



فرآیند جامع آنالیز تاخیرات در پروژه

بخش دهم:
آنالیز مالی تاخیرات

آنالیز خسارت وارده به کارفرما (Liquidated Damages)

ارائه دهنده:

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What we will learn?

- ☐ What is liquidated damages (LDs)?
- ☐ How to estimate liquidated damages?
- ☐ When do liquidated damages begin and end?
- ☐ Types of liquidated damages estimates
- ☐ Enforceability
- ☐ Bonus or incentive clauses

What is Liquidated Damages (LDs)?



Liquidated damages – Introduction

- ❑ An Owner's delay damages may include the loss of income, the cost of alternate facilities, increased financing costs, extended overhead costs, and lost profits.
 - ❖ Because these costs are **difficult to measure**, the liquidated damages clause is often a **preferred alternative** to the reimbursement of **actual damages**.
- ❑ Liquidated damages are **predetermined** prior to the **execution of the Contract**.
- ❑ The exact amount of the liquidated damages is **specified** in the **Contract**.
- ❑ Liquidated damages clauses can take **many forms**.



Liquidated damages – Introduction

- ❑ The **Owner** should **seek the assistance** of **qualified counsel** in:
 1. **Structuring** the **wording** of the **clause**
 2. **Computing** the **damages** it may reasonably sustain **if a delay occurs** to **all** or a **portion** of the Project.
- ❑ Projects such as **highways** and **transit systems** have a **value to the public**, but **delay damages** for such often **cannot be easily calculated**.

Therefore, the **Owner** cites a **liquidated damages amount** to cover the **estimated damages** that will be sustained **if the Project is completed late**.



Liquidated damages – Introduction

- ❑ One might ask why an Owner would specify a liquidated damages amount **in advance** as opposed to **seeking recovery** for actual damages if a delay occurs.

*The answer is that liquidated damages are **desirable** when it is difficult or impossible to accurately determine the **actual damages** that the Owner would incur in the event of a delay, particularly for public projects.*

- ❑ The Owner should check with counsel before **calculating** the amount of liquidated damages to ensure that all legalities are **considered**.

Liquidated damages – Sample of contract clause

Sample Liquidated Damages Clause

Should the contractor fail to complete the contract within the time allowed by the contract to include time extensions allowed by executed change orders, then for each calendar day of delay, the owner has the right to withhold the amount of \$500 per calendar day as liquidated damages.

These liquidated damages are compensation to the owner for costs the owner may experience due to the contractor's delay and are not to be construed as penalties.



Liquidated damages – Example

- ❑ If a contractor falls behind schedule due to **un-excusable delays** during the project, the **liquidated damages clause** allows it to **determine** whether recovery efforts would be cost effective.

For example, if a contractor is behind schedule due to un-excusable delays by ten days on a project and the liquidated damages are \$300 per day, the potential exposure is \$3,000. If the cost of accelerating the work to make up the ten days is \$7,000, then the cost-effective decision is to finish late.

The contractor may still decide to accelerate the work because of other considerations.

ماده ۵۰ - هزینه تسریع کار، خسارت تأخیر کار

❑ خسارت تاخیرات غیرمجاز

۵۰-ب)

در پایان کار، در صورتیکه مدت انجام کار، بیش از مدت اولیه پیمان به علاوه مدتهای تمدید شده پیمان باشد، مهندس مشاور با رعایت ماده ۳۰ و رسیدگی به دلایل پیمانکار، مدت تأخیر غیرمجاز پیمانکار را تعیین می‌کند، تا پس از تصویب کارفرما، به شرح زیر، ملاک محاسبه خسارت تأخیر قرار گیرد.

۵۰-ب-۵)

در صورتیکه پیمان، طبق ماده ۴۶ فسخ گردد یا طبق ماده ۴۸، به پیمان خاتمه داده شود، تأخیر کار نسبت به برنامه زمانی تفصیلی با رعایت ماده ۳۰ بررسی شده، میزان مجاز و غیرمجاز آن بررسی می‌شود. بابت تأخیر غیرمجاز پیمانکار، طبق مفاد این بند، پرداخت **خسارت تاخیر** به پیمانکار تعلق می‌گیرد. در این حالت، مبلغ باقیمانده کار که در اجرای آن تأخیر شده است، عبارتست از مبلغ کارهای که طبق برنامه زمانی تفصیلی و با در نظر گرفتن تأخیر مجاز پیمانکار باید تا تاریخ فسخ یا خاتمه پیمان انجام می‌شد، منهای مبلغ کار انجام شده.

خسارت تاخیر غیرمجاز در ۴۳۱۱

ماده ۵۰: هزینه تسریع کار، خسارت تاخیر کار

ب) **در پایان کار** در صورتی که مدت انجام کار بیش از مدت اولیه پیمان به علاوه مدتهای تمدید شده پیمان باشد مهندس مشاور با رعایت ماده ۳۰ و رسیدگی به دلایل پیمانکار مدت تاخیر غیرمجاز پیمانکار را تعیین میکند تا پس از تصویب کارفرما به شرح زیر ملاک محاسبه خسارت تاخیر قرار گیرد.

(1) هرگاه جمع مدت تاخیر غیر مجاز از یک دهم مدت پیمان بیشتر نشود، برای **هر روز تاخیر**، یک دو هزارم **مبلغ باقی مانده کار** که در اجرای آن تاخیر شده است.

(2) هرگاه جمع مدت تاخیر غیر مجاز از یک دهم مدت پیمان بیشتر شود، تا یک دهم مدت پیمان طبق بند ۱ و برای مازاد بر آن تا یک چهارم مدت پیمان برای هر روز تاخیر یک هزارم **مبلغ باقی مانده کار** که در اجرای آن تاخیر شده است.

(3) هرگاه جمع مدت تاخیر غیرمجاز از یک چهارم مدت پیمان بیشتر شود ولی پیمان ادامه یابد، مجموع خسارتهای تاخیر قابل دریافت از پیمانکار نمیتواند از جمع خسارت محاسبه شده بر پایه بند (۲) بیشتر شود و مدت اضافه بر یک چهارم مدت پیمان برای ادامه و انجام کار بدون دریافت خسارت منظور میشود.

خسارت تاخیر غیرمجاز در ۴۳۱۱

ماده ۵۰: هزینه تسریع کار، خسارت تاخیر کار

ب) در پایان کار در صورتی که مدت انجام کار بیش از مدت اولیه پیمان به علاوه مدتهای تمدید شده پیمان باشد مهندس مشاور با رعایت ماده ۳۰ و رسیدگی به دلایل پیمانکار مدت تاخیر غیرمجاز پیمانکار را تعیین میکند تا پس از تصویب کارفرما به شرح زیر ملاک محاسبه خسارت تاخیر قرار گیرد.

۴) مبلغ باقیمانده کار که در اجرای آن تاخیر شده عبارت است از مبلغ پیمان منهای مبلغ صورت وضعیت مربوط به کارهای انجام یافته تا آخرین روز مدت پیمان

۵) در صورتی که پیمان طبق ماده ۴۶ فسخ گردد یا طبق ماده ۴۸ به پیمان خاتمه داده شود، تاخیر کار نسبت به برنامه زمانی تفصیلی با رعایت ماده ۳۰ بررسی شده میزان مجاز و غیرمجاز آن بررسی میشود. بابت تاخیر غیرمجاز پیمانکار، طبق مفاد این بند، پرداخت خسارت تاخیر به پیمانکار تعلق میگیرد. در این حالت، مبلغ باقی مانده کار که در اجرای آن تاخیر شده است، عبارت است از مبلغ کارهایی که طبق برنامه زمانی تفصیلی و با در نظر گرفتن تاخیر مجاز پیمانکار باید تا تاریخ فسخ یا خاتمه پیمان انجام میشد، منهای مبلغ کارهای انجام شده.

۶) در مواردی که اخذ خسارت تاخیر بیش از ارقام درج شده در این ماده ضروری باشد و در اسناد و مدارک پیمان میزان آن پیشبینی شده باشد خسارت تاخیر را بر اساس آن محاسبه میکنند.

فرآیند جامع آنالیز تاخیرات در پروژه
آنالیز مالی تاخیرات: آنالیز خسارت وارده به کارفرما (Damages)
خسارت تاخیر غیرمجاز در ۴۳۱۱

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تاریخ: ۱۳۹۲/۰۵/۲۹

پوست ندارد

بسمت

دبیر محتوم کانون سراسری بیمانکاران عمرانی ایران
موضوع: ماده ۵۰ شرایط عمومی بیمان

باسلام:

بازگشت به نامه شماره ۲۱۲۷۶ مورخ ۱۳۹۲/۵/۵ به آگاهی می‌رساند:

مفاد بند (۶) ماده ۵۰ شرایط عمومی بیمان به این شرح است: «در مواردی که اخذ خسارت تاخیر بیش از ارقام درج شده در ماده ۵۰ ضروری می‌باشد و در اسناد و مدارک بیمان، میزان آن پیش‌بینی شده باشد، خسارت تاخیر را براساس آن محاسبه می‌کنند.» بنابراین در صورتی که مفاد بند (۶) فوق در قرارداد مورد بحث منظور شده باشد مطابق شرحی که در قرارداد پیش‌بینی شده خسارت تاخیر به بیمانکار تعلق می‌گیرد.

غلامحسین حمزه مصطفوی
رئیس امور نظام فنی

ثبت دفتر کانون سراسر
شماره: ۴۵۴
تاریخ: ۱۳۹۲/۵/۲۹

شماره: ۴۵۴

تهران - میدان بهارستان - خیابان دانشسرا - مرکز تلفن: ۲۲۷۷۱ - دفتر مرکزی: ۲۲۷۷۲ - ۱۶۵ - تهران



□ شرایط خصوصی

ماده ۵-ب (۶)

خسارت تاخیر غیرمجاز پیمان (ناشی از کار پیمانکار)، به میزان و ترتیب زیر، از پیمانکار وصول می‌شود.

.....

.....

.....

□ موافقت نامه

۴-۵-

خسارت تأخیر در تکمیل به موقع کار

هرگاه به دلیل قصور پیمانکار (ماده ۶۶) شرایط عمومی، در اتمام طبق برنامه کار یا قسمت‌های اصلی آن، تأخیر پیش آید، **خسارت تأخیر** در تکمیل به موقع کار، به میزان تعیین شده در شرایط خصوصی، از پیمانکار وصول می‌شود. مجموع مبلغ مربوط به این نوع تأخیرها، از درصد مبلغ پیمان بیشتر نمی‌شود.

□ شرایط عمومی

ماده ۶۶ - تأخیر در اتمام به موقع کار

پیمانکار، موظف به انجام کارها، طبق برنامه زمانی منضم به پیمان و آخرین تجدید نظرهای آن است. هرگاه در تاریخ تعیین شده در برنامه زمانی منضم به پیمان و یا آخرین تجدید نظر آن، انجام کار یا قسمت‌های اصلی آن به پایان نرسیده باشد، کارفرما به پیمانکار اخطار می‌کند که حداکثر در طول مدت ۱۴ روز، کارها را به پایان برساند. پیمانکار، در طول این مدت باید نسبت به اتمام عملیات اقدام کند، و یا با ارسال اسناد و مدارک لازم، تمدید مدت پیمان را طبق بند «۱-۶۴»، درخواست نماید. در صورت عدم اتمام کار در طول مدت یاد شده، یا عدم قبول دلایل وی از سوی کارفرما برای تمدید، پیمانکار ملزم به پرداخت **خسارت تأخیر** در کار، 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، طبق ماده (۶۸)، پیمانکار را برکنار کند.

□ شرایط خصوصی

ماده ۶۶-

در صورت تأخیر پیمانکار در تکمیل طبق برنامه کار، یا قسمت‌های اصلی آن، **خسارت تأخیر**، به شرح زیر از پیمانکار وصول می‌شود.

ماده ۶۴ - تغییرات مدت پیمان

۶۴-۱ تمدید مدت پیمان

۶۴-۱-۱ 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.

۶۴-۱-۲-۲ 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.

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 باقی‌مانده، 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.

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.

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 ۳-۱ موافقت‌نامه می‌باشد.

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 می‌شود. مجموع مبلغ مربوط به پاداش تسریع کار حداکثر درصد مبلغ پیمان مندرج در بند ۳-۱ موافقت‌نامه است.

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.

How To Estimate Liquidated Damages?



How to estimate liquidated damages?

Owner should consider the following items when preparing an estimate of LD:

- Cost for project inspection
- Costs for continued design services
- Costs for the Owner's staff
- Costs for maintaining current facilities
- Costs for additional rentals
- Costs for additional storage
- Lost revenues
- Costs to the public for not having the facility
- Additional moving expense
- Escalation costs
- Financing costs

While other costs may be included in the liquidated damages estimate, this list provides a general idea of the types of costs to consider.



How to estimate liquidated damages?

A note of caution: Liquidated damages are specific for each Project.

- ❑ Unfortunately, Owners **often** use **standard tables** for liquidated damages that may **not reasonably** reflect the damages they will **sustain if a delay occurs** on their Project.



How to estimate liquidated damages?

- ❑ Owners must recognize that **liquidated damages** do **not** necessarily bear a **direct relationship** to the **Contract amount**.

Two different projects of equal value can have very different potential damages.



Hourly fees

- ☐ For some projects, liquidated damages are specified on an **hourly basis**.
- ☐ In certain critical highway projects, the Owner specifies **hourly liquidated damages** for **failing to open portions of the roadway to traffic at set times for each day** of the Project.



Graduated damages

- ❑ In some cases, liquidated damages may be **graduated**.

For example, the liquidated damages may be \$1,000 per day up to a certain date or for a defined number of days, and then may increase to \$1,500 per day for delays beyond the date or in excess of the initial number of days.

These graduated liquidated damages should reflect the Owner's increase in damages as the delay continues.



Graduated damages: Example

State Departments of Transportation have liquidated damages clauses similar to the one shown below

Sample Liquidated Damages Clause

Should the contractor fail to complete the contract within the time allowed by the contract to include time extensions allowed by executed change orders, then for each calendar day of delay, the owner has the right to withhold the amount of \$500 per calendar day as liquidated damages.

These liquidated damages are compensation to the owner for costs the owner may experience due to the contractor's delay and are not to be construed as penalties.

From More Than	To and Including	Daily Charge
\$ 0	\$ 100,000	\$ 300
100,000	500,000	550
500,000	1,000,000	750
1,000,000	2,000,000	900
2,000,000	5,000,000	1,150
5,000,000	10,000,000	1,350
10,000,000	—	1,400



Graduated damages: Example

8.8

Delay Damages

1.1.25 "day" means a calendar day.

If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Employer shall be entitled subject to Sub-Clause 20.2 [Claims For Payment and/or EOT] to payment of Delay Damages by the Contractor for this default. Delay Damages shall be the amount stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the relevant Date of Completion of the Works or Section. The total amount due under this Sub-Clause shall not exceed the maximum amount of Delay Damages (if any) stated in the Contract Data.

These Delay Damages shall be the only damages due from the Contractor for the Contractor's failure to comply with Sub-Clause 8.2 [Time for Completion], other than in the event of termination under Sub-Clause 15.2 [Termination for Contractor's Default] before completion of the Works. These Delay Damages shall not relieve the Contractor from the obligation to complete the Works, or from any other duties, obligations or responsibilities which the Contractor may have under or in connection with the Contract.

This Sub-Clause shall not limit the Contractor's liability for Delay Damages in any case of fraud, gross negligence, deliberate default or reckless misconduct by the Contractor.



Graduated damages: Example

8.7. Delay Damages

If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Employer's Claims] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Appendix to Tender, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Appendix to Tender.

These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Employer] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

When Do Liquidated Damages Begin and End?



When do liquidated damages begin and end?

❑ The **Contract** should **clearly specify** when the assessment of liquidated damages will **begin and end**.

1. **Often**, the Contract will state that the liquidated damages will **apply** to the time **period** from the **specified Contract completion date until the completion of all work**.
2. **Sometimes** the Contract will tie the assessment of liquidated damages to the **substantial completion date**.
3. **Another common milestone** for liquidated damages is the date **when** the **Owner obtains beneficial use or occupancy of the Project**.

۵۰-ب) در پایان کار در صورتی که مدت انجام کار بیش از مدت اولیه پیمان به علاوه مدتهای تمدید شده پیمان باشد مهندس مشاور با رعایت ماده ۳۰ و رسیدگی به دلایل پیمانکار مدت تاخیر غیرمجاز پیمانکار را تعیین میکند تا پس از تصویب کارفرما به شرح زیر ملاک محاسبه خسارت تاخیر قرار گیرد.





When do liquidated damages begin and end?

❑ Regardless of the time period specified:

- ❖ Contract should be as **clear as possible on this point**
- ❖ Estimate **used** to **determine** the **liquidated damages amount** should be **as clear as possible on this point**



When do liquidated damages begin and end? – Example

- ❑ If the Owner assesses liquidated damages from the Contract completion date to the completion of all work,

the **Contractor** may be able to **successfully argue** that the **Project** achieved **substantial completion** and the **Owner** gained **use** of the Project **well before** the date that **all work** was **completed** and that

because the **liquidated damage amount** was based on the Owner not having use of the Project, the **amount assessed** was **excessive**.



When do liquidated damages begin and end? – Example

- ❑ In another case, the Contract may refer to **substantial completion** **without a clear definition** of precisely what needs to be complete **in order to achieve that milestone**.

Again, the parties may have an argument as to the proper period for assessing the liquidated damages.



Application to project milestones

- ☐ **Liquidated Damages clauses** can also be written to apply to **milestone dates** or **events during the Project.**
- ☐ The **amounts** of these **milestone liquidated damages** may be **separate** from the **liquidated damages amount** that applies to **Project completion.**



Application to project milestones – Example

A project may involve the construction of **several buildings**. In the Contract, the

Liquidated Damages clause may specify **separate damages** for

1. **Completion of each building**
2. **Overall completion of the project**

A **highway construction Project** may specify liquidated damages for the completion of **each bridge** and for **Project completion**.

Enforceability



Enforceability

- ☐ One of the **Owner's major concerns** when using a **Liquidated Damages** clause is **whether or not** it will be **enforceable**.
- ☐ If a **Contractor** completes a **Project late** and is **assessed liquidated damages** by the **Owner**, it is possible that the **assessment may be challenged**.

How?



Enforceability

❑ There are **two basic approaches** that a **Contractor** may use to **overcome** the assessment of the liquidated damages.

1. **Contractor** may attack the propriety of the assessment by **disclaiming responsibility** for the delay.
2. **Contractor** may **claim** that the **specified amount** of the liquidated damages is **excessive** and, consequently, acts as more of a **penalty** than a damages compensation.



Approach 1

- ❑ If a **Contractor challenges** responsibility for a **given delay**, it **must show** through a delay analysis that the delays to the Project were **excusable delays** and, therefore, **warrant a time extension**.
- ❑ Similarly, the **Contractor** may **attempt to show only partial responsibility** for **delays** to a Project, arguing that the **Owner also caused some concurrent delays**.
 - ❖ As previously discussed, then the **Contractor may** be **granted relief** from the assessment of **some or all** of the liquidated damages.



Approach 2

- ❑ The **Contractor** may **argue** that the amount **specified was excessive** and was in effect a **penalty rather than** a statement of the **Owner's loss**.
- ❖ **Some Owners** may feel that it does **not matter** whether the amount reflects a penalty or a loss, **since the damages were clearly specified** in the Contract that **bears the Contractor's signature**.

Does it really matter?



Approach 2

In construction Contract law in the United States, **penalties** in a construction Contract are not enforceable.

If it is found that the **amount specified was too high**, it may be judged as a penalty and not a liquidated damage.

In such cases, the courts will not enforce the clause.

For this reason, most knowledgeable attorneys carefully avoid the use of the **word penalty** anywhere in the Contract.

Judges have been known to disallow clauses **merely because** the word was used in the Contract wording.



Approach 2

If a **Liquidated Damages clause** is considered a **penalty** and becomes **void**, the Owner may sue for actual damages, which **may exceed** the amount under the Liquidated Damages clause.



Approach 2

Sub-Clause 8.8 Delay Damages

Under the laws of many countries or other jurisdictions, the amount of these pre-defined damages must be a reasonable estimate of the anticipated or actual loss caused to the Employer by the delay. Therefore if the Delay Damages are fixed at an unreasonably large amount, they may be unenforceable in common law jurisdictions or subject to downward adjustment in civil law jurisdictions.



Approach 2

<https://www.lexology.com/library/detail.aspx?g=d413e9e1-6489-439e-82b9-246779648efb>

USA | May 12 2008

In the United States, a liquidated damage clause is intended to estimate damages in the event of non-performance or breach of contract. A liquidated damages clause will be enforced where the court finds that the harm caused by the breach is difficult to estimate, but where the amount of liquidated damages is reasonable compensation and not disproportionate to the actual or anticipated damage. The intent of liquidated damages is simply to measure damages that are hard to prove once incurred. If the liquidated damages are disproportionate, they can, however, be declared a penalty. The clause is then void, and recovery will be limited to the actual damage that results from the breach.



Approach 2

<https://www.lexology.com/library/detail.aspx?g=d413e9e1-6489-439e-82b9-246779648efb>

Most other common law countries such as England, Australia, Ireland and Canada have similar rules with regard to liquidated damages, and do not allow for liquidated damages that are used as a penalty.¹ One exception to the rule is India, where the Contracts Act makes no distinction between liquidated damages and penalties, and allows for contractual damages for failure to perform even if the intention is to penalize.²

What does that mean?



Approach 2

- ❑ Once **liquidated damages** are involved in **litigation**, there are **further issues** to be addressed.

***Even if** a Contractor is successful in challenging the amount of the liquidated damages, it **does not mean** the Owner is not entitled to any damages.*

It **simply means** that the Owner must prove the **actual damages**

How should that be proved?

Who should prove that?



Approach 2

- ❑ In case the **contractor proves** the damages agreed are **considerably greater** and **disproportionate** to the **actual damages suffered**,

then the **courts** have **powers** to **reduce the amount of damages** to a degree **equal to the damages suffered by the employer**.

However, the **burden of proof** lies with the **contractor to prove** that the damages in the agreed condition are **considerably greater** than the damages suffered.

*It is **not enough** that the agreed amount of damages is **greater than the actual damages**.*

How about French law?



Approach 2

- ❑ French Law does **not interfere** into what has been **agreed by the parties**.
- ❑ French Law does **not allow** any **reduction in delay damages** as it follows the principle that the amount of damages **agreed** by the parties is **an agreed sum** and was in the contemplation of the parties

How about middle east?



Approach 2

- ❑ There is a difference here between the **Omani and UAE laws** from the **French Law**.
- ❑ **Omani Law and the UAE Law** including the MENA region **allows the courts** to
 1. **Reduce** the damages in case the **contractor proves** the damages are **considerably greater** than what are suffered.
 2. **Completely waive** it if the **contractor proves** that **no damages** have been suffered by the employer.

Types of Liquidated Damages Estimates



Types of liquidated damages estimates

❑ Three conditions may occur during the project compared to the liquidated damages:

1. **High estimates**
2. **Low estimates**
3. **Actual damages**



High estimates

❑ When the **Contractor challenges** the amount of liquidated damages, the **Owner must substantiate the validity of the damages**.

❖ This **does not mean** that the Owner must **demonstrate that actual damages** are comparable to the liquidated damages specified in the Contract.

In other words, when the Contract was drafted, given what was known at that time, was the estimate a reasonable one?

Clearly, it is in the **Owner's best interest** to maintain the **documentation** used to estimate the **liquidated damages figure**.



High estimates – Example

- ❑ If it is determined that the Owner's estimate was **not reasonable** or did **not reasonably approximate** the liquidated damages amount specified, the clause may **not be enforceable**.

*For example, if the Owner's estimate showed potential damages of \$4,500 per day, but the liquidated damages amount specified in the **Contract was \$10,000 per day**, then the amount specified most likely would be **construed as a penalty** and, therefore, **not be enforced**.*



Low estimates

Most of the time, the amount of liquidated damages specified in a Contract is too low.
*Can the **Owner** recover its damages when they are greater than the specified liquidated damages?*

- ☐ In most cases, the Owner is **limited** to the liquidated damages **amount specified**.
- ☐ The **argument** is that the Owner wrote the **Contract** and calculated the damages and is **not entitled** to collect **more than the specified amount**.



Low estimates

Just remember that a **Liquidated Damages clause** is often used **because** it was **difficult to accurately calculate** the actual damages.

While the **Owner** has the opportunity to **recover actual damages**, it may be **very difficult to substantiate** that the Owner is entitled to damages **above those specified** in the **Liquidated Damages clause**.



Actual damages

When the Owner may seek actual damages for a delay caused by a Contractor?

1. If the Owner does **not include a Liquidated Damages clause** in the **Contract**
2. If the **clause** is deemed **legally unenforceable**

The Owner should seek qualified counsel to properly prepare the damage computations. In order to assess all the damages of a Contractor-caused delay, the Owner should document all damage items to the maximum extent possible.

HOW? Let's see.



Actual damages

The items listed below should be considered

1. Increase in **costs for inspection, site visits, and so forth.**
2. Increase in its **moving costs**
 - ❖ Such as **escalation of moving costs, storage of items, temporary facilities, and so on.**
3. **Additional rent** to occupy its previous facilities **longer than planned**
4. Any **extended staff costs**
 - ❖ If the owner had **staff involved** with the construction project
5. Any **costs associated with temporary lodging**, particularly with respect to housing development.



Actual damages

The items listed below should be considered

6. **Additional interest expense** relative to the cost of financing.
7. **Damages** from other **follow-on contractors**
 - ❖ Those who have been **delayed by the delay** caused by the **first contractor**.
 - ❖ These damages would then be a part of the **owner's actual delay damages**
8. **Lost revenues from not being able to produce its product**
 - ❖ Lost revenues and profits—is **often difficult to recover**.
 - ❖ However, this does **not mean** that owners should **not claim** for lost revenues and lost profits.
 - ❖ **Chance of recovery of lost revenues or profits** may be **enhanced**, for instance, if the **owner** is able to show a **measurable difference** in the **production rates** of the old facility and the new facility.



Actual damages – Example

Statement of Actual Damages—ABC Corporation

As noted by our expert report prepared by Trauner Consulting Services, Inc., the project was delayed 150 calendar days, attributable to the contractor. Based on a delay of 150 calendar days, the following damages are claimed by the ABC Corporation.

Additional Design Services

Based on the records of our design firm, the A/E made 22 more site visits than the number originally scheduled. The exact cost for these 22 site visits was \$10,560.

Moving Costs

Because of the delay, ABC Corporation was forced to renegotiate its contract with its moving company. The renegotiated contract was \$6,520 higher than the original moving contract.

Rental Costs

ABC Corporation was forced to stay in its previous facilities for an additional five months. The documented rental costs during this period were \$617,000.

Actual damages – Example

Staff Costs

ABC Corporation's in-house construction staff remained active on the project for an additional 150 days. The staff costs based on salaries and benefits were \$61,845.

Temporary Lodging

ABC Corporation's plant start-up engineer moved to the project site based on a promised completion date (four months later than the original date) by the contractor. The contractor exceeded that date by 35 days. The lodging and subsistence paid to the start-up engineer during that 35-day period totaled \$2,265.

Finance Cost

ABC Corporation financed this project at an interest rate of .5% over prime. Because of the delay, ABC Corporation recorded additional financing costs of \$792,000.

Claims by Follow-On Contractor

ABC Corporation received a delay claim from its start-up contractor. The claim was settled for the amount of \$29,000.

Lost Revenues

Because of the delay, ABC Corporation was unable to benefit from the increased production capability of the new facility. Based on sales records, the lost revenues total \$2,675,000.

Total Damages due ABC Corporation: \$4,174,190.

استاد دکتر کاتوزیان در کتاب خود چنین مرقوم داشته‌اند «چنانکه اشاره شد، ضرر مالی که به شخص می‌رسد ممکن است در اثر از بین رفتن مالی باشد (اعم از عین یا منفعت یا حق) یا در نتیجه از دست دادن منفعتی، پیش از این تردید داشتند که از دست دادن منفعت را نیز در زمره ضررها آورند. ولی امروزه در متون گوناگون «عدم النفع، نیز در شمار خسارات آمده است، که از جمله به همین ماده اشاره داشته‌اند. معیاری آن عرفی می‌باشد و درجه احتمال فوت منفعت باید به اندازه‌ای باشد که در دید عرف بتوان ضرر مورد مطالبه را «مسلم» شمرد نه از دست دادن بخت و امکان.

همچنین قانونگذار تجارت نیز در لایحه اصلاح قسمتی از قانون تجارت مصوب ۲۴ اسفند ۱۳۴۷ در قسمت اخیر ماده ۱۳۳ اشعار می‌دارد «... منظور از ضرر در این ماده اعم است از ورود خسارت یا تفویت منفعت» در اینجا واژه تفویت منفعت دلالت بر عدم النفع دارد.

منبع: vista.ir

عدم النفع در پیمانهای EPC غیر صنعتی

□ شرایط عمومی

۲-۷۴-

به غیر از آنچه که به عنوان **خسارت تأخیر** در اتمام به موقع کار، موضوع ماده (۶۶) آمده است، هیچ یک از دو طرف پیمان در برابر طرف دیگر، در مورد خسارت‌های غیرمستقیم از قبیل عدم النفع، عدم استفاده و بهره‌برداری، عدم انعقاد پیمان‌های جدید و مانند این‌ها که ممکن است متحمل شود، مسئول نیست.

□ شرایط عمومی

ماده ۷۴ - حد مسئولیت مالی پیمانکار

۷۴-۱ حداکثر تعهد پیمانکار در برابر کارفرما، معادل مبلغ درج شده در ماده ۶ موافقتنامه است. مسئولیت مالی پیمانکار در مواردی که تعهداتش تعمداً توسط وی نقض شود و یا سهل انگاری از طرف پیمانکار در انجام تعهداتش صورت پذیرفته باشد، محدود به حد مشخص شده در این ماده نمی باشد.

۷۴-۲ هیچ یک از دو طرف پیمان در برابر طرف دیگر، در مورد خسارت های غیرمستقیم از قبیل عدم النفع، عدم استفاده و بهره برداری، عدم انعقاد پیمان های جدید و مانند این ها که ممکن است متحمل شود، مسئول نیست.



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

Bonus or Incentive Clauses



Bonus or incentive clauses

- ❑ It is often presumed that **liquidated damages** **must** also have a corresponding **bonus** or **incentive**.

This is not true

- ❑ There is **no requirement** that the Owner offer a **bonus or incentive** merely **because** the Contract includes a **Liquidated Damages clause**.
- ❑ If a **bonus** or **incentive** is **included**, it does **not have to match** the **amount of the liquidated damages**.
 - ❖ The bonus can be **higher or lower**, and **can have limitations**.



Bonus or incentive clauses

- ❑ The **bonus** is **computed** from the **Contract completion date**.
- ❖ Therefore, if the **Contract completion date** is **extended** by a **change order**, the bonus is **computed** from the **new Contract completion date**.



Bonus or incentive clauses

- ❑ In **some instances**, the **benefit** that the **Owner** will realize from an early completion may **evaporate** after a certain calendar date.
- ❖ Therefore, this **bonus clause** may **not apply** if the completion date is **changed by change order** during the **course of the Project**.
 - ✓ In such cases, the **Owner should draft** a **clause** that determines **the bonus from a specified calendar date**.



Bonus or incentive clauses

Such clauses can be **difficult to write** and should be **drafted by qualified counsel**.

The Owner should **make an extra effort** to ensure that **all bidders** understand the **intent of the bonus clause** to minimize future disputes.



Bonus or incentive clauses – Example

- ❑ For example, the **bonus** in a Contract could allow **\$1,000 per day for each day** the Contractor **finishes** the Project **earlier than the specified Contract completion date**, up to a **limit of \$50,000**.



Bonus or incentive clauses – Example

❑ Alternatively, the Owner may allow a bonus for early completion that **increases or decreases over time**.

❖ For example, the Owner will offer a bonus of \$1,000 per day for early completion up to 50 days, and for every day that the Project is finished **early in excess of 50 days**, the bonus may be **increased to \$1,500**.

۱۱-۳-

در پیمان‌هایی که دستگاه‌های اجرایی در نظر دارند به منظور ایجاد انگیزه برای تسریع در کار، هزینه تسریع کار به پیمانکار پرداخت کنند، باید میزان و شرایط مورد نظر برای پرداخت آن را همراه با مشخصات اصلی کار، به سازمان برنامه و بودجه منعکس نمایند تا در صورت تصویب شرایط و میزان تسریع کار از سوی این سازمان، مراتب در ماده «۵۰ الف» شرایط خصوصی پیمان مربوط درج شود.

۵۰-الف)

اگر در مقابل اتمام پیش از موعد کار، در اسناد و مدارک پیمان، پرداخت هزینه تسریع کار به پیمانکار پیش‌بینی شده باشد، و پیمانکار پیش از سپری شدن مدت پیمان عملیات موضوع پیمان را تکمیل کند و آماده تحویل نماید، پیمانکار محق به دریافت هزینه تسریع طبق شرایط پیش‌بینی شده می‌باشد.

ماده ۵۰-الف)

در صورت اتمام پیش از موعد کار، کارفرما هزینه تسریع کار را به نحو تعیین شده در زیر، به پیمانکار پرداخت می‌کند.

۸-۱۳- پاداش برای تکمیل زودتر از موعد

اگر در شرایط خصوصی به گونه دیگری تعیین نشده باشد، و اگر برای به کارگیری کارها یا هر بخش، از سوی کارفرما و به درخواست کارفرما، کارها یا بخش زودتر از مدت تکمیل مربوط تکمیل شود، در آن صورت، پیمانکار محق به دریافت پاداشی برابر مبلغ و نوع پول تعیین شده در پیوست پیشنهاد مناقصه، برای هر روز تکمیل زودتر کارها یا بخش است. حداکثر مبلغ پاداش برای تکمیل زودتر از موعد، ۵ درصد مبلغ پذیرفته شده پیمان است. در صورتی که در پیوست پیشنهاد مناقصه برای این موضوع مبلغی درج نشده باشد، این ماده کاربرد ندارد. برای محاسبه مبلغ پاداش یاد شده، مدت یا تاریخ‌های درج شده در پیوست پیشنهاد مناقصه، برای تکمیل کارها یا بخش قطعی بود و تمدید(های) مدت تکمیل منظور نمی‌شود.

۸-۱۳- پاداش برای تکمیل زودتر از موعد

این ماده شرایط عمومی، به شرح زیر اصلاح می‌شود:

.....



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Additional Sub-Clause

Incentives for early completion may be included (in addition to sub-paragraph (a) of Sub-Clause 13.2 [*Value Engineering*] which refers to accelerated completion):

EXAMPLE SUB-CLAUSE FOR INCENTIVES FOR EARLY COMPLETION

“The Contractor shall be entitled to a bonus payment if the Works and/or each Section is completed earlier than the Time for Completion for the Works or Section (as the case may be). The amount of bonus for early completion of the Works and/or each Section is stated in the Specification.

For the purposes of calculating any bonus payment, the applicable Time for Completion stated in the Contract Data is fixed and no adjustments of this time by reason of granting an EOT will be allowed.”



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



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:



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؟



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?



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



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

❖ جزء ۳-۱-۲-۶۴

جزییات پرداخت پاداش تسریع کار به پیمانکار برای مواردی که پیمانکار 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، به شرح ذیل است:



Right to Finish Early

❑ Contract language

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 ۶۴-۳-۱-۲ 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 ۳-۱ موافقت نامه است.

۳- نحوه محاسبه و پرداخت پاداش تسریع کار (موضوع جزء ۶۴-۳-۱-۲) در شرایط خصوصی بیان می شود. در صورتی که سازمان برنامه و بودجه یا دستگاه مرکزی کارفرما، دستورالعملی در این خصوص ابلاغ نموده باشند، این دستورالعمل ملاک محاسبه و پرداخت پاداش تسریع کار خواهد بود و در شرایط خصوصی عنوان، شماره و تاریخ دستورالعمل مذکور، درج می شود.

آیا نیازی به اخذ مجوز از کارفرما نیست؟



Right to Finish Early

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?



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؟



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?



Right to Finish Early

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?



Right to Finish Early

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?



Right to Finish Early

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"



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.



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؟



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



Right to Finish Early

☐ Contract language

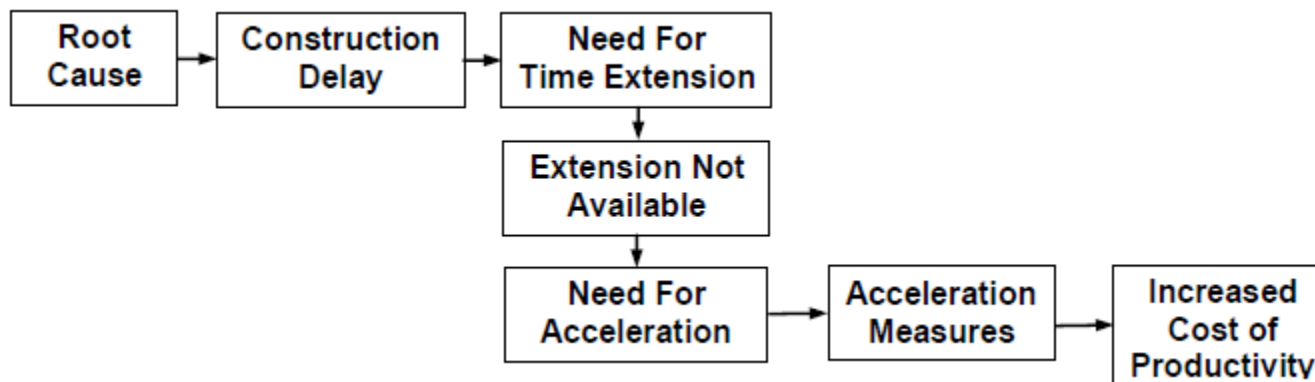
Constructive Acceleration: (1) A contractor's acceleration efforts to maintain scheduled completion date(s) undertaken as a result of an owner's action or inaction and failure to make a specific direction to accelerate; [4] (2) Constructive acceleration generally occurs when five criteria are met:

So, when it happens?

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.





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]



فرآیند جامع آنالیز تاخیرات در پروژه

بخش یازدهم:
آنالیز مالی تاخیرات

آنالیز خسارت وارده به پیمانکار (Compensation)

ارائه دهنده:

سید محمدرضا علوی پور

(PhD, PMP, CMIT)

دانشگاه Illinois Tech آمریکا

What we will learn?

- ☐ Delay damages to the contractors
- ☐ Types of delay damages to the contractors
 1. Extended field costs
 2. General overhead (home office overhead)
 3. Inefficiency or lost productivity costs caused by delay (Disruption Analysis)
 4. Acceleration costs
 5. Other categories of delay damages

Delay Damages To the Contractors



Introduction

❑ Most contracts deal with 3 types of delays:

1. Un-excusable
2. Excusable – Non-compensable
3. Excusable – Compensable

!!The contractor could only recover delay damages that is on the critical path!

How much this sentence is true?



Introduction

❑ Most contracts deal with 3 types of delays:

1. Un-excusable
2. Excusable – Non-compensable
3. Excusable – Compensable

Remember:

1. *Critical path delays*
2. *Non-critical path delays*



Critical path delays

ASCE Standard ANSI/ASCE/CI 67-17 (Schedule Delay Analysis)

4.7 FOR A DELAY TO BE COMPENSABLE, IT SHOULD BE THE SOLE CAUSE OF DELAY

1. For compensable delay, the delaying event should be the sole cause of **longest path delay** (no concurrent delays compensable)
 - ❖ Typically, a delay solely **caused by the owner** is required to qualify as **compensable**.
 - ❖ However, **third party delay** may be compensable depending on the **provisions of the contract**.
2. For compensable delay, the delay should **extend the scheduled completion date** of the project.
 - ❖ Activities with *float can fall on the longest path* because of schedule **constraints and multiple calendars** (e.g., weekend non-work restrictions),
 - ❖ **Critical activities** can fall on paths of work that are **not the longest path** (again because of constraints and multiple calendars).



Critical path delays

ASCE Standard ANSI/ASCE/CI 67-17 (Schedule Delay Analysis)

4.7 FOR A DELAY TO BE COMPENSABLE, IT SHOULD BE THE SOLE CAUSE OF DELAY

- ❑ Delay to intermediary contract milestones typically do **not result in additional delay costs**,

because the contractor would have **been on-site until completion of the project**,

and as a result, delays to **intermediary milestones** are not typically compensable to the contractor, **even if excusable**.

- ❖ However, liquidated damages attached to **intermediary milestones** by contract may be **assessed for failure** to meet each milestone and may be **cumulative**.



Critical path delays

ASCE Standard ANSI/ASCE/CI 67-17 (Schedule Delay Analysis)

4.7 FOR A DELAY TO BE COMPENSABLE, IT SHOULD BE THE SOLE CAUSE OF DELAY

- ❑ In some cases where **multiple subcontractors or multiple prime contractors** are **simultaneously responsible** for delay,

the **contractor or owner** may **still be able to recover** its costs **split** between the responsible parties ===== *Because this is not a concurrent delay*

as long as the **claiming party had no fault** or responsibility for delay during the **period claimed**.

NO CONCURRENT EXISTS



Non-Critical path delays

❑ Most contracts deal with 3 types of delays:

1. Un-excusable
2. Excusable – Non-compensable
3. Excusable – Compensable

If excusable delays occur on the projects

And

Even if the delays are not on the critical path

*The owner may still need to pay **financial ramifications** to the contractor
Unless the contract says otherwise!*

❑ خسارت تاخیر مجاز

- ❖ به صورت کلی و طبق قانون مدنی (ماده ۷۲۸ آئین دادرسی) عدم اجرای تعهدات طرفین، در شرایطی که **باعث ضرر (از جنس از بین رفتن مال یا فوت شدن منفعت)** به طرف دیگر گردد، باید جبران شود.
- ❖ پس تاخیری که به سبب عدم اجرای تعهدات یکی از طرفین اتفاق افتاده باشد، در صورتی که بر روی **مسیر بحرانی** بوده و باعث **تغییر زمان پروژه** گردد، هم بحث زمانی و هم مالی را به همراه دارد و باید جبران گردد.
- ❖ حتی اگر تاخیر روی مسیر بحرانی نبوده و باعث تغییر زمان پروژه نشود هم میتواند **خسارت مالی** از جنس بهره وری را به همراه داشته باشد.

صرف نظر از مبانی نشریه ۴۳۱۱، آیا قانون مدنی اجازه ادعای خسارت مالی برای تاخیراتی
مانند آب و هوا را میدهد؟

خسارت تاخیر مجاز در قانون مدنی

❑ خسارت تاخیر مجاز

- ❖ در قانون مدنی کشور، یکی از شروط جبران خسارت آنست که **خسارت ناشی از عدم انجام تعهد** در شرایطی باشد که عدم اجرای تعهد مستند به خود متعهد بوده و ناشی از علت خارجی نباشد (برای خارجی بودن باید دو شرط غیرقابل پیشبینی و غیر قابل دفع را داشته باشد).
- ❖ به همین دلیل، فورس ماژور که حادثه ای غیر قابل دفع و غیر قابل پیش بینی است در ۴۳۱۱ شامل خسارت نمیگردد.

فرآیند جامع آنالیز تاخیرات در پروژه
آنالیز مالی تاخیرات: آنالیز خسارت وارده به پیمانکار (Compensation)
خسارت تاخیر مجاز

❑ خسارت تاخیر مجاز

❖ چنانچه تاخیرات به وجود آمده در کار به عنوان تاخیرات خارج از قصور پیمانکار باشد، پیمانکار محق به دریافت خسارت تاخیر خواهد بود.



معاونت برنامه ریزی و نظارت راهبردی رئیس جمهور

شماره: ۱۱۷۷۳۳
تاریخ: ۱۳۹۳/۱۲/۰۴
پست: ندارد

بسم تعالی

موضوع: درخواست خاتمه پیمان از سوی پیمانکار

با سلام و احترام؛

بازگشت به نامه شماره E/92/AMD/6568 مورخ ۹۲/۱۰/۱۷ اعلام می‌دارد، در قراردادهای منعقد شده با شرایط عمومی پیمان موضوع پیوست بخشنامه شماره ۵۴/۸۴۲-۱۰۲/۱۰۸۸-۱۰۲ مورخ ۱۳۷۸/۰۳/۰۳ بر طبق ماده ۴۸ شرایط عمومی آن (با موضوع خاتمه پیمان) هرگاه بیش از اتمام کارهای موضوع پیمان، کارفرما بدون آنکه تقصیری متوجه پیمانکار باشد، بنا به مصلحت خود یا علل دیگر، تصمیم به خاتمه دادن پیمان بگیرد، خاتمه پیمان را با تعیین تاریخ آماده کردن کارگاه برای تحویل، که نباید بیش از ۱۵ روز باشد، به پیمانکار ابلاغ می‌کند. در حالت کلی پیمانکار مکلف به اجرای پیمان طبق اسناد و مدارک پیمان خواهد بود و با اعلام درخواست پیمانکار مبنی بر خاتمه دادن به پیمان، کارفرما ملزم به ابلاغ خاتمه پیمان نخواهد شد. اگر تاخیرات به وجود آمده در کار به عنوان تاخیرات خارج از قصور پیمانکار شناخته شوند پیمانکار محق به دریافت خسارت تاخیر خواهد بود.

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Calculation of damages

- ❑ In the **following sections** we explore the proper use of **several methods** used to compile delay damages.
- ❑ **Before** we cover some of the **specific damage components** (material, equipment, and labor costs; labor and equipment inefficiency; etc.), it is important to **better understand** the **basic principles** underlying the recovery of damages.

*The **calculation of damages** must be properly **supported** by the **pertinent Contract provisions** and the applicable facts **supporting the claim** (whether they come from the documents, cost records, testimony, etc.).*

General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

1. **Carefully review and closely follow the Contract provisions.**

- ❖ A certain measure of risk or loss should be considered if the requirements are not satisfied.



General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

2. Avoid frivolous claim items and overstated claim amounts.

- ❖ Although some parties believe you must start high and negotiate down, **frivolous claim items** and inflated claim amounts cause a Contractor to lose credibility and ultimately **delay the process of resolution**.
- ❖ Contracts **often now** include clauses that classify overstated claim amounts as false claims, with **harsh consequences**.
- ❖ A well-documented damage claim should **satisfy any audit requirements** of the Contract.



General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

3. Be prepared to negotiate and compromise.

- ❖ Just about **any unresolved dispute** involves **shades of gray** and is **not** a case of **black and white**, **settlement** is **seldom reached** unless each party is willing and able to **compromise**.

The more supporting documentation accompanying the claim, the more likely a settlement may be negotiated.

General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

4. Carefully evaluate your opponent's ability to settle.

- ❖ **Many public agencies** are **not in a position** to negotiate due to the **need to justify any settlement amount** to others, such as **taxpayers or other agencies**.



General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

5. Support damages based on the verifiable facts, and not one's expectations anticipated prior to the award of the Contract.

❖ **If a Project incurs a loss**, it is the **reasons** for the loss that are being **claimed** with appropriate support and measurement, **not the bottom-line loss.**



General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

6. Summarize your damages within a format that will allow subsequent updates or revisions.

❖ **Especially** if the **quantitative measure** is **not fully available** until a future date.



General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

7. **Avoid duplication of claimed costs and calculation or posting errors.**

❖ **Cross-check** and **double-check** the calculation as it **evolves over time**.

General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

8. Remember the burden of proof is borne by the party submitting the claim.

- ❖ The **claimant** must produce facts to **establish** that the damages were incurred as a result of actions of the other party, along with the **measure of the damages**.

General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

9. There is always an obligation to mitigate damages.

- ❖ If certain **damages** could have been **mitigated**, these costs are **unlikely** to be **recoverable**.

General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

10. Generally a claimant's actual costs are considered reasonable when measuring damages, unless proven differently.

- ❖ However, **actual costs** do **not automatically prove** that damages were incurred as a **result** of the action of the **other party**.



General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

11. The evidence used in supporting damages must be admissible under the jurisdictional rules governing the case.

General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

12. The evidence supporting your damages is generally more persuasive if it is prepared contemporaneously with the actual progress of the Project, as compared to documents prepared after the fact.



General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

13. Remember to establish a cause-and-effect relationship to the extent possible for each component of damages being claimed.

❖ You need to show **how you were damaged** as a **result** of the **other parties' actions or inactions.**

General guidelines for the presentation and recovery of damages

❑ **Basic guidelines** for the **Contractor** in preparing its **statement of damages**:

14. When feasible, submit your claim for damages using the suggested format of the

Owner.

- ❖ This process will **lessen** the areas of **disagreement** with the **Owner** about the format and structure of the claim and **keep the discussion focused** on the **content of the claim**.

General guidelines for the presentation and recovery of damages

Keep in mind that it is a **Contractor's responsibility** to mitigate damages whenever practical in order to **not create damages greater** than those reasonably justified under the circumstances.



Calculation of damages

DISCLAIMER

Although this **session pertains** to delay damages and actual costs, you should be **aware** that **other methods of recovery** may be applicable under varying circumstances.

These methods are usually specified by the **Contract**, and **legal counsel** should be used to **pursue items** such as wrongful termination, total cost claims, modified total cost claims, and jury verdict methods.

Types of delay damages to the contractors



Types of delay damages to the contractors

- Delay damages are summarized here, although not all may be recoverable.

Extended and Increased Field Costs	These damages include the additional labor, material, and equipment costs resulting from project delays. These costs are typically quantified and supported by actual measurements of increased units and/or rates.
Home Office Overhead	When a project is delayed, the Contractor may experience unabsorbed and unrecovered overhead costs. Generally, the Contractor's home office costs that support all projects are allocated to the delayed project and recovered based on a daily rate applied to compensable days of delay.
Inefficiency or Lost Productivity Costs	Depending on the nature of the delay, a contractor may also experience some measure of inefficiency. The resulting increased labor and equipment costs may be included within the damage claim.
Acceleration Costs	When the labor force is accelerated to mitigate delays, the resulting increased labor and equipment costs may also be included within the damage claim.
Other Categories of Delay Damages	A delay claim may include other related damages such as Noncritical Delays, Legal and Consulting Costs, Lost Profits, Lost Opportunity Costs/Bonding Impairment, Constructive Acceleration, Interest, and Other Impacts.

Types of delay damages to the contractors

DISCLAIMER

The **next few sections** deal separately with **various kinds of delay-related damages** that **Contractors may be entitled** to recover as the result of **an excusable, compensable** delay.

Not all categories will be addressed in every detail, as the possibilities are virtually unlimited.

Rather, an **example of the general methodology** is **presented** so you may apply the **same principles to your specific situation**.

Extended Field Costs
(Direct Costs + Project Overhead Costs)



Extended field costs

- ❑ This type is **not difficult** to calculate if the contractor maintains reasonably good **job cost records**.
- ❑ Common types:
 - ❖ Labor costs
 - ❖ Equipment costs
 - ❖ Material costs
 - ❖ Extended Project (field) overhead costs



Labor costs

❑ Labor costs are incurred either

1. As **field overhead** to support the work (*extended field overhead labor costs*)
2. **More labor** is required to produce the **same amount of work** (*labor productivity loss*)
3. In the **performance** of the work (*direct labor costs*)

Labor costs – Extended field labor & labor productivity loss

- ❑ Delays generally **increase** the time of performance rather than the **amount of work**
- ❑ Delay costs related to labor are **usually in the form of**
 1. Extended field overhead labor
 - ❖ This labor is typically associated with **project management and superintendence** and general support.
 - ✓ **Extended field costs** are addressed in more detail later in this Section.
 2. Labor productivity loss
 - ❖ **More labor** is required to **produce the same amount of work**, typically defined
 - i. As a **loss of productivity** or inefficiency, or
 - ii. When **additional labor** becomes necessary to complete the work faster, which may result in additional charges for overtime, shift work, or travel costs to add labor in a limited labor environment
 - ❖ Delay costs arising from **inefficiency** addressed in disruption costs



Labor costs – Performance of the work

❑ A contractor may also incur **additional labor costs** due to a delay when **additional tasks** become necessary to **accomplish the work**,

when the **hourly cost** of the **labor increases** due to either

- ✓ Labor is forced to be idle, or
- ✓ Skill level or escalation
 1. Idle labor
 2. Escalation of labor costs



Labor costs – Idle labor

- ❑ If a Project is **delayed or suspended**, the **Contractor's workers** may be at the **Project site** **but** may be **unable to productively work**.
- ❑ For potential recovery of this type of cost, the **Project daily reports** need to **show** that
 1. **Contractor's workers** were on the site
 2. **But** were **unable to perform their work**
 - ❖ The **Owner** would appropriately question **why** the Contractor was **unable or unwilling to shift** those workers to other tasks or **other jobs or lay them off**.

Why?



Labor costs – Idle labor

*It should be noted that the Contractor has an **obligation under most contracts** to **mitigate the damages** when a delay occurs;*

*therefore, **if possible**, the Contractor needs to look at shifting its labor to other work during a delay.*



Labor costs – Idle labor

Both the Owner and the Contractor should diligently maintain documentation of labor activity on each day throughout the Project.

Why both?



Labor costs – Idle labor

If the **owner** does not retain such daily reports,

there may be **no basis for a challenge** to the **contractor's documented claim.**

“time card labor”



Labor costs – Idle labor

Labor Time Reporting

Daily Labor Time Card										
Project <u>Highway Bridge</u>		Project No. <u>200808-05</u>		Weather <u>Cloudy-windy</u>						
Date <u>July 20</u>				Prepared by <u>G.A.S.</u>						
Employee Number	Name	Craft	Time Classification	Hourly Rate	Cost Code				Total Hours	Gross Amount
					03157.10.3	03157.20.3				
132	Winnowich, N.	F	ST	34.00		8			8	\$272.00
			OT							
221	Clouten, S.	C	ST	\$31.00		8			8	\$248.00
			OT							
248	Schluder, L.	C	ST	\$31.00		8			8	\$248.00
			OT							
319	Mills, R.	O	ST	\$33.00		2			2	\$66.00
			OT	0						
143	Gibson, E.	L	ST	\$22.00		8			8	\$176.00
			OT							
417	Sears, K.	L	ST	\$22.00		8			8	\$176.00
			OT							
176	Sibanda, M.	L	ST	\$22.00	2	6			8	\$176.00
			OT							
Total Hours					2	48			50	
Total Cost					\$44.00	\$1,318.00				\$1,362.00

Highway bridge, daily labor time card



Labor costs – Idle labor: Example

A contractor is installing concrete pipe for a new storm sewer. While the crew is installing the sewer piping, it comes across a buried foundation from a structure that previously occupied the site. The existence of this structure was not known by the owner or the contractor and the contract provided that the owner would take responsibility for such unknown obstructions. The contractor's installation crew immediately stopped work and asked for direction as to how to proceed. There was no other sewer piping to be installed. The owner's engineer came to the site immediately and directed the piping installation around the obstruction. Within a few hours of stopping, the owner's pipe installation crew recommenced installation. The crew had been idle for four hours.

But the delay reduced? Is there still any compensation?



Labor costs – Idle labor: Example

❑ Even if the crew had **not been idle**,

but had instead **moved to another location** on the site,

❖ **Delay** may have been **reduced or eliminated**, but the contractor may have incurred

1. Additional costs to **move** equipment and materials.
2. Additional costs might also be incurred when the **contractor returns to the original location to recommence** the work that **was stopped**.

Disruption compensation claim is still valid!



Labor costs – Idle labor: Conclusion

❑ Some construction contracts specifically address instances **when the owner** would agree to pay for idle labor.

❖ However, in **those instances**, recognition and payment of idle labor costs are triggered by

1. **Owner's issuance** of a **stop** work order or
2. **Other direction approving** the **need** for the contractor to **maintain its crew on the project site** to resume work when directed to do so.

*Understanding the requirements and limitations in the **contract** regarding the contractor's **recovery of idle labor costs is essential.***



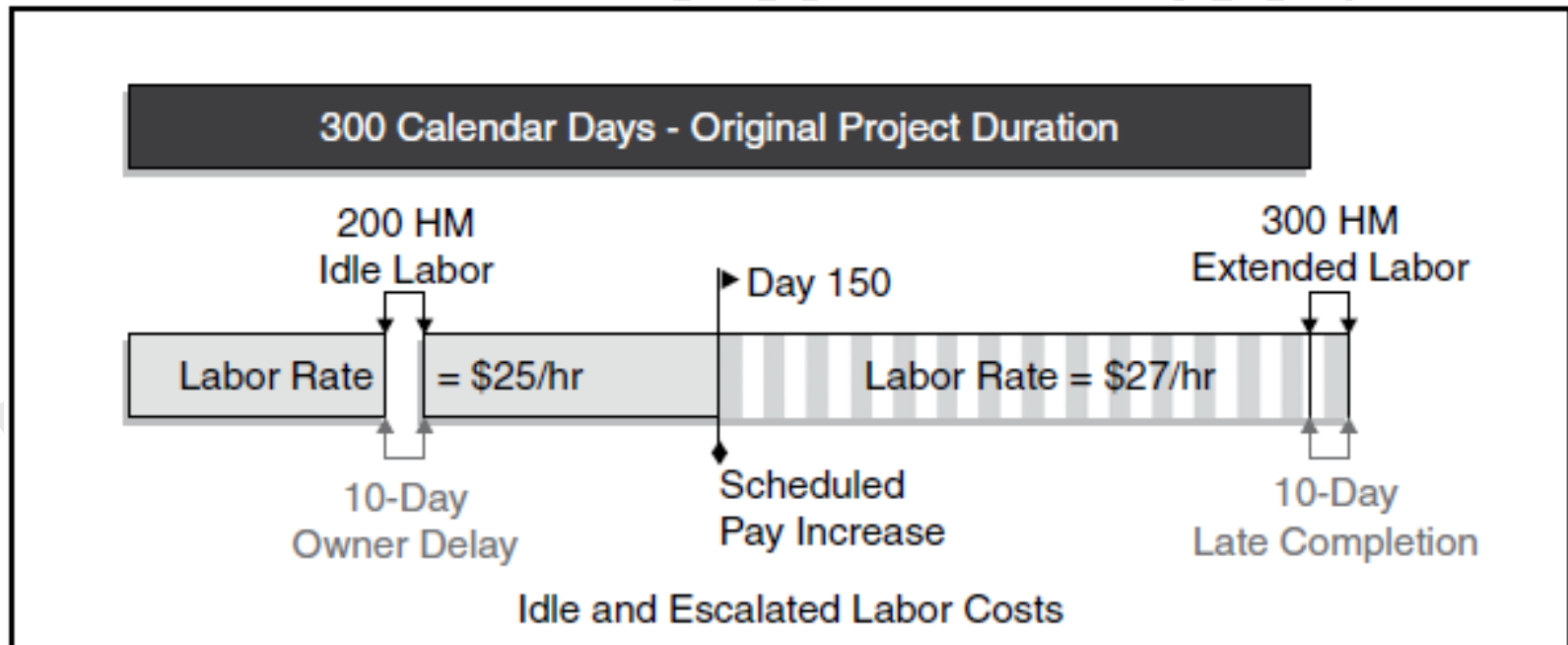
Labor costs – Escalation of labor costs

- ❑ Some delays can cause the Contractor to experience **escalation of its labor costs**.
- ❑ This may occur if the **delay shifts labor** into a **more expensive time period** than that **originally scheduled**.
 - ❖ This situation is sometimes referred to as **extended labor**, but it should **more appropriately** be considered **labor cost escalation**.

*Let's illustrates the difference between **idle** and **escalated** labor costs.*

Labor costs – Idle and Escalation of labor costs: Example

- ❑ In the **third month** of the Project, the **Owner causes a ten-day delay** to the Project.
- ❑ The **Owner accepts responsibility** for the delay, so there is no question of liability or the magnitude of the delay.
- ❑ The **Project is extended by change order an additional ten days**.

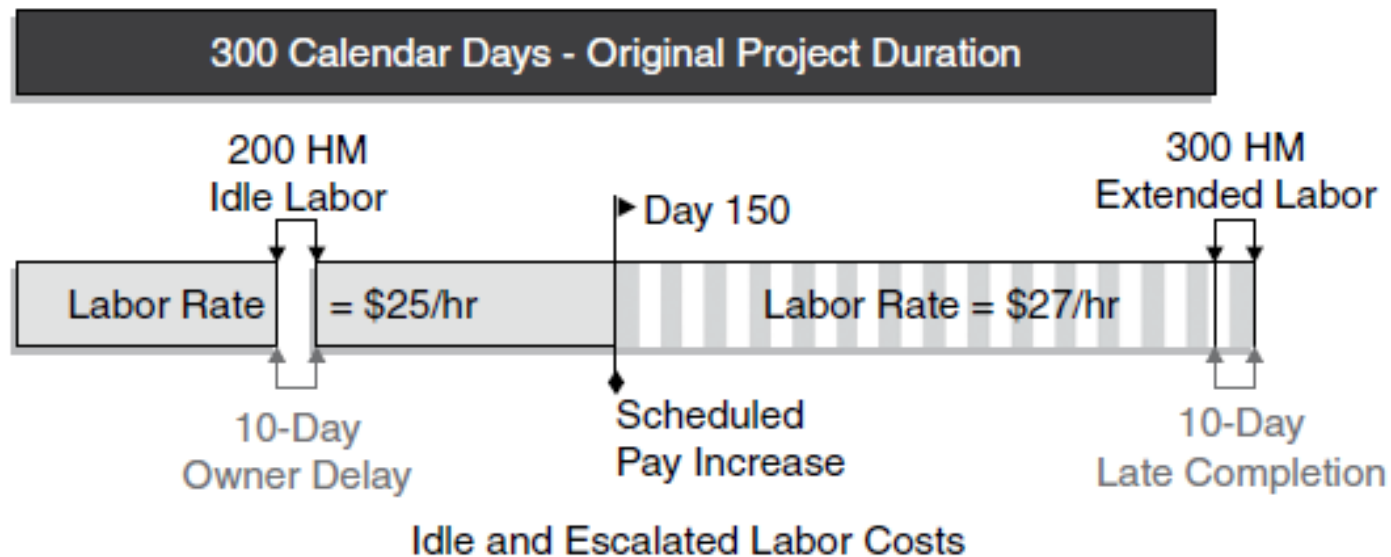


Labor costs – Idle and Escalation of labor costs: Example

- ❑ The Contractor presented a claim of 200 hrs * \$25 per hr = \$5,000 for idle labor.

The Contractor's records also show 300 labor hours for common laborers during the last ten days on the job, which occurred in a time frame later than that originally planned. The Contractor seeks compensation for the additional \$2 per hour (\$27.00 – \$25.00) for the 300 labor hours.

$$\$2/\text{hour} \times 300 \text{ labor hours} = \$600$$

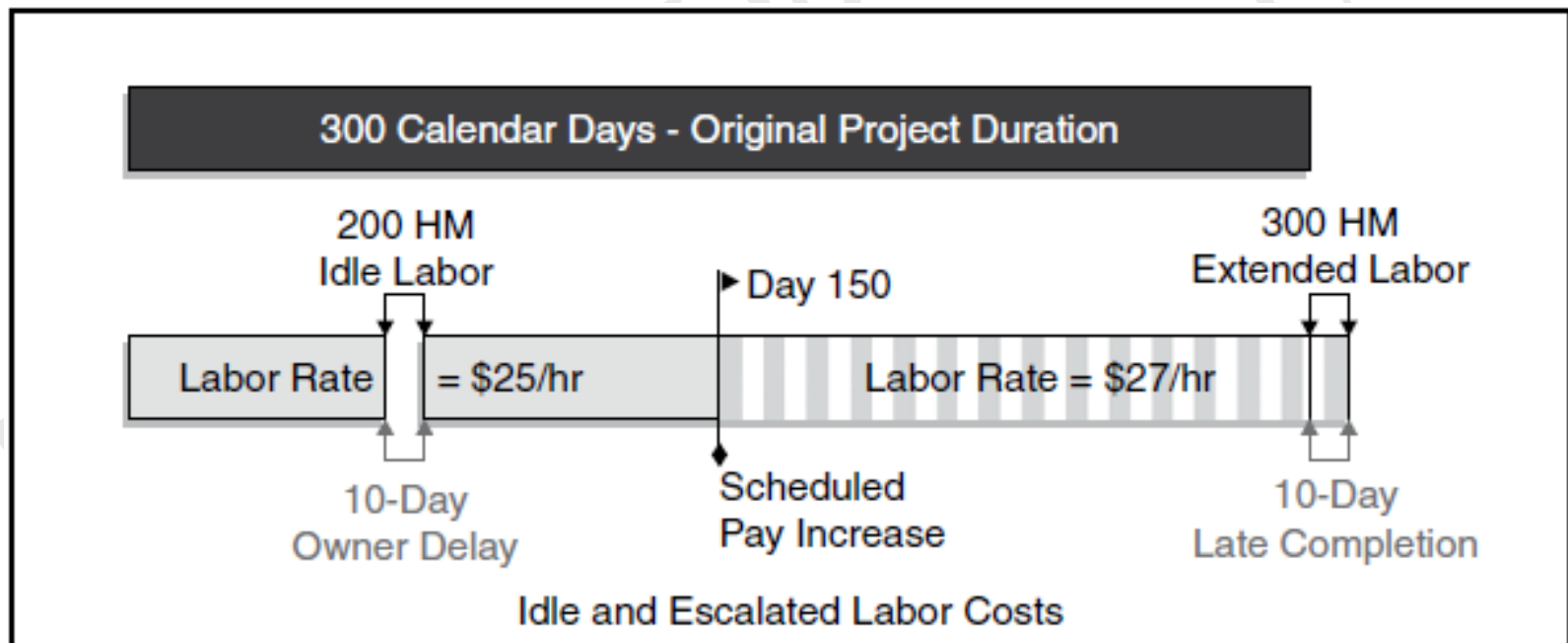


Labor costs – Idle and Escalation of labor costs: Example

❑ The Contractor presented a total claim of \$5,600, with

1. \$5,000 for **idle** labor
2. \$600 for **extended** labor

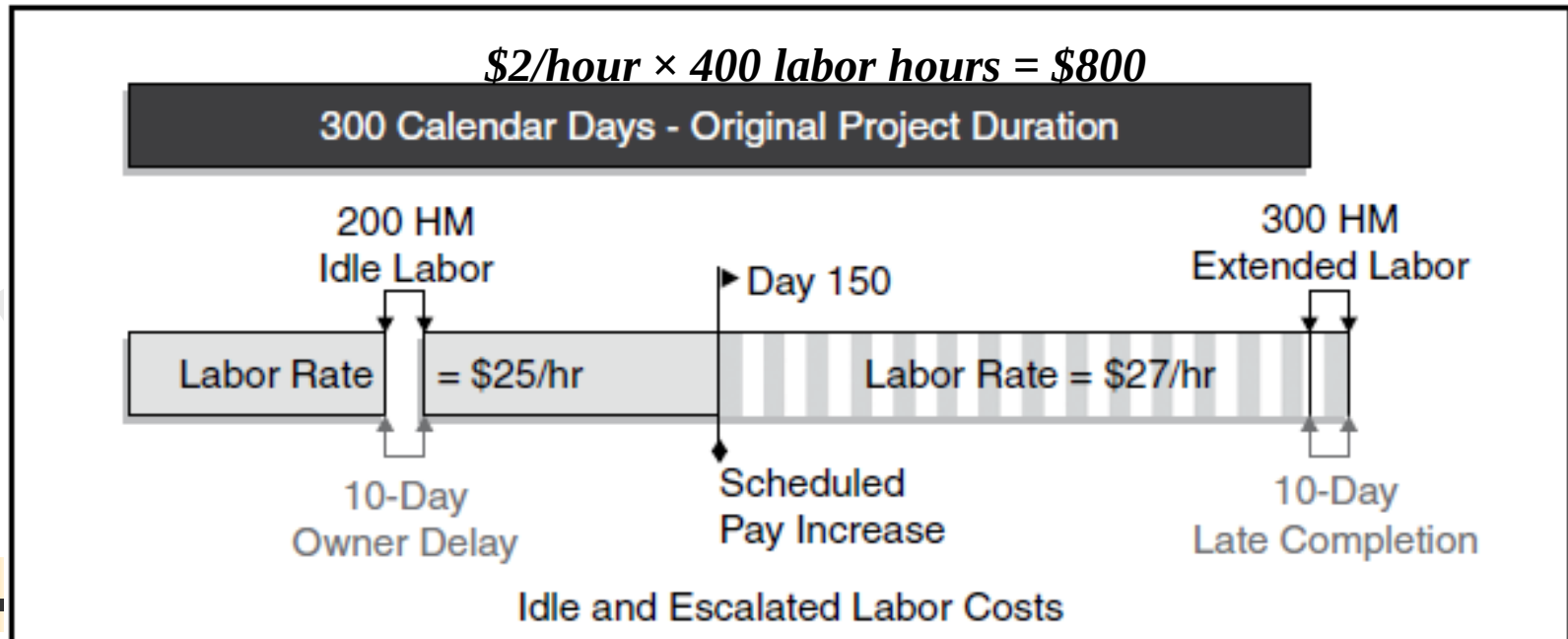
The Contractor's approach, however, is incorrect.



Labor costs – Idle and Escalation of labor costs: Example

- ❑ 300HM was planned if there had not been a delay.
- ❑ The Contractor's certified payrolls showed that **400 labor hours** were worked during the ten-day period (maybe because it was winter) immediately after the wage increase. Therefore, the Contractor would be entitled to an **additional \$800** for escalated cost of its labor due to the delay.

Remember we talked about actual costs if you don't have pre-agreed contract?





Labor costs – Idle and Escalation of labor costs: Example

This simple example illustrates that

*analyst should **not estimate damages without first clearly understanding the nature of the delays***

*A **more realistic and complex** project example might involve several trades under different collective bargaining agreements,*

each with different wage increases occurring on different dates.

*A wage increase might **extend over a period** of more than a year for some trades.*

*The **updated labor agreements** may make new and different requirements for apprentices or supervisory labor.*

Labor costs – Idle and Escalation of labor costs: Example

What happens when a delay **alters** the work sequence, or when a delay **combines** with other changes to affect the **actual labor distribution** on the job?

In these situations, the contractor must **substantiate** the original-planned distribution of labor compared with the actual distribution.

Let's see an example!

موسسه مهندسی و مدیریت ساخت علوی پور (ACEMI)

دفتر آموزش



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