شرایط کاهش مدت پیمان

تمام زمان‌ها و مدت‌های پیش‌بینی شده در پیمان، در شرایط زیر می‌توانند کاهش یابند:

Prepared by Dr. Alavipour
DO NOT DISTRIBUTE

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

۱-۱-۲-۶۴ تغییر کار موضوع ماده ۴۹ که منجر به کاهش مدت پیمان شود.

ماده ۴۹ - تغییر در کارها

۱-۴۹ کارفرما در چارچوب کلی موضوع پیمان، در طول مدت پیمان تا پیش از تحویل موقت، می‌تواند افزایش و یا کاهش مقادیر، حذف برخی از کارها، تغییر در مشخصات کارها و یا انجام کار جدید را از پیمانکار بخواهد و پیمانکار موظف است با رعایت سایر بندهای این ماده و مفاد پیمان، اقدام نماید.

آیا این خلاف رویه‌های بین‌المللی است؟

بقیه موارد در تکمیل زودهنگام شامل کدام حالت‌هاست؟



A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

There are circumstances in which acceleration measures are used in an attempt to complete the project earlier than planned. Those circumstances are usually classified as: (a) directed acceleration where the owner directs such acceleration and usually pays for the associated additional cost; or (b) voluntary acceleration in which the contractor implements the plan on its own initiative in the hope of earning an early completion bonus. Contractor efforts undertaken during the course of the project to recover from its own delays to activities are generally not considered acceleration, even if the contractor incurs cost as a result.

Do we have these alternatives in our contracts?

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

۲-۱-۲-۶۴ کارفرما می‌تواند با لحاظ قوانین و مقررات، اتمام زودتر از برنامه زمانی پیمان را با در نظر گرفتن امکانات و توانایی‌های پیمانکار درخواست کند. در این صورت پیمانکار باید با بررسی شرایط مورد نظر کارفرما و بر مبنای قیمت‌های پیمان و سایر اسناد و مدارک پیمان، پیشنهاد خود را مبنی بر اضافه مبلغ احتمالی و امکانات مورد درخواست به همراه برنامه پیشنهادی برای کاهش مدت پیمان، به کارفرما تسلیم کند. در این حالت پاداش تسریع موضوع جزء ۳-۱-۲-۶۴ به پیمانکار تعلق نمی‌گیرد.

Directed Acceleration

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

۳-۱-۲-۶۴ چنانچه بدون درخواست قبلی کارفرما مطابق جزء ۲-۱-۲-۶۴، پیمانکار با اتخاذ تمهیداتی، ضمن حفظ کیفیت کارها و با رعایت الزامات HSE پیمان اقدام به تسریع کار نماید، به نحوی که پیش از سپری شدن مدت تکمیل کار، کارهای موضوع پیمان تکمیل شود. پاداش تسریع کار مطابق شرایط خصوصی به پیمانکار پرداخت می‌شود.

Voluntary Acceleration

آیا نیازی به اخذ مجوز از کارفرما نیست؟



A construction contract allocates risks between parties

2. Right to Finish Early

- ❖ If there is **no benefit** to **Owner** for early completion
 - ✓ Should take **steps** to **prevent** forced **early acceptance** of facility or transportation project
 - Acceptance would likely **mean assumption** of utility, insurance, maintenance, & protection **costs**

Steps should include contract language as necessary

- Sometimes **contract requires** change order to
advance Contract Completion to planned completion
if the Owner can take early possession

Is there another problem?

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

۲-۲-۶۴ پس از توافق کارفرما و پیمانکار مبنی بر کاهش مدت پیمان بر اساس جزء ۶۴-۲-۱-۲، تاریخ جدید به عنوان تاریخ اتمام پیمان تعیین می‌شود. پیمانکار باید ظرف ۱۴ (چهارده) روز برنامه زمانی اجرای کارهای موضوع پیمان را، به تناسب شرایط و تاریخ جدید اتمام پیمان، مورد تجدید نظر قرار داده و برای بررسی و تأیید مشاور کارفرما، تسلیم نماید. برنامه زمانی جدید پس از تصویب کارفرما، به پیمانکار ابلاغ می‌شود؛ و از آن پس، سایر مفاد پیمان در مورد اتمام به هنگام کار، بر مبنای تاریخ جدید، نافذ خواهد بود. در صورت عدم تحقق کاهش مدت پیمان مطابق جزء ۶۴-۲-۱-۲، در پایان مدت توافق شده، اضافه مبلغ توافق شده پیمان به تناسب مدت کاهش نیافته، کاهش می‌یابد و پیمانکار از این بابت مشمول خسارت تأخیر نمی‌شود.

اگر کارفرما مانع شده باشد قابلیت اخذ خسارت وجود دارد؟

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

13. Early completion as it relates to compensation

If as a result of an Employer Delay, the Contractor is prevented from completing the works by the Contractor's planned completion date (being a date earlier than the contract completion date), the Contractor should in principle be entitled to be paid the costs directly caused by the Employer Delay, notwithstanding that there is no delay to the contract completion date (and therefore no entitlement to an EOT). However, this outcome will ensue only if at the time they enter into the contract, the Employer is aware of the Contractor's intention to complete the works prior to the contract completion date, and that intention is realistic and achievable.

Why?

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

E. Ownership of Float

In the **absence of contrary contractual** language, network float is a shared commodity between the owner and the contractor. Conventional interpretation of the principle of shared float allows the use of float on a **first-come-first-serve basis**, thereby allowing the owner to delay activities on that path up to the point where float is consumed. Therefore, as a corollary, if **pacing is defined** as the **consumption of float**, it follows that **both owners and contractors** are allowed to pace non-critical work.

Project float is the time between the **last schedule activity** on the **baseline schedule** and the **contractual completion date** where the contractual completion date is later than the scheduled completion date. In this case, in the **absence of contrary contractual language**, project float is owned **solely by the contractor**.

What is the solution?

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

13. Early completion as it relates to compensation

If as a result of an Employer Delay, the Contractor is prevented from completing the works by the Contractor's planned completion date (being a date earlier than the contract completion date), the Contractor should in principle be entitled to be paid the costs directly caused by the Employer Delay, notwithstanding that there is no delay to the contract completion date (and therefore no entitlement to an EOT). However, this outcome will ensue only if at the time they enter into the contract, the Employer is aware of the Contractor's intention to complete the works prior to the contract completion date, and that intention is realistic and achievable.

Is it a prerequisite for acceleration incentive?
What if the owner wants to prevent claims in case of prevention?



A construction contract allocates risks between parties

2. Right to Finish Early

❖ **General requirements** for Contractor's recovery of early completion delay damages

- ✓ Contractor should **show** from the **beginning** of the contract that it intended to complete early
- ✓ Contractor **must** have the ability and capacity to finish early
- ✓ Contractor **must** show that it actually would have completed early but for the **Owner's actions**.

Based on Federal Court case in 1993, "Interstate General Contractors, Inc. v. United States"



A construction contract allocates risks between parties

2. Right to Finish Early

❖ Notes:

- ✓ **Failure** to provide notice of intention to complete early is **not a necessary prerequisite** to recovery of damages for **delayed early completion**.
- ✓ **Contractual clauses** prohibiting preparation of an early completion schedule are **not an absolute bar** to **recovery** of damages for owner-caused delays to early completion.

So, what contractor should do here?

Final and binding solution?



A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

- ✓ **Scheduling clauses** can state specifically and expressly that
*the Owner would be **exempt** from **liability** for early completion delay damages.*
- ✓ **Scheduling clauses** can also state that
*the Contractor is **precluded** from completing the contract work **early**.*
- ✓ **Contracts** can assign ownership of float.

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

۲-۶۴ کاهش مدت پیمان

۱-۲-۶۴ شرایط کاهش مدت پیمان

تمام زمان‌ها و مدت‌های پیش‌بینی شده در پیمان، در شرایط زیر می‌توانند کاهش یابند:

آیا موارد تسریع دیگری اینجا وجود دارد؟

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

آیا موارد دیگری اینجا وجود دارد؟

In practice, there are subtle distinctions between **directed acceleration**, **constructive acceleration**, and **delay mitigation**. For example, **directed acceleration** cost implies additional expenditure or money for recovery of either incurred or projected delay, as well as efforts to complete early – all at the direction of the owner. The term **constructive acceleration** applies to expenditure of money for efforts to recover either incurred or projected delay caused by the owner and without specific direction to do so. **Delay mitigation** generally refers to no-cost recovery efforts for incurred or projected delay.

Constructive Acceleration
Delay Mitigation

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

Constructive Acceleration: (1) A contractor's acceleration efforts to maintain scheduled completion date(s) undertaken as a result of an owner's action or inaction and failure to make a specific direction to accelerate; [4] (2) Constructive acceleration generally occurs when five criteria are met:

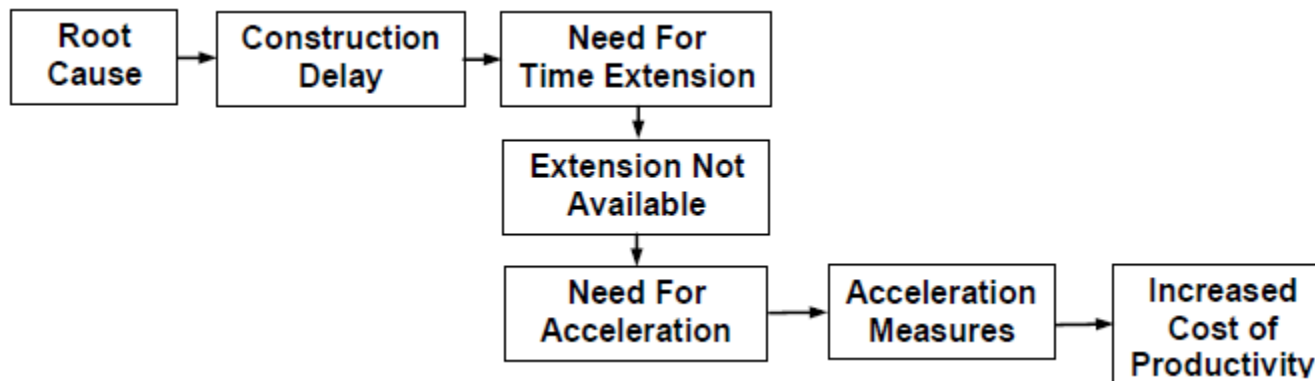
So, when it happens?

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

The **root cause** of the impact results in a construction delay or projects a construction delay. This, in turn, results in the **contractor identifying** that it needs a time extension and requesting a time extension. The **owner denies the time extension** request but the **need for recovery** from the delay remains. The **contractor then undertakes acceleration** measures that could include increased labor. Increased labor, without a time extension, can result in loss of productivity.



A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

Delay Mitigation: A contractor's or owner's efforts to reduce the effect of delays already incurred or anticipated to occur to activities or groups of activities. Mitigation often includes revising the project's scope, budget, schedule, or quality, preferably without material impact on the project's objectives, in order to reduce possible delay. Mitigation usually has no or very minimal associated costs. [4]

A construction contract allocates risks between parties

2. Right to Finish Early

❖ Contract language

In the case of acceleration, **constructive acceleration**, and **delay mitigation**, affected activities are usually on the **projected critical path**, thus, the objective of most acceleration or mitigation is to **recover from anticipated delay** to project completion. However, acceleration, constructive acceleration, and mitigation can **occur with regard** to activities that are **not on the critical path**. For example, an owner might insist that a **certain portion** of the work be made available prior to the scheduled date for completion of that activity. The contractor may **mitigate non-critical delay** by **resequencing** a series of non-critical activities to **increase the available float**.

آیا قراردادهای ما یا حتی دستورالعمل تاخیرات سازمان برنامه ظرفیتی برای این موارد پیش‌بینی کرده است؟

چرا قرارداد EPC صنعتی جدید در ارتباط با ماده تمدید مدت ایراد دارد؟

❖ Contract language



A construction contract allocates risks between parties

3. Timing & notice issues

- ❖ Notice, or notification, refers to the **provisions** that **exist contractually** to formally alert the owner of a delay
- ❖ Notice requirement clauses may exist in:
 - ✓ The Contract
 - ✓ General Conditions
 - ✓ Supplementary Conditions
 - ✓ Special Conditions
 - ✓ Scheduling Specifications



A construction contract allocates risks between parties

3. Timing & notice issues

❖ Notice or notification

- “CONTRACTOR must give written notice to AMERICAN of any intent to make any claim for delay within fifteen (15) calendar days from the date of occurrence of the claim. CONTRACTOR must give written notice to AMERICAN of any occurrence which may cause a delay within 24 hours of discovery.”



A construction contract allocates risks between parties

3. Timing & notice issues

❖ Two types of notice

1. Formal notice

- ✓ Specified in contract documents

2. Constructive notice

- ✓ Constructive notice **occurs when** the formal notice is **not served**, but there is **sufficient disclosure** of the **delay event** in other documents



A construction contract allocates risks between parties

3. Timing & notice issues

- ❖ Formal notice is an **important process** to follow
 - ✓ Usually tied to **discovery** of delay event
 - ✓ Can be **multi-part process**:
 - initial notice of delay event,
 - submission of estimated cost impact,
 - submission of estimated time impact, and
 - then the after-event submission of actual cost and time impact analyses if required
- ❖ Generally, **sufficient constructive notice** existing in the absence of formal notice may **not allow recovery** to be barred due to lack of formal notice.



A construction contract allocates risks between parties

4. Waiver issues

❖ Waiver

- ✓ Contract language sometimes defines a **failure to provide** sufficient/timely Notice as a Waiver of Rights to make a claim.

- Makes sense: If the Owner doesn't know that there is a potential impact/delay, the Owner **cannot make decisions** to mitigate time/cost exposure.

- ✓ Similar Waiver of Rights language often included in the requirements for cost and time submissions, including

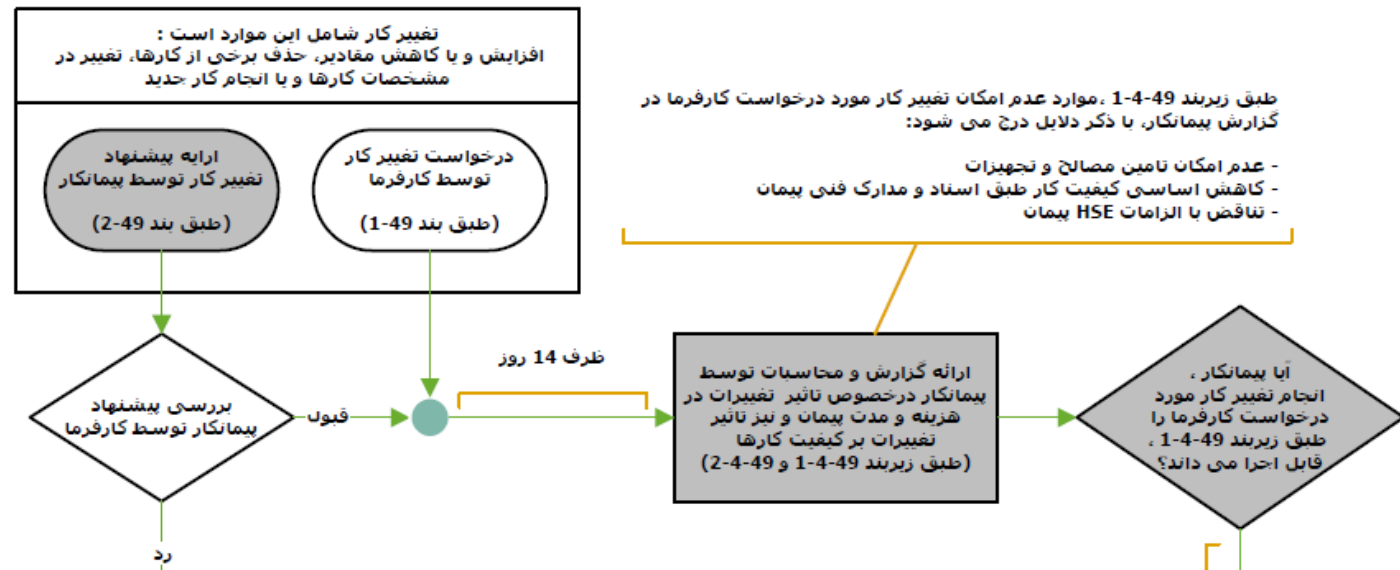
1. forward-estimated and
2. retrospective actual submissions, as well as
3. invoices.

Failure to provide such written notice shall constitute a waiver of the Contractor claim.

A construction contract allocates risks between parties

5. Impact of Waiver Language on Change Orders

- ❖ **Failure to comply** with processes upon which **Waiver language** is based often leads to **disapproved change order requests** and denied cost/time impact claims.





A construction contract allocates risks between parties

5. Reservation of Rights Issues

❖ Reservation of Rights

- ✓ Often exercised in the execution of **direct cost change orders**, in an **attempt to keep options** open for future claims of indirect, consequential and/or cumulative disruption costs/time impacts.
- ✓ Reservation of Rights is **most often made** by striking change order language that otherwise notes the **change order** settles **all** cost and time claims **associated with the issue**.



A construction contract allocates risks between parties

5. Reservation of Rights Issues

❖ Reservation of Rights

- ✓ In effect, a **Reservation of Rights** often **violates** contractual Notice provisions.
 - ❖ If Notice is required for cost and time impacts, a Reservation of Rights **essentially says** that there may be **additional cost or time impacts** that **have not or cannot** be identified (Notice) now.
 - Often **substantially unsettling** for the Owner, to the **point** that the initial change order may **not be approved**.
 - Sometimes the **additional time/cost impacts cannot** be identified at this stage.



A construction contract allocates risks between parties

6. Exculpatory Contract Clauses

- ❖ Also called disclaimer clauses
 - ✓ Attempts to **absolve responsibility** for damages resulting from **future/unknown circumstances**
- ❖ Occur in
 - ✓ Instructions to Bidders
 - ✓ Terms & Conditions
 - ✓ Contract
- ❖ Purpose is to **shift or apportion** undetermined risk
- ❖ Often seen in **language for third-party contracts** such as utilities that are beyond the Owner's control



A construction contract allocates risks between parties

6. Exculpatory Contract Clauses

- ❖ Geotechnical Reports/Information Provided to Bidders **“for information only”**
 - ✓ Owner **not responsible** for any usage or interpretation of geotechnical information
 - ✓ **Attempts to limit** Owner’s exposure to differing site conditions claim.



A construction contract allocates risks between parties

6. Exculpatory Contract Clauses

- ❖ Geotechnical Reports/Information Provided to Bidders “**for information only**”
 - ✓ **Courts** have generally **dismissed** such **attempts** by the Owner to limit responsibility for site conditions.
 - ✓ Does the **contract** include requirements for an **independent investigation** of site conditions by the Contractor? (**not typical**)
 - ✓ Was an **independent investigation** of site conditions realistic, considering access to the site, the **scope of work and/or the timing** of the bid?
 - ✓ Is there a **Differing Site Conditions provision** in the Contract?
 - If so, the **conflict generally favors** the change order provision and **not** the exculpatory clause.



A construction contract allocates risks between parties

6. Exculpatory Contract Clauses

- ❖ No damages for delay
 - ✓ Owner causes delays that cause additional cost and time, but Contractor cannot collect damages
 - ✓ Sole remedy for Contractor is time extension
 - ✓ Generally upheld but interpreted strictly
 - ✓ Exemptions to NDFD:
 - Active interference by Owner or Owner's agents
 - Delays caused in bad faith
 - Delays were not contemplated



A construction contract allocates risks between parties

6. Exculpatory Contract Clauses

- ❖ Implied Provisions that affect exculpatory clauses
 - ✓ Duty to Provide Constructible Documents
 - ✓ Duty Not to Hinder, Delay or Interfere with Contractor's Performance
 - ✓ Duty to Cooperate
 - ✓ Duty to Good Faith & Fair Dealing
 - ✓ Duty to Provide Site Access
 - ✓ Duty to Review Submittals



A construction contract allocates risks between parties

6. Exculpatory Contract Clauses

❖ Others

- ✓ Pay When Paid
- ✓ Limitation of Liability
- ✓ Indemnity Clauses

Importance of scheduling?



Common risk sharing clauses included in construction contracts

☐ Scheduling considerations

- ❖ Baseline schedule
- ❖ Updated schedule



Typical scheduling requirements used to manage and allocate risk

❑ Baseline schedule is a contract document

- ❖ It is a formal project submittal intended to reflect **contractor's unimpacted plan** for completing a project
- ❖ It should reflect contractor's planned sequence (activity interdependencies, logic) for completing the work as well as planned durations
- ❖ Baseline schedule becomes the **benchmark** that project performance is measured against



Typical scheduling requirements used to manage and allocate risk

❑ Schedule updates reflect status of a project periodically through progression of work

- ❖ Typically **performed monthly** to monitor project progress but could be **more frequent**
- ❖ Should reflect **adjustments** to accurately reflect **contractor's plan** for completing work in order to **effectively guide the project team**
- ❖ **Should identify** and **explain slippages** in time (so they can be managed proactively)
- ❖ Should reflect **how the project** was actually built

❑ **Accurate schedule updates** (the left and right of the data date) can **facilitate a less** contentious analysis of project delays



Why are scheduling requirements important in managing risk?

- ❑ **Proactively** managing schedule risk could reduce the potential for **disputes at end** of project – allows corrective action
- ❑ **Foundation** of the analysis of disputes related to delay
- ❑ **Quantification** of **delay** is often the first step of any delay analysis
 - ❖ **Many methodologies**



Why are scheduling requirements important in managing risk?

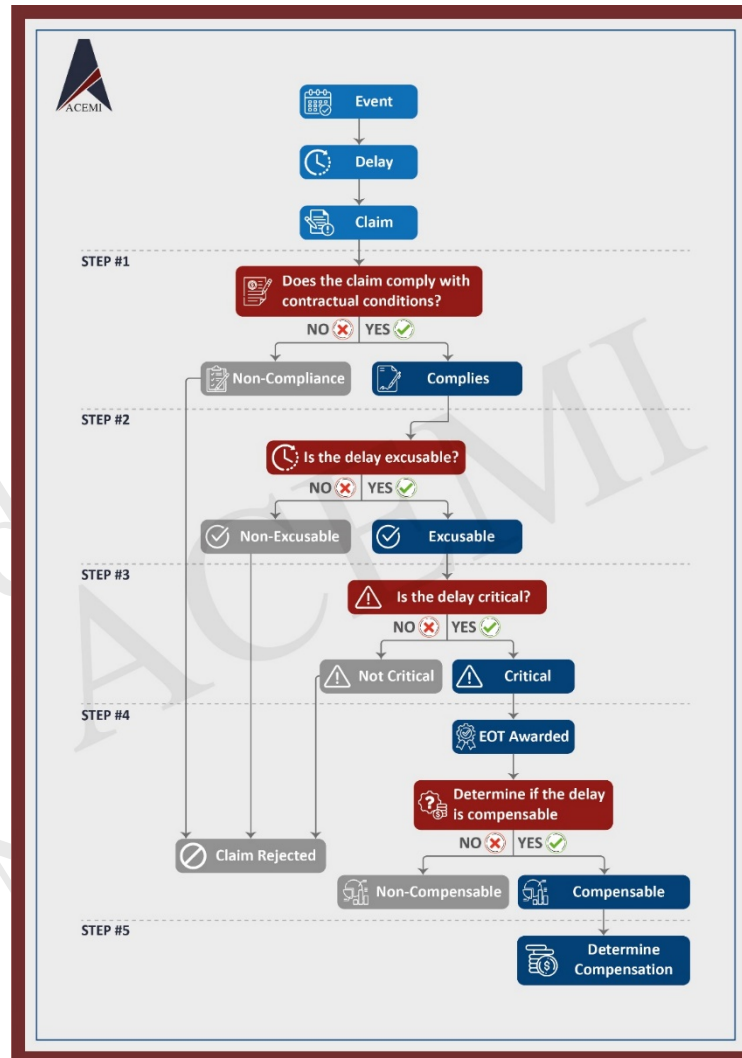
- ❑ A **proper schedule** will allow a contractor to show and analyze true delay and disruption.
- ❑ Since some **contractors view** the schedule as a **sword to fall on**, they build it to
 1. Insulate themselves from criticism,
 2. Hide lack of progress,
 3. Obscure problems.
 - ❖ **Owners** sometimes create this attitude by **rigid administration**.
- ❑ This will lead to
 1. ineffective project management,
 2. poor project controls, and
 3. an inability to protect either party against claims.
- ❑ An **improper schedule** will allow false claims and confuse issues, making **resolution more difficult**.



How delays are calculated and allocated?

- ❑ Contract should provide **clear definitions** of different types of delay
- ❑ Definition impacts **how delays** are allocated
 1. Owner responsible delays
 - ❖ Owner changes, design issues, slow approval of submittals, differing site conditions
 2. Contractor responsible delays
 - ❖ Procurement, defective work, labor issues, poor project management/control of project activities
 3. Shared delays
 - ❖ Force majeure, weather, concurrent delays

How delays are calculated and allocated?





How delays are calculated and allocated?

❑ Time related claims fall into categories

1. Simple delay claims
2. Disruption claims (inefficiency of labor typically)
3. Acceleration claims
 - i. Directed acceleration
 - ii. Constructive acceleration
4. Cumulative effect of change orders

It is possible to anticipate these categories and minimize or avoid the conditions that lead to the claims



How delays are calculated and allocated?

❑ Schedule Administration

- ❖ Recognizing Late Performance
 - ✓ Have a process in place
 - ✓ Require response to first recognition of late performance
- ❖ Steps to Improve Late Performance
 - ❖ Work with Contractor
 - ❖ Do not allow process to languish
 - ❖ Require Schedule-based steps
 - ❖ Show steps in revised schedule
 - ❖ Require approval of revised schedule
 - ❖ Require timeliness of submitted revised schedule
 - ❖ Consider Short-Interim Recovery Schedule for immediate use



How delays are calculated and allocated?

❑ Schedule Administration

❖ Change Management System

- ✓ Incorporate system (Force Account?) for failure to submit analysis
- ✓ Require and monitor use of system (collect actual data)
- ✓ Provide timely and appropriate responses

❖ Avoid Constructive Acceleration

- ✓ Require Time Impact Analyses at the time of the delay
- ✓ Review and negotiate appropriate time extensions
- ✓ Review and negotiate change
- ✓ Do not allow time discussions to wait until project completion

❖ Effective Negotiation Process



How delays are calculated and allocated?

❑ These are the **more common techniques** that exist in CPM Schedules or are used to

manipulate CPM Schedules to set up for claims:

- ❖ Manipulation of logic & Original Durations
- ❖ Failure to provide Cost and/or Resource Loaded Schedule
- ❖ Float Suppression through Constraints
- ❖ Float Suppression through preferential logic
- ❖ Misuse of SS and FF relationships
- ❖ Misuse of Lags



How delays are calculated and allocated?

❑ These are the **more common techniques** that exist in CPM Schedules or are used to **manipulate** CPM Schedules to set up for claims:

- ❖ Predefined Critical Paths
- ❖ Relationship of Percent Complete to Remaining Duration
- ❖ Misuse of Calendars & Alterations to Calendar ID
- ❖ False Early Completion in the Baseline Schedule
- ❖ Progress Override
- ❖ Failure to submit regular periodic updates
- ❖ Creation of Concurrent Delay or concealment of Contractor's
- ❖ Concurrent Delay



How delays are calculated and allocated?

❑ Float suppression through constraints

❖ The use of **early start constraints** can be used to hide float in a schedule.

✓ Issues:

- In general, by case law, **float belongs** to the entity that gets to it first.
- Often, contractors will conduct the passes through the network to **determine the finish date**, then **constrain the early start** of any activities that have float. As a result, the **activity is pushed out** so that its **LS equals its ES**, and **no float is apparent**.
- This technique of “**float suppression**” **misleads** the owner/prime contractor as to the **presence of float** and the **location of the critical path**. It also provides the **opportunity for a contractor** to claim that an **activity is critical** that, in fact, simply has its **float suppressed**.



How delays are calculated and allocated?

❑ Float suppression through constraints

❖ The use of **early start constraints** can be used to hide float in a schedule.

✓ Solution:

➤ Have a **qualified scheduler check** the schedule for constraints,

disallowing any that have **no purpose** other than float suppression.



How delays are calculated and allocated?

❑ Float suppression through constraints

“The critical path includes added activities for “Award HVAC” and “MEP Coordination Drawings” which added 35 work days of duration alone to the critical path. These activities represent work that should have been part of the original baseline schedule and exceed the month of time that Consigli argues was NPS-caused delay because of not approving Change Orders. The critical path is being driven by an apparent constraint on awarding the HVAC subcontract until change orders are approved.

”

Alpha Corporation Schedule Analysis Report, 2008, F. L.
Olmstead Historic NPS project. Site Contractor added activities
using constraints to drive the Critical Path



How delays are calculated and allocated?

❑ Misuse of lags

❖ Lags do **not easily print** on reports and are **easy to overlook** in review

✓ Issues:

- Contractor inserts lags into network
- No explanation or purpose for lags
- Used for concealment and sequestering of float
- Used to push activities onto Critical Path
- Used to adjust start and completion of activities
- Very hard to monitor



How delays are calculated and allocated?

❑ Misuse of lags

❖ Lags do **not easily print** on reports and are **easy to overlook** in review

✓ Issues

➤ Solution:

1. Require limited use of lags,
2. Require explanation and rationale for lags, and
3. Retain ability to reject inappropriate use of lags and removal.



How delays are calculated and allocated?

❑ Misuse of lags

“There are 6043 relationships between 2329 activities: 623 Start-to-Start (“SS”), five Start-to-Finish (“SF”); 958 Finish-to-Finish (“FF”); and 4457 Finish-to-Start (“FS”) relationship types. There are 767 lags utilized in the schedule, both positive and negative.

The positive lags, of which there are 762, range from 1 to 270, with the majority of the lags between 3 and 10. The lags are more or less evenly split between construction activities and procurement activities. Procurement activities appear to have been given a lag of 10 work days (“WD”) in order to account for time to clear customs for material arriving in Jamaica; however, no other explanations for any of the lags are given.

Use of any means to limit or control ownership of float, such as inclusion of unnecessary “Lag” assignments, will not be acceptable. As these lags are not defined, this is a discrepancy which needs to be fixed”

Alpha Corporation Schedule Review Report, 2007, Contractor eventually submitted a REA for \$6.4M



How delays are calculated and allocated?

❑ Alterations to Calendar ID.

❖ The **changing of calendars** to **reduce** the number of non-work days in an effort to **shorten** the **overall project duration**.

✓ Issues:

- A **properly designed calendar** will show **all non-work days**, including weekends, holidays, planned adverse weather days, and any **other contractually** agreed-upon non-work periods.
- **Removal of these days** on a schedule will show an **unrealistically short completion date** for individual activities and the **overall project**.
- **Removal of these days** may violate contractual obligations, reflect an **unrealistic work schedule** (i.e. 7-day work week for extended periods of time), or **ignore** historical weather data.



How delays are calculated and allocated?

❑ Alterations to Calendar ID.

- ❖ The **changing of calendars** to **reduce** the number of non-work days in an effort to **shorten** the **overall project duration**.

- ✓ Solution:

- During the **schedule development** phase, have a **competent scheduler review** each calendar to verify the propriety of **non-work day assignment**.
- **Review each activity** to ensure a **proper calendar** is applied (i.e. an outdoor weather calendar for outdoor activities).
- During **periodic updates**, compare
 1. calendars and
 2. activity Calendar ID'sfor consistency, and question the reasoning behind any shifts.



How delays are calculated and allocated?

❑ Alterations to Calendar ID.

Actual Schedule Submittal Narrative from Contractor:

“WMI did not incorporate into the calendar the effect of *normal weather* conditions, as it is very difficult to predict the effect of weather on individual work activities and its influence on marina work is quite different than its effect on land-side work.

WMI will continually monitor the effects of weather on the work schedule and the actual progress will be tracked against planned progress closely. WMI will make every effort to achieve or better the planned progress, and in circumstances where the actual production is falling short, WMI will work extra hours, additional days per week or, in extreme circumstances, a second shift will added to compensate for reduced production levels.

Extreme, abnormal weather conditions that have a verifiable impact on the project plan may be presented as the basis for an extension of the contract time and additional contract cost.”

This is an effort to set the project up to prevent Owner comparison with original weather planning for reasonableness. Note the “WMI will continually monitor...”.

Delay analysis and its associated damages



Types of delay

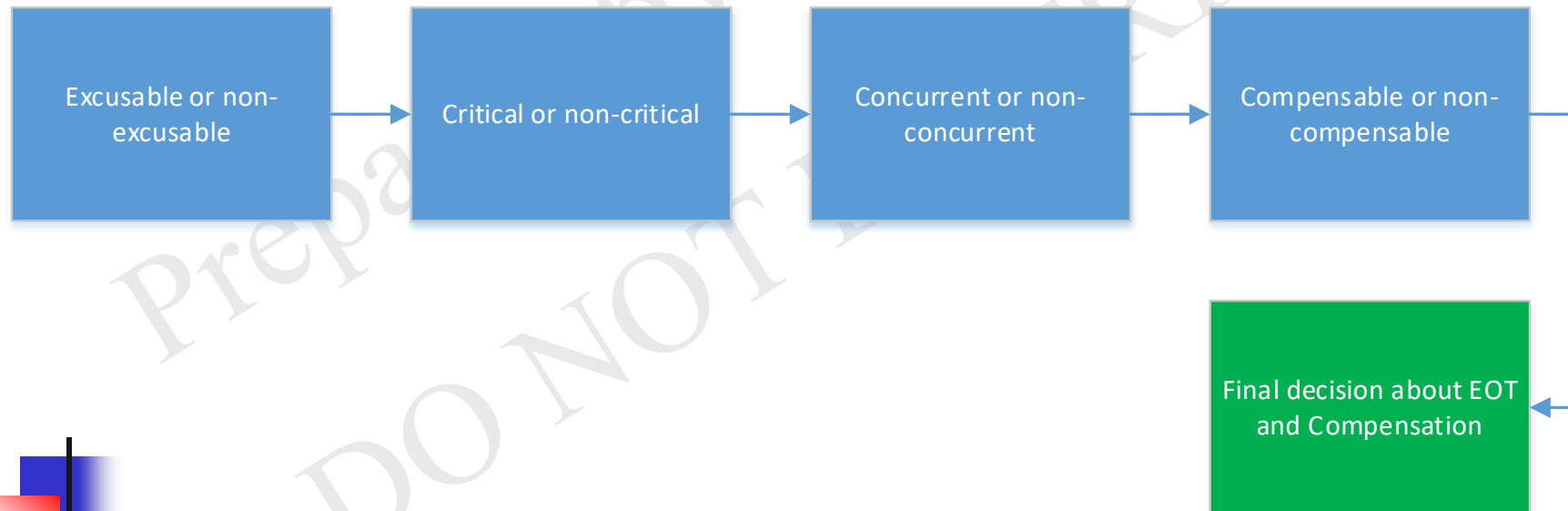
1. Excusable delay
 - ❖ Force majeure
 - ❖ Owner-caused delays
 - ❖ Other delays beyond contractor's control
2. Non-excusable delay
 - ❖ Contractor/subcontractor-caused delays
 - ❖ Delays not excusable under contract
3. Compensable delay
 - ❖ Owner/owner party-caused delays
4. Non-compensable delay
 - ❖ Depends on contract

Types of construction delays

❑ There are **four basic ways** to categorize delays:

1. Critical or noncritical (بحرانی و غیربحرانی)
2. Excusable or non-excusable (موجه و غیرموجه)
3. * Compensable or non-compensable (قابل جبران و غیرقابل جبران)
4. * Concurrent or non-concurrent (همزمان و غیرهمزمان)

❑ In the **process of determining the effect of a delay** on the project, the analyst must determine:





Types of delay

*

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

*Excerpt from AIA Document A201 – 2017.

Review of the MBTA delay provisions clauses

B. DELAY PROVISIONS

- b. The extension of Contract Time shall be considered only if the Contractor demonstrates via the timely submittal of a detailed schedule analysis by using the contemporaneous window Analysis methodology or other similar methodology acceptable to the Authority. The analysis shall include: a) a detailed narrative which clearly describes the events causing the delay and the resulting impacts to the project schedule; b) documentation substantiating and supporting the delay; c) detailed CPM schedules (both electronic and hard copies) clearly delineating the delay; d) a matrix showing delays caused by any third party and any force majeure delays; e) any additional information reasonably requested by the Authority, in order to enable the Authority to perform a timely and informed analysis of the request for extension of Contract Time.

S32CN01
2011

Construction Schedule
01321-13

Review of the MBTA delay provisions clauses

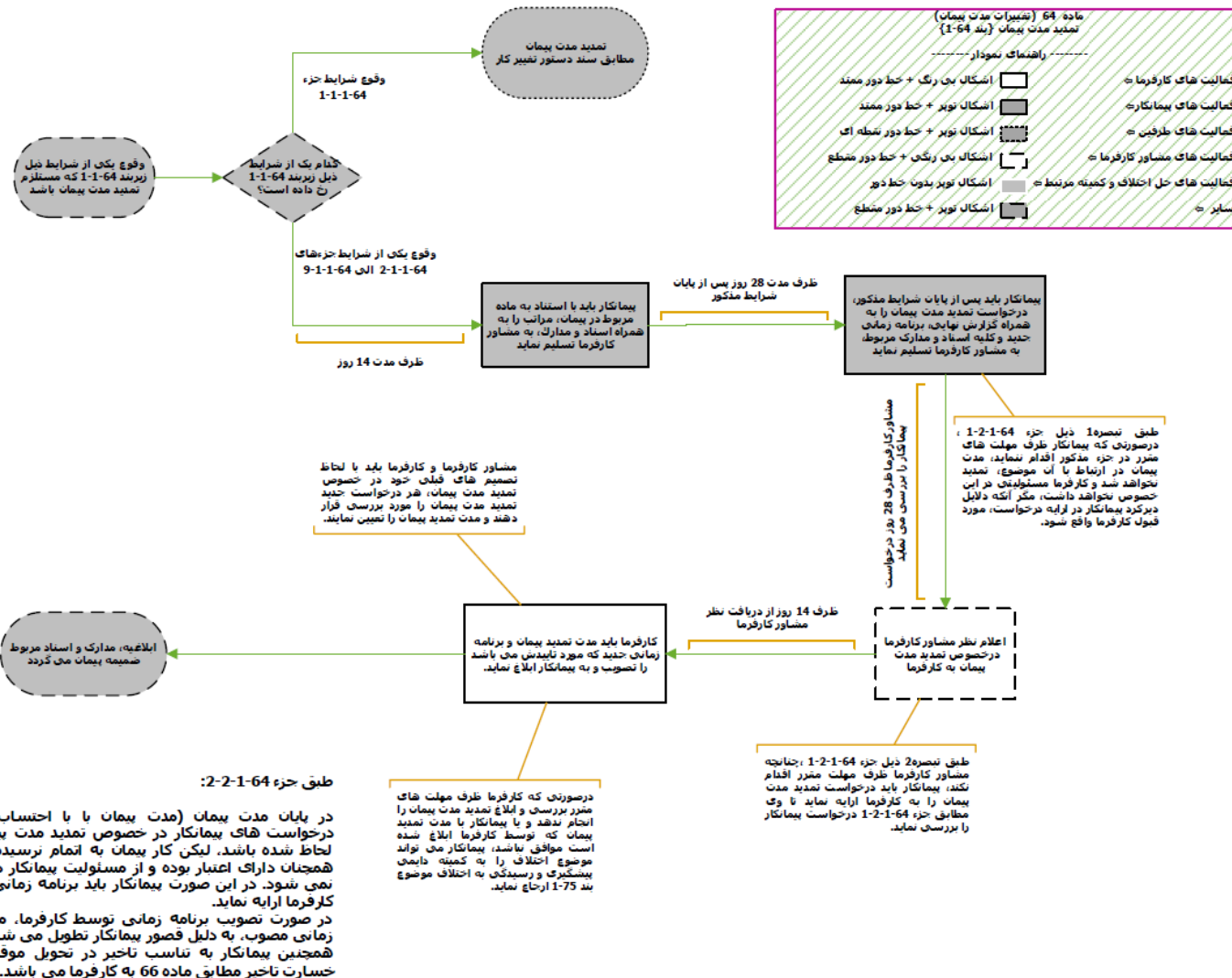
B. DELAY PROVISIONS

- b. The extension of Contract Time shall be considered only if the Contractor demonstrates via the timely submittal of a detailed schedule analysis by using the contemporaneous window analysis methodology or other similar

S32CN01
2011

Construction Schedule
01321-13

Review of the EPC delay provisions clauses



What is Concurrent Delay, and how is it typically addressed in the Contract?

۶- تاخیرات همزمان

- ۱-۶- به دو یا چند رویداد تاخیر که در یک زمان آغاز و به طور همزمان رخ می‌دهند و اثر هم‌زمانی را ایجاد می‌نمایند، تاخیرات همزمان گفته می‌شود، تاخیرات همزمان، باید شرایط زیر را دارا باشد:
- حداقل یک رویداد تاخیر متعلق به هریک از طرفین پیمان باشد؛
 - وقوع تاخیر از سوی طرفین غیر عامدانه باشد؛
 - هر یک از رویدادهای تاخیر حداقل در یک مسیر بحرانی وجود داشته باشد؛
 - رویدادهای تاخیر نباید به یکدیگر وابسته باشند.

در صورت وقوع تاخیرات همزمان، این تاخیرات مجاز شمرده شده و صرفاً تعدید زمانی اعطا می‌گردد.

۲-۶- حسب مورد ممکن است، زمان اتمام رویدادهای تاخیر در تاخیرات همزمان، همزمان نباشد، در این صورت مابه‌ازای مدت مازاد تاخیر هر یک از طرفین پیمان، مطابق با ضوابط رسیدگی، مجاز یا غیرمجاز تلقی می‌گردد.

۳-۶- برای تجزیه و تحلیل تاخیرات همزمان، لازم است پیمانکار در خصوص تغییرات طبق بند ۸-۲ عمل نموده و سپس نتایج مورد بررسی قرار گیرد.

۴-۶- ضوابط اعلان و رسیدگی به تاخیرات همزمان، مطابق با مفاد پیش بینی شده در بند ۴ می‌باشد.

۵-۶- لازم است در لایحه تحلیل تاخیرات، تاخیرات همزمان به صورت مجزا مشخص گردد.



Concurrent delay

What is Concurrent Delay, and how is it typically addressed in the Contract?

☐ Risks if **not properly addressed**:

- ❖ **Lack of entitlement** to extension of time for what would otherwise be excusable delay
- ❖ Difficulty in **proving entitlement** to extension of time
- ❖ Difficulty for **compensation**



Concurrent delay

What is Concurrent Delay, and how is it typically addressed in the Contract?

ASCE STANDARD ASCE/CI

67-XX

Schedule Delay Analysis

ASCE



PUBLISHED BY THE AMERICAN SOCIETY OF CIVIL ENGINEERS

Concurrent delay

6 CONCURRENT DELAY

In general terms, concurrent delay can be described as a situation where two or more critical delays are occurring at the same time during all or a portion of their duration. Depending on contract requirements and applicable law, concurrent delays may reduce or eliminate the compensability of delay costs or the assessment of liquidated damages.

Whether such delays are excusable depends on the terms of the contract, chronological sequence of the delays involved, cause of delays, responsibility for delays, timing and duration of the delays, availability of float, and the effect any delay has on a contract milestone or the project completion date.

The guidelines in this section reflect an understanding of concurrent delay, and how it can have differing effects.



Concurrent delay

- ❑ **Guideline 6.1** Concurrent delay can be described as a situation where **two or more critical delays** are occurring at the **same time during all** or a **portion** of their duration
- ❑ **Guideline 6.2** Concurrent delay **typically** is excusable but **noncompensable**, meaning a time extension is given but no costs are recovered by either party
- ❑ **Guideline 6.3** Where **possible** individual critical delays should be **segregated**
- ❑ **Guideline 6.4** *When parties cause critical delays that are independent, these separate delays may have a mitigating effect on the assessment of damages*

What is Concurrent Delay, and how is it typically addressed in the Contract?

۶- تاخیرات همزمان

- ۱-۶- به دو یا چند رویداد تاخیر که در یک زمان آغاز و به طور همزمان رخ می‌دهند و اثر هم‌زمانی را ایجاد می‌نمایند، تاخیرات همزمان گفته می‌شود، تاخیرات همزمان، باید شرایط زیر را دارا باشد:
- حداقل یک رویداد تاخیر متعلق به هریک از طرفین پیمان باشد؛
 - وقوع تاخیر از سوی طرفین غیر عامدانه باشد؛
 - هر یک از رویدادهای تاخیر حداقل در یک مسیر بحرانی وجود داشته باشد؛
 - رویدادهای تاخیر نباید به یکدیگر وابسته باشند.

در صورت وقوع تاخیرات همزمان، این تاخیرات مجاز شمرده شده و صرفاً تعدید زمانی اعطا می‌گردد.

۲-۶- حسب مورد ممکن است، زمان اتمام رویدادهای تاخیر در تاخیرات همزمان، همزمان نباشد، در این صورت مابه‌ازای مدت مازاد تاخیر هر یک از طرفین پیمان، مطابق با ضوابط رسیدگی، مجاز یا غیرمجاز تلقی می‌گردد.

۳-۶- برای تجزیه و تحلیل تاخیرات همزمان، لازم است پیمانکار در خصوص تغییرات طبق بند ۸-۲ عمل نموده و سپس نتایج مورد بررسی قرار گیرد.

۴-۶- ضوابط اعلان و رسیدگی به تاخیرات همزمان، مطابق با مفاد پیش بینی شده در بند ۴ می‌باشد.

۵-۶- لازم است در لایحه تحلیل تاخیرات، تاخیرات همزمان به صورت مجزا مشخص گردد.



Concurrent delay

- ❑ In situations where multiple parties have caused independent delays to the scheduled completion date, a trier of fact may determine that either party's recoverable damages should be reduced or even eliminated. Thus, two independent delays that might otherwise be compensable may be treated as merely excusable. Whether or not a party can recover damages for delay may be affected by a determination as to whether it would have been possible to complete the project earlier.
- ❑ Delay damages can be measured and determined by determining the effect of each path of activities that impacts the current scheduled completion date. Quantifying and classifying compensable and excusable delay may consider the chronology of delay, responsibility for delay, magnitude of delay, and the effect on the scheduled contract completion date at specific times. Such determinations may affect the assessment of damages calculated as a result of extended performance and the right to assess damages for late completion.

Concurrent delay

❑ Challenges in Dealing with Concurrent Delay

Causation Complexity:

Difficult to prove the impact and the degree to which each delay contributed to the overall delay.

Responsibility Allocation:

Determining how much each party is liable when delays overlap.

Entitlement Disputes:

Extension of Time (EOT) eligibility.

Claims for **prolongation costs** or **liquidated damages**.

Differing Jurisdictions:

Legal approaches vary between **common law**, **civil law**, and **international practice** (e.g., FIDIC).



Concurrent delay

❑ Contractual Approaches to Concurrent Delay

Prevention Principle (UK):

If the employer delays the project, they may lose the right to claim LDs, even if the contractor is also at fault (*Henry Boot v. Malmaison [1999]*).

Time but No Money Rule:

Contractor may get **EOT** but **no compensation**.

Aims to share the burden without financial liability.

Apportionment Approach:

Some civil law systems and contracts allow **splitting responsibility** based on causation.



Concurrent delay

❑ Best Practices for Managing Concurrent Delay

Clear Contract Clauses:

Avoid ambiguity by explicitly addressing concurrent delay treatment.

Use of Delay Analysis Techniques:

Forensic schedule analysis helps distinguish overlapping delays.

Use functional theory for prospective analysis

Early Notification:

Prompt communication of delay events to avoid future disputes.

Record Keeping:

Maintain detailed project logs and updated schedules.



Concurrent delay

❑ Creation or concealment of concurrent delays.

- ❖ The manipulation of the schedule makes it appear to have a concurrent delay or conceals a Contractor concurrent delay.

- ✓ Issue:

- In the event of a delay claim, **contractors may employ several techniques** of

1. logic manipulation,
2. over and under-developed trade contractor detail,
3. fragnet insertion, or
4. other methods,

to make a **concurrent delay appear** that would be the responsibility of the Owner, or to conceal a concurrent delay of the Contractor.



Concurrent delay

❑ Creation or concealment of concurrent delays.

- ❖ The manipulation of the schedule makes it appear to have a concurrent delay or conceals a Contractor concurrent delay.

- ✓ Solution:

1. Require reasonable baseline schedules, and
2. Employ a technical schedule analyst

to examine concurrent delays and determine validity.



Concurrent delay

❑ Creation or concealment of concurrent delays.

- ❖ The manipulation of the schedule makes it appear to have a concurrent delay or conceals a Contractor concurrent delay.

“Since the overwhelming majority of the Activities are Storm Drain and Storm Sewer activities, the Critical Path, shown in Exhibit 2, will inevitably be driven by those activities. Conversely, any of the activities within the other features of work are so inadequately described that neither progress nor delay can be measured with any accuracy. In this way, the Critical Path is forced to include the more developed and detailed activities and ignores the less or non-existent developed activities, as opposed to scheduling the entire Project with equal detail in all features of work and then allowing the CPM process to determine the Critical Path. This is a form of “preferential logic” which pre-determines where the Critical Path of the schedule will occur, but does not meet the Project’s specifications for a proper CPM network. By the same token, with the lack of definition in the other features of work, any delays experienced in areas other than Storm Drainage will be difficult to identify, thereby eliminating the potential for showing concurrent delays except through the development of an As-Built Schedule.

Alpha Corporation 2nd Baseline Schedule Resubmittal, 2005, Contractor eventually submitted a claim for \$6.4M



Liquidated damages

- ☐ Typical purpose and intent of a liquidated damages provision
- ☐ Enforceability – Agreed-upon damage estimate, not a penalty
- ☐ Benefits and risk associated with liquidated damages provisions



Liquidated damages

- ❑ Liquidated damages are damages that are **specified in the contract** and **agreed to** by the parties.
- ❑ Liquidated damages are included in a contract to **compensate for a potential breach** of the contract.
- ❑ The amount determined in a liquidated damages clause is supposed to be a **best estimate** of the compensation that would be **appropriate** if the parties to the contract were to **suffer a breach**.
- ❑ Liquidated damages clauses typically specify **certain types of breach**, denoting the amount to be **paid for each**.

Liquidated damages

- ❑ **Not all construction contracts** include liquidated damages for late completion.
- ❑ The standard construction contracts of the **American Institute of Architects (AIA)** stipulate only a contract time for substantial completion, whereas those of the **Engineers Joint Contract Documents Committee (EJCDC)** include contract times for substantial completion, final completion, and optional interim “milestones”.

Depending on the project, liquidated damages may apply to any or all of the contract times.

تبصره: چنانچه تاخیر در اتمام قسمت‌های اصلی کار، منجر به تاخیر در تحویل موقت کار گردد، با توجه به پرداخت خسارت تاخیر در اتمام قسمت‌های اصلی کار توسط پیمانکار، آن بخش از تاخیر در تحویل موقت کار که ناشی از تاخیر در اتمام قسمت‌های اصلی کار می‌باشد، شامل خسارت تاخیر نمی‌شود.



Consequential damages

- ❑ **Consequential damages**, also known as special damages, relate to **indirect losses** or **damages incurred by either party** arising from a breach of contract by one of the parties.
- ❑ **Some examples** of consequential damages include lost profits or income, increased financing costs on the part of the owner, or loss of business opportunities by the contractor.
- ❑ The issue with consequential damages is that it is often **difficult to quantify** the amount of damages that a party is entitled to and the damages may be excessive compared to the overall value of the contract.



Consequential damages

❑ Typical consequential damages in construction setting:

- ❖ Rental expense
- ❖ Loss of use (income and profit)
- ❖ Financing costs
- ❖ Principal office expense
- ❖ Business and reputation

Consequential damages

*

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

*Excerpt from AIA Document A201 – 2017.



Consequential damages

- ❑ EJCDC C-520 also includes associated guidance notes regarding damages clauses and optional language for “special damages”, which are conditional damages to compensate the owner for civil fines and penalties incurred due to the contractor’s actions or late performance or, on some projects, for the owner to recover the cost of engineering and inspection fees incurred for completion beyond the contract times, where such amounts are not included in the liquidated damages. When owners insist on specifying low liquidated damages, perhaps to help keep bid prices low, EJCDC’s model language for “special damages” assists the owner in obtaining reimbursement for its losses.



Risk allocation

How is risk allocated in the Contract?

- ☐ Relationship between liquidated damages, consequential damages, and other contractual limitations of liability

How is risk allocated in the Contract?

Aspect	Liquidated Damages	Consequential Damages
Nature	Pre-agreed sum	Actual loss arising indirectly
Timing of agreement	At contract formation	At claim/litigation stage
Certainty	High (contractually fixed)	Low (fact-dependent and arguable)
Purpose	Simplify delay damages	Compensate for broader economic loss
Enforceability standard	Must not be penal	Must be foreseeable
Common exclusions	Rare (already pre-defined)	Frequently excluded explicitly



Risk allocation

How is risk allocated in the Contract?

Interactions and Conflicts:

- **Double Recovery Concern:** A party may not claim both LDs and consequential damages for the same breach (e.g., delay).
- **Exclusion Clauses:** LDs generally survive consequential damage exclusions unless stated otherwise.
- **Limitation of Liability Clauses:** May apply to both LDs and general damages unless specifically carved out.



Risk allocation

How is risk allocated in the Contract?

Drafting Best Practices:

- Clearly distinguish between LDs and excluded damages.
- Define key terms such as “consequential,” “indirect,” and “loss of profit.”
- Align risk allocation with insurance and performance obligations.

- (1) Don't agree to liquidated damages without a waiver of consequential damages.
- (2) If you are behind on a project, try to negotiate a grace period with the owner.
- (3) Be wary of long correction of work periods.
- (4) Don't agree on pricing too soon in the design process.
- (5) Consider a price escalation clause.
- (6) Buy materials early.
- (7) Don't forget to factor increased labor rates into your proposals.

موسسه مهندسی و مدیریت ساخت علوی پور (ACEMI)

دفتر آموزش



تهران، بلوار فردوس شرق، مجتمع آبگینه، طبقه سوم اداری، واحد C42



+۹۸ ۲۱ ۴۶ ۱۰۰ ۴۴۵



+۹۸ ۲۱ ۴۶ ۱۰۰ ۴۵۰



info@dralavipour.com



www.dralavipour.com



@alavipour_pm



@acemi_social



@alavipour_pm



@IRANACEMI

