



فرمول جامع برای تدوین لایحه تاخیرات (بر اساس دو قرارداد FIDIC و AIA)

بخش چهارم: چهارچوب تدوین لایحه تاخیرات از منظر قرارداد FIDIC

ارائه دهنده:

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What we will learn?

- ☐ Step 1 – Assess contractual compliance
- ☐ Step 2 – Is the delay excusable?
- ☐ Step 3 – Is the delay critical?
- ☐ Step 4 – Is the delay compensable
- ☐ Float Ownership
- ☐ Concurrency

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Introduction

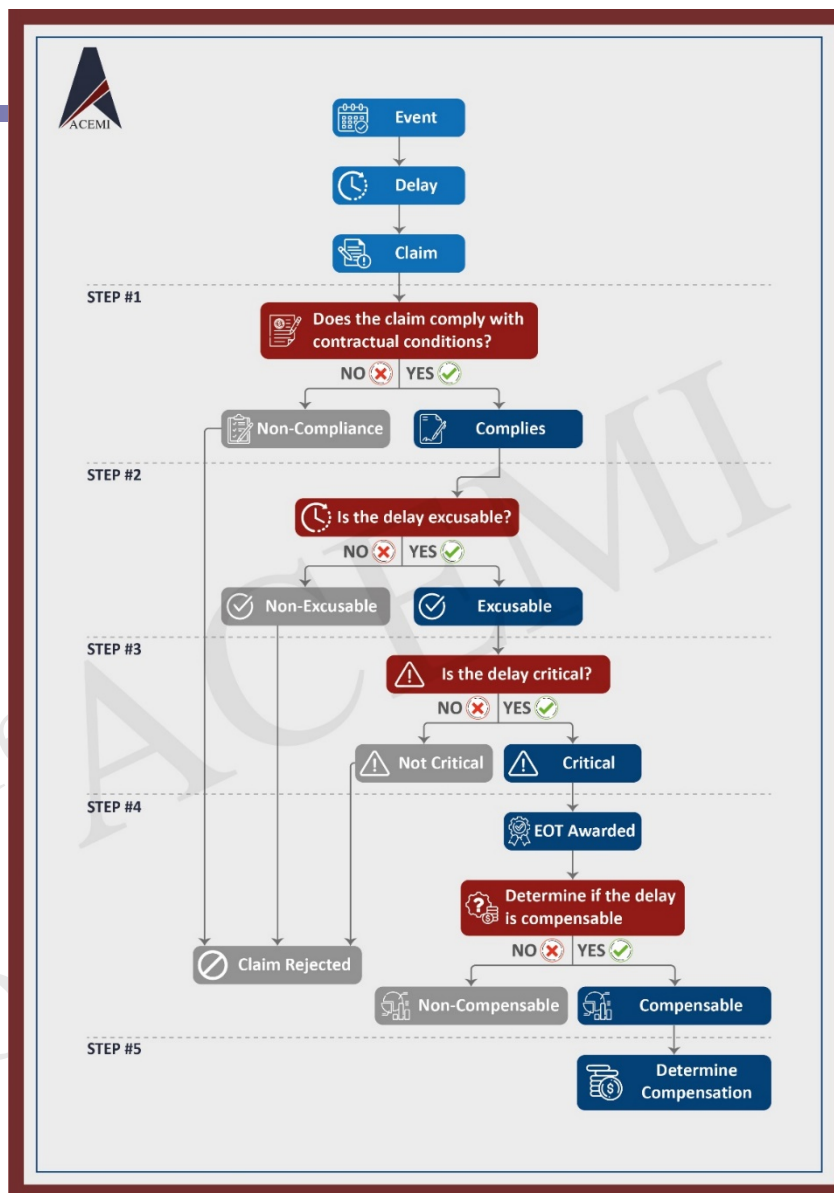
Introduction

- ❑ FIDIC, the International Federation of Consulting Engineers, was founded in **1913** as an **international standards organization**.
- ❑ Today, FIDIC has **more than a million professional members** in more than **100 countries**.
- ❑ The organization is best known for its suite of **versatile construction contracts**.
- ❑ The **FIDIC red book** (Conditions of Contract for Construction for Building and Engineering works designed by the employer) is one of the **most commonly utilized** construction contracts for **design-bid-build** construction projects in the world.

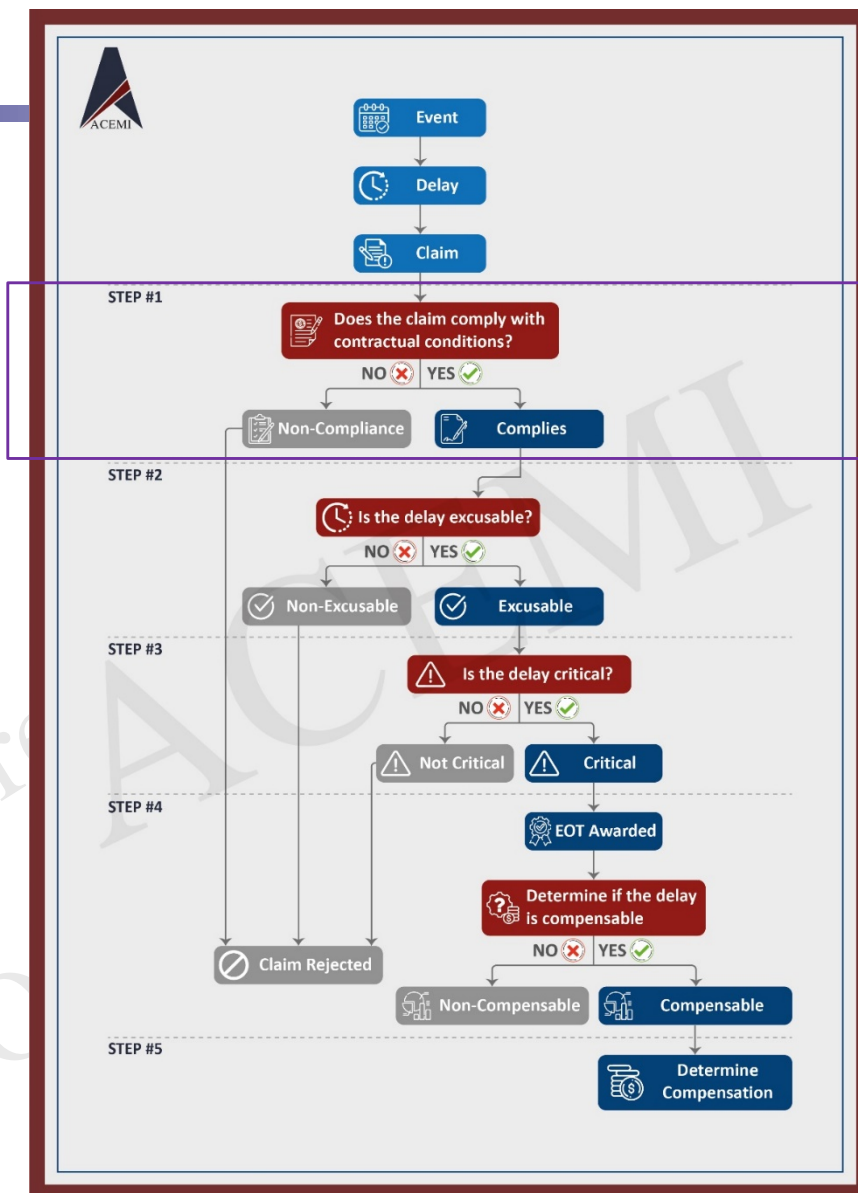
Introduction

- ❑ This Section applies the principles of the **universal decision support framework** to provide guidance for **managing delay claims** when the **2017 edition of FIDIC Red Book** (Conditions of Contract for Construction for Building and Engineering works designed by the employer General Conditions of Contract) is being utilized.

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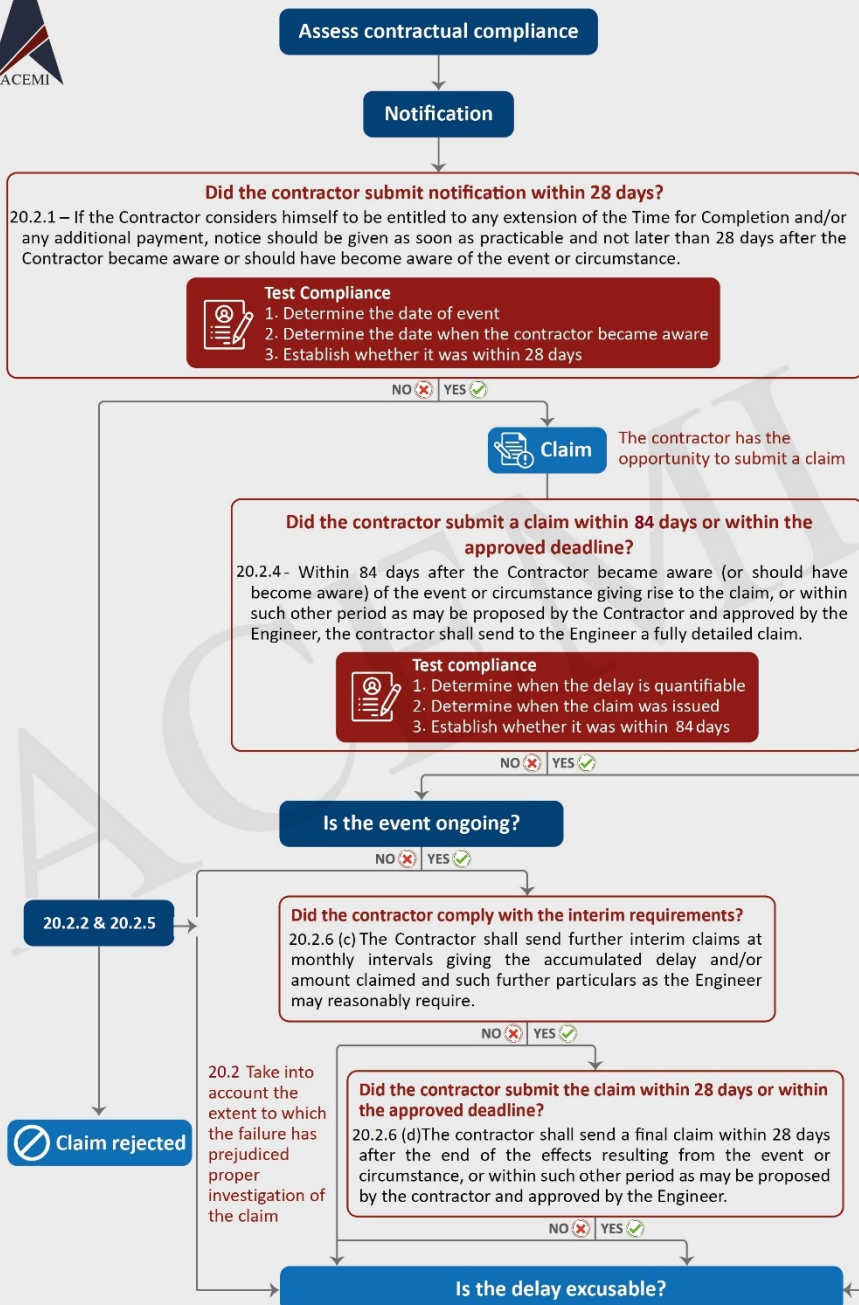


Step 1 – Assess contractual compliance



Introduction

- ❑ The delay claim process in the FIDIC contract is mainly governed by **clause 20.1**.
- ❑ Clause 20.1 is **comprehensive** and deals with a number of different aspects relating to the **notification** and the **claim**.
- ❑ The **first requirement** is that if the **contractor considers himself** to be entitled to additional time for completion and/or any additional payment, then **notice** should be given as soon as **practicable**, and
 1. not later than 28 days after the contractor became aware, or
 2. should have become aware, of the event or circumstance.



Step 1.1 – Did the contractor comply with the notice requirement?

❑ The starting point of this part of the decision tree is to determine whether the **Notice of Claim** was submitted within the **28-day period**.

❖ If it was **not submitted** within this period, **Sub-Clause 20.2.1 provides** that the claiming Party **shall not be entitled** to an extension of time or additional payment.

20.2.1 Notice of Claim

The claiming Party shall give a Notice to the Engineer, describing the event or circumstance giving rise to the cost, loss, delay or extension of DNP for which the Claim is made as soon as practicable, and no later than 28 days after the claiming Party became aware, or should have become aware, of the event or circumstance (the "Notice of Claim" in these Conditions).

If the claiming Party fails to give a Notice of Claim within this period of 28 days, the claiming Party shall not be entitled to any additional payment, the Contract Price shall not be reduced (in the case of the Employer as the claiming Party), the Time for Completion (in the case of the Contractor as the claiming Party) or the DNP (in the case of the Employer as the claiming Party) shall not be extended, and the other Party shall be discharged from any liability in connection with the event or circumstance giving rise to the Claim.

Step 1.1 – Did the contractor comply with the notice requirement?

- ❑ However, this is **subject to the procedures** under Sub-Clauses 20.2.2 and 20.2.5, which allow the **Engineer to consider** whether the late submission may be deemed valid or justified under **certain circumstances**.

20.2.2 Engineer's initial response

If the Engineer considers that the claiming Party has failed to give the Notice of Claim within the period of 28 days under Sub-Clause 20.2.1 [Notice of Claim] the Engineer shall, within 14 days after receiving the Notice of Claim, give a Notice to the claiming Party accordingly (with reasons).

If the Engineer does not give such a Notice within this period of 14 days, the Notice of Claim shall be deemed to be a valid Notice. If the other Party disagrees with such deemed valid Notice of Claim the other Party shall give a Notice to the Engineer which shall include details of the disagreement. Thereafter, the agreement or determination of the Claim under Sub-Clause 20.2.5 [Agreement or determination of the Claim] shall include a review by the Engineer of such disagreement.

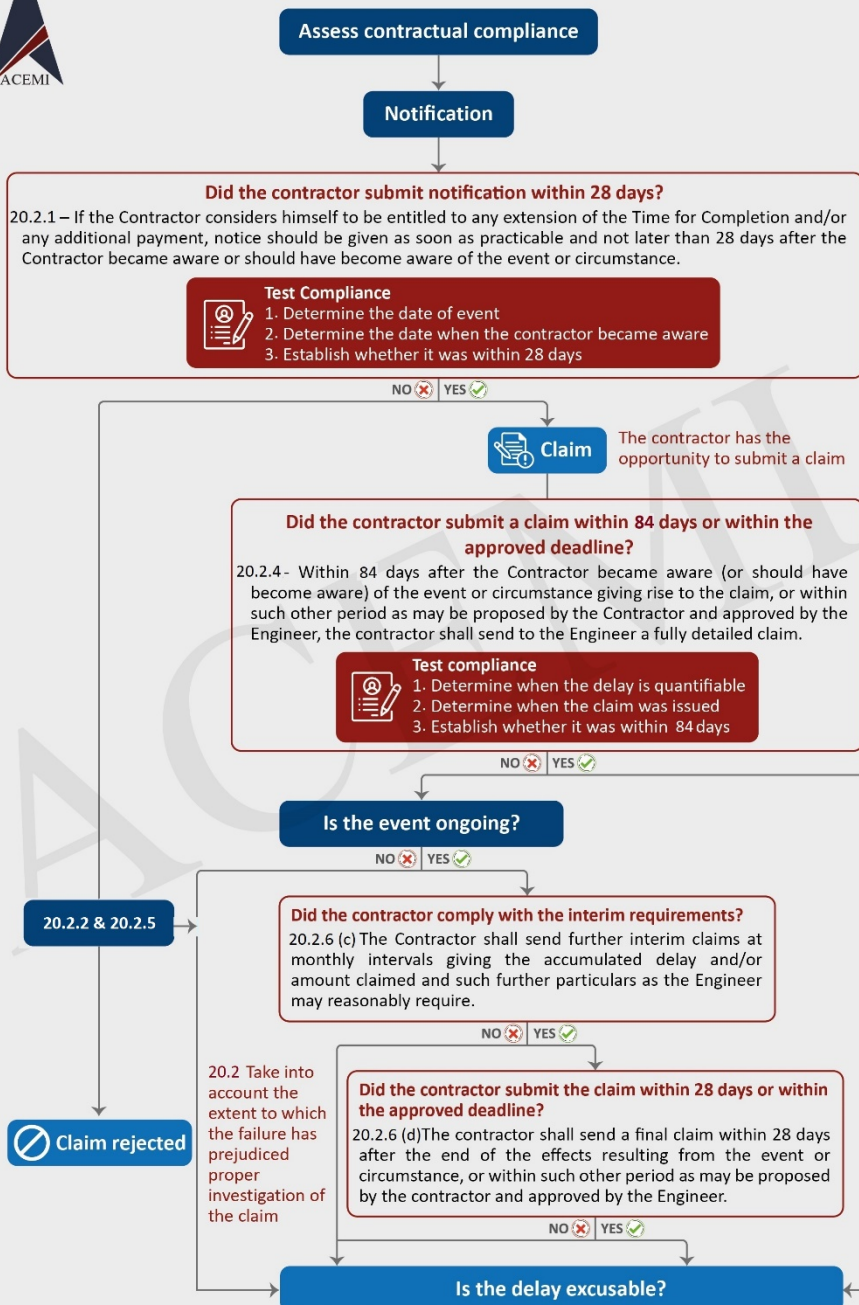
If the claiming Party receives a Notice from the Engineer under this Sub-Clause and disagrees with the Engineer or considers there are circumstances which justify late submission of the Notice of Claim, the claiming Party shall include in its fully detailed Claim under Sub-Clause 20.2.4 [Fully detailed claim] details of such disagreement or why such late submission is justified (as the case may be).

Step 1.1 – Did the contractor comply with the notice requirement?

- ☐ However, this is **subject to the procedures** under Sub-Clauses 20.2.2 and 20.2.5, which allow the **Engineer to consider** whether the late submission may be deemed valid or justified under **certain circumstances**.

If the Engineer has given a Notice under Sub-Clause 20.2.2 [*Engineer's initial response*] and/or under Sub-Clause 20.2.4 [*Fully detailed Claim*], the Claim shall nevertheless be agreed or determined in accordance with this Sub-Clause 20.2.5. The agreement or determination of the Claim shall include whether or not the Notice of Claim shall be treated as a valid Notice taking account of the details (if any) included in the fully detailed claim of the claiming Party's disagreement with such Notice(s) or why late submission is justified (as the case may be). The circumstances which may be taken into account (but shall not be binding) may include:

- whether or to what extent the other Party would be prejudiced by acceptance of the late submission;
- in the case of the time limit under Sub-Clause 20.2.1 [*Notice of Claim*], any evidence of the other Party's prior knowledge of the event or circumstance giving rise to the Claim, which the claiming Party may include in its supporting particulars; and/or
- in the case of the time limit under Sub-Clause 20.2.4 [*Fully detailed Claim*], any evidence of the other Party's prior knowledge of the contractual and/or other legal basis of the Claim, which the claiming Party may include in its supporting particulars.



Step 1.2 – Did the contractor submit a claim within 84 days or within the approved deadline?

- ☐ If the notification complies with this time-bar requirement; then the **next decision** would be to **determine whether the contractor submitted a detailed claim with **full supporting particulars** of**
 1. the basis of the claim and
 2. **additional time and/or additional payment claimed.**
- ☐ This should **happen within 84 days** after
 1. the **contractor became aware (or should have become aware)** of the event or circumstance giving **rise to the claim**, or
 2. within such other period as may be **proposed by the contractor and approved by the engineer.**

Step 1.2 – Did the contractor submit a claim within 84 days or within the approved deadline?

20.2.3 Contemporary records

In this Sub-Clause 20.2, "contemporary records" means records that are prepared or generated at the same time, or immediately after, the event or circumstance giving rise to the Claim.

The claiming Party shall keep such contemporary records as may be necessary to substantiate the Claim.

Without admitting the Employer's liability, the Engineer may monitor the Contractor's contemporary records and/or instruct the Contractor to keep additional contemporary records. The Contractor shall permit the Engineer to inspect all these records during normal working hours (or at other times agreed by the Contractor), and shall if instructed submit copies to the Engineer. Such monitoring, inspection or instruction (if any) by the Engineer shall not imply acceptance of the accuracy or completeness of the Contractor's contemporary records.

Step 1.2 – Did the contractor submit a claim within 84 days or within the approved deadline?

20.2.4 Fully detailed Claim

In this Sub-Clause 20.2, "fully detailed Claim" means a submission which includes:

- (a) a detailed description of the event or circumstance giving rise to the Claim;
- (b) a statement of the contractual and/or other legal basis of the Claim;
- (c) all contemporary records on which the claiming Party relies; and
- (d) detailed supporting particulars of the amount of additional payment claimed (or amount of reduction of the Contract Price in the case of the Employer as the claiming Party), and/or EOT claimed (in the case of the Contractor) or extension of the DNP claimed (in the case of the Employer).

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Step 1.2 – Did the contractor submit a claim within 84 days or within the approved deadline?

Within either:

- (i) 84 days after the claiming Party became aware, or should have become aware, of the event or circumstance giving rise to the Claim, or
- (ii) such other period (if any) as may be proposed by the claiming Party and agreed by the Engineer

the claiming Party shall submit to the Engineer a fully detailed Claim.

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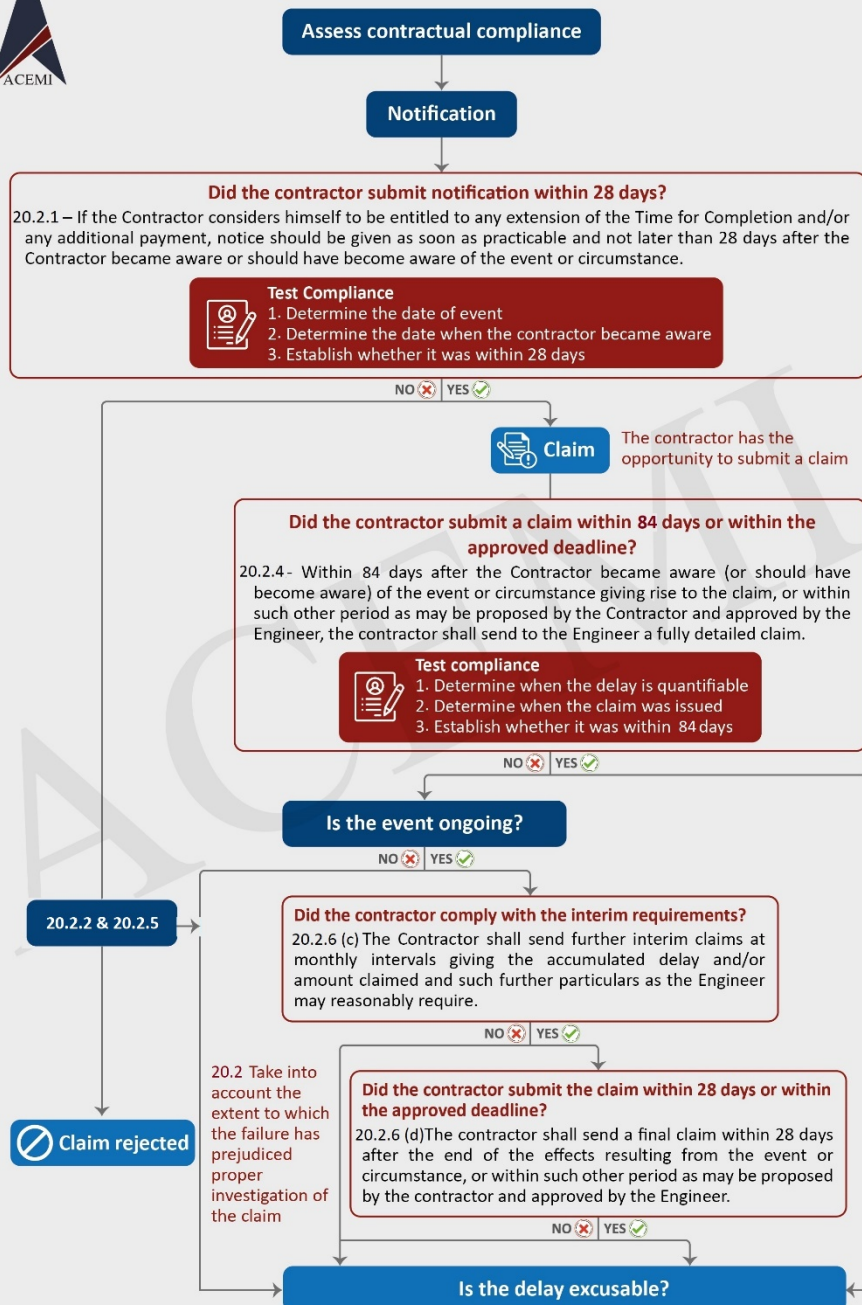
Step 1.2 – Did the contractor submit a claim within 84 days or within the approved deadline?

☐ If the claim was **submitted within the 84 days – or within another period approved** by the engineer –

the claim will be **deemed to be in compliance**; and

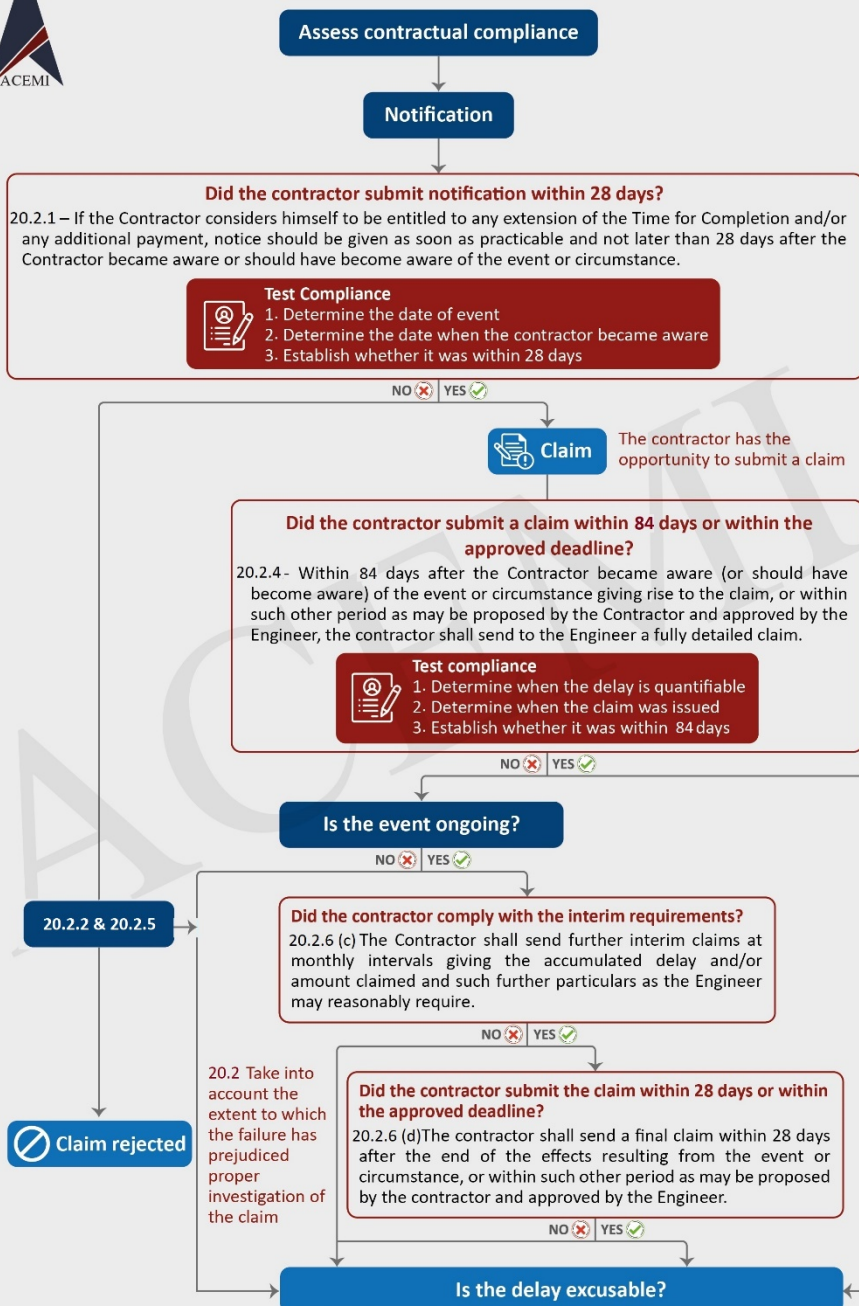
the **next step** in the decision tree process would be to **determine whether** the delay is **excusable**.

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Step 1.3 – Is the event ongoing?

- ❑ It is possible that the claim was **not submitted** within the **84-day period**, particularly if the event causing the delay was of a **continuing nature**.
- ❖ The **next decision** in the decision tree would be to determine **whether** the event has a **continuing effect**.
 - ✓ If the event is **not of a continuing nature**, and
 - ✓ the claim was **not submitted** within the **84 days**,
then the claim may be rejected
unless the
 1. **Engineer** considers that there are justified reasons for the late submission, or
 2. **Engineer fails to issue** a Notice within 14 days, in which case the claim would be **deemed valid**.



Step 1.4 – Did the contractor comply with the interim requirements?

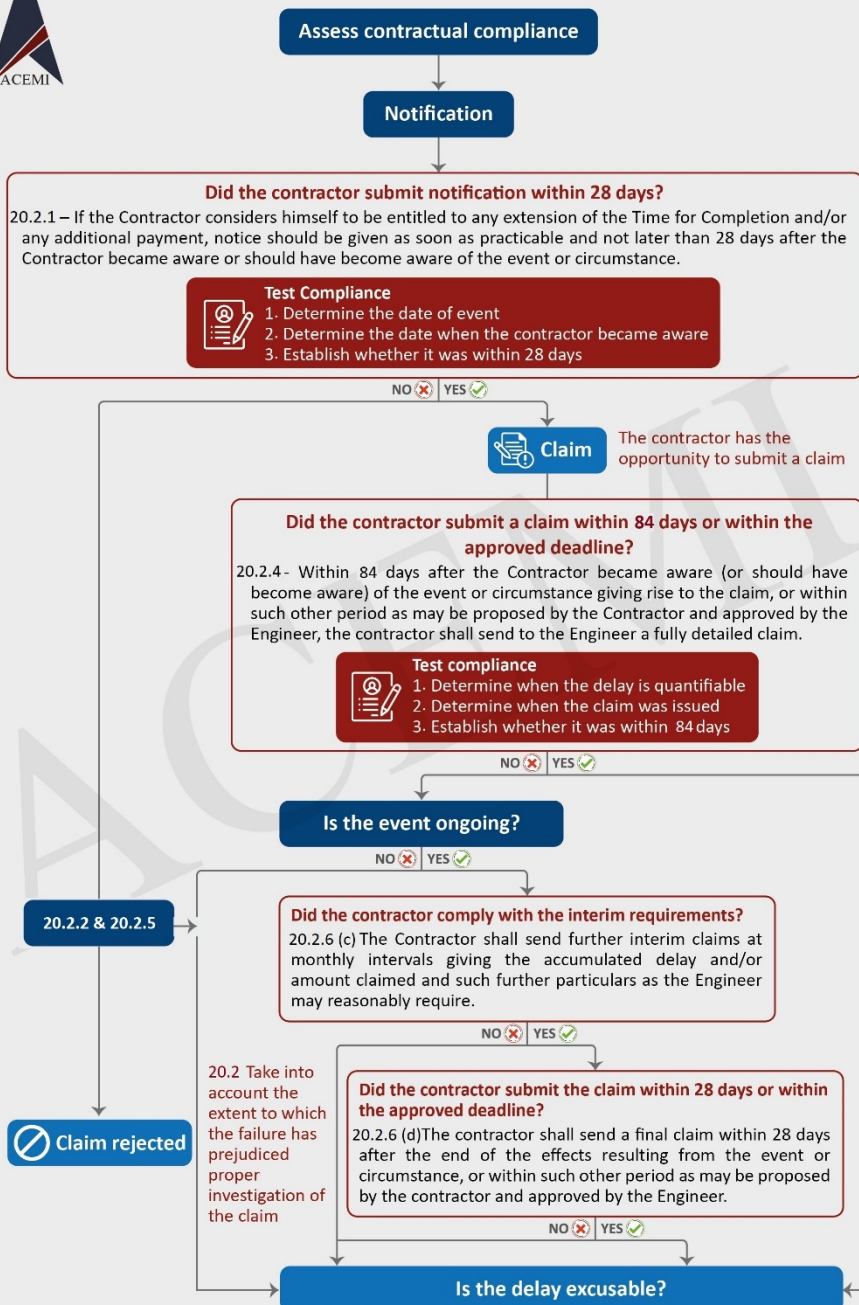
❑ If the event is of an **ongoing nature**, the contractor will have to **comply** with the following interim requirement:

❖ 20.2.6 (c) The Contractor shall **send further interim claims** at monthly intervals,

giving the **accumulated delay** and/or **amount claimed**, and such further particulars

as the Engineer may **reasonably require**;

(c) after submitting the first interim fully detailed Claim the claiming Party shall submit further interim fully detailed Claims at monthly intervals, giving the accumulated amount of additional payment claimed (or the reduction of the Contract Price, in the case of the Employer as the claiming Party), and/or extension of time claimed (in the case of the Contractor as the claiming Party) or extension of the DNP (in the case of the Employer as the claiming Party); and



Step 1.5 – Did the contractor submit the claim within 28 days or within the approved deadline?

☐ If the **contractor adhered** to these interim requirements he will be **obligated to send** a final claim within

1. **28 days after the end** of the **effects resulting** from the event or circumstance, or
2. **such other period** as may be proposed by the contractor and approved by the engineer.

(d) the claiming Party shall submit a final fully detailed Claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the claiming Party and agreed by the Engineer. This final fully detailed Claim shall give the total amount of additional payment claimed (or the reduction of the Contract Price, in the case of the Employer as the claiming Party), and/or extension of time claimed (in the case of the Contractor as the claiming Party) or extension of the DNP (in the case of the Employer as the claiming Party).

Step 1.5 – Did the contractor submit the claim within 28 days or within the approved deadline?

❑ The **28 day-notice period** (from when the contractor becomes aware of the delay) is the **only time-related requirement** where it is **explicitly mentioned** that the claim would not be considered if **this requirement is not met**.

❖ If the following time-related requirements:

1. a claim should be **submitted within 84 days**;
2. interim claims to be **submitted monthly** if the delay is **ongoing**; and
3. a final claim to be **submitted within 28 days** after the **event causing** the delay has **ceased**;

do **not automatically** invalidate the claim if **not complied** with

Step 1.5 – Did the contractor submit the claim within 28 days or within the approved deadline?

❑ If contractors are **not complied with**, the claim would **still be considered**; but the following provision in clause 20.2. **should then be applied**:

❖ 20.2 If the **Contractor fails** to comply with this or another Clause in relation to any claim,

any extension of time and/or **additional payment** shall take account of the **extent** (if any) to which the **failure** has **prevented or prejudiced** proper investigation of the claim,

unless the claim is excluded under the **second paragraph** of this Clause.

Step 1.5 – Did the contractor submit the claim within 28 days or within the approved deadline?

☐ In such cases, Sub-Clause 20.2.7 applies:

any extension of time and/or additional payment shall **take account** of the **extent (if any)** to which the **failure** has **prevented or prejudiced** proper investigation of the claim by the Engineer.

20.2.7 General requirements

After receiving the Notice of Claim, and until the Claim is agreed or determined under Sub-Clause 20.2.5 [*Agreement or determination of the Claim*], in each Payment Certificate the Engineer shall include such amounts for any Claim as have been reasonably substantiated as due to the claiming Party under the relevant provision of the Contract.

The Employer shall only be entitled to claim any payment from the Contractor and/or to extend the DNP, or set off against or make any deduction from any amount due to the Contractor, by complying with this Sub-Clause 20.2.

The requirements of this Sub-Clause 20.2 are in addition to those of any other Sub-Clause which may apply to the Claim. If the claiming Party fails to comply with this or any other Sub-Clause in relation to the Claim, any additional payment and/or any EOT (in the case of the Contractor as the claiming Party) or extension of the DNP (in the case of the Employer as the claiming Party), shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the Claim by the Engineer.

Step 1.5 – Did the contractor submit the claim within 28 days or within the approved deadline?

❑ For example, **late submission** of information may have delayed steps to mitigate the delay.

❖ The **impact** of the **non-compliance** on the delay will be considered, and as a result,

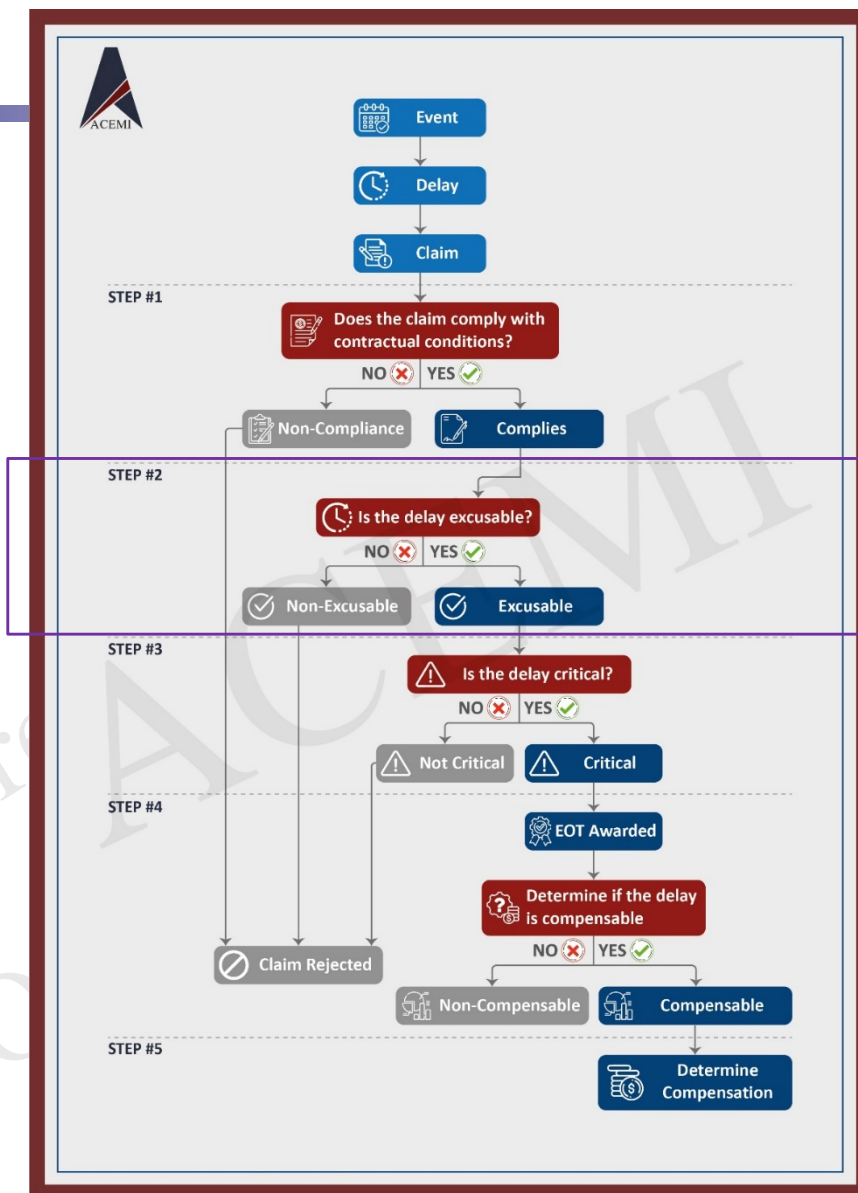
1. the extension of time awarded or additional payment may be **reduced**, or

2. **no** extension or payment may be **granted**.

✓ This assessment of the impact of non-adherence to the time-related requirements forms **part of the overall process** to determine whether the **delay is critical**.

➤ The next step is to consider whether the **delay is excusable**.

Step 2 – Is the delay excusable?



Introduction

- ❑ **Clause 8.5** provides a **list of circumstances**, for which the **contractor** would be entitled to an **extension** of the completion date:

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Clause 8.5

- ☐ The Contractor shall be **entitled subject** to Clause 20.2 [Contractor's Claims] to an extension of time for completion **if and to** the **extent** that **completion for the purposes** of Clause 10.1 [Taking Over of the Works and Sections] is or **will be delayed** by any of the following causes:

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Clause 8.4

(a) a Variation (except that there shall be no requirement to comply with Sub-Clause 20.2 [Claims For Payment and/or EOT]);

(b) a cause of delay giving an entitlement to EOT under a Sub-Clause of these Conditions;

(c) exceptionally adverse climatic conditions, which for the purpose of these Conditions shall mean adverse climatic conditions at the Site which are Unforeseeable having regard to climatic data made available by the Employer under Sub-Clause 2.5 [Site Data and Items of Reference] and/or climatic data published in the Country for the geographical location of the Site;

(d) Unforeseeable shortages in the availability of personnel or Goods (or Employer-Supplied Materials, if any) caused by epidemic or governmental actions; or

(e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

Is the delay excusable?

Is the delay catered for in clause 8.5(a)?

The Contractor shall be entitled to an extension of the Time for Completion if and to the extent that completion is or will be delayed by any of the following causes:

A Variation (unless an adjustment to the Time for Completion has been agreed under clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract.

YES ☒ NO ☒

Has an adjustment to the Time for Completion been agreed under clause 13.3 [variation procedure]?

YES ☒ NO ☒

EOT to be dealt with in terms of clause 13.3 (variation procedure)

Is the delay catered for in clause 8.5 (b)?
b) a cause of delay giving entitlement to EOT of time under a clause of these Conditions

YES ☒ NO ☒

Does the clause require additional notification?

YES ☒ NO ☒

Did the contractor give the required notification?

YES ☒ NO ☒

Was the delay as a result of the contractor's failure?

YES ☒ NO ☒

Non-Excusable

Does the clause provide for other requirements to be met?

YES ☒ NO ☒

Did the contractor meet the requirements?

NO ☒ YES ☒

Non-Excusable

Excusable

Is the delay catered for in clause 8.5 (c)?
c) exceptionally adverse climatic conditions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (d)?
d) unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (e)?
e) any delay, impediment or prevention caused by or attributable to the Employer, the employer's personnel or the Employer's other contractors.

YES ☒ NO ☒

Non-Excusable

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Step 2.1 – Is the delay catered for in clause 8.5 (a)?

- ❑ **Clause 8.5 (a)** provides for variations or substantial changes in the **quantity** of an item of work.
- ❑ The **first question** in the decision tree would be to determine if the **additional time** was **dealt** with in the **variation order sub-clause (13.3)**.
 - ❖ If this is the case, it would **not be necessary** to **further consider the claim** as it would have been considered as part of the **variation order procedure**.
 - ❖ If it was **not considered** as part of the variation order procedure, it would be deemed an **excusable delay**; and it would be further **assessed as part of the variation** order process.

Is the delay excusable?

Is the delay catered for in clause 8.5(a)?

The Contractor shall be entitled to an extension of the Time for Completion if and to the extent that completion is or will be delayed by any of the following causes:

A Variation (unless an adjustment to the Time for Completion has been agreed under clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract.

YES ☒ NO ☒

Has an adjustment to the Time for Completion been agreed under clause 13.3 [variation procedure]?

YES ☒ NO ☒

EOT to be dealt with in terms of clause 13.3 (variation procedure)

Is the delay catered for in clause 8.5 (b)?
b) a cause of delay giving entitlement to EOT of time under a clause of these Conditions

YES ☒ NO ☒

Does the clause require additional notification?

YES ☒ NO ☒

Did the contractor give the required notification?

YES ☒ NO ☒

Was the delay as a result of the contractor's failure?

YES ☒ NO ☒

Non-Excusable

Does the clause provide for other requirements to be met?

YES ☒ NO ☒

Did the contractor meet the requirements?

NO ☒ YES ☒

Non-Excusable

Excusable

Is the delay catered for in clause 8.5 (c)?
c) exceptionally adverse climatic conditions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (d)?
d) unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (e)?
e) any delay, impediment or prevention caused by or attributable to the Employer, the employer's personnel or the Employer's other contractors.

YES ☒ NO ☒

Non-Excusable

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

- ☐ In **terms of clause 8.5 (b)** additional time can be **claimed utilizing any clause** of the **contract** providing for such an entitlement.
- ☐ A **large number of clauses** explicitly state that the contractor is entitled to additional time for a delay related to the **event mentioned in the clause**.
- ☐ Should a claim **rely on any of these clauses**, it should be considered in the decision tree **whether** the provisions of the clauses **were complied with**.

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

Nr	Clause	Additional notification	As a result of contractor's failure	Specific requirement
1.9	Delayed drawings	✓	✓	✓
2.1	Right of access		✓	✓
4.7	Setting out		✓	
4.12	Unforeseeable conditions	✓		✓
4.23	Archaeological	✓		
7.4	Testing		✓	
8.6	Delays by authorities		✓	
8.10	Suspension of work		✓	
10.3	Interference with tests for completion			✓
13.6	Adjustments for changes			✓
16.1	Contractor's entitlement to suspend work	✓		✓
18	Exceptional Events	✓		✓

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

- ☐ As can be seen in **Table** the conditions included in these clauses can be categorized under the following general requirements.

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Is the delay excusable?

Is the delay catered for in clause 8.5(a)?

The Contractor shall be entitled to an extension of the Time for Completion if and to the extent that completion is or will be delayed by any of the following causes:

A Variation (unless an adjustment to the Time for Completion has been agreed under clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract.

YES ☒ NO ☒

Has an adjustment to the Time for Completion been agreed under clause 13.3 [variation procedure]?

YES ☒ NO ☒

EOT to be dealt with in terms of clause 13.3 (variation procedure)

Is the delay catered for in clause 8.5 (b)?
b) a cause of delay giving entitlement to EOT of time under a clause of these Conditions

YES ☒ NO ☒

Does the clause require additional notification?

YES ☒ NO ☒

Did the contractor give the required notification?

YES ☒ NO ☒

Was the delay as a result of the contractor's failure?

YES ☒ NO ☒

Non-Excusable

Does the clause provide for other requirements to be met?

YES ☒ NO ☒

Did the contractor meet the requirements?

NO ☒ YES ☒

Non-Excusable

Excusable

Is the delay catered for in clause 8.5 (c)?
c) exceptionally adverse climatic conditions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (d)?
d) unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (e)?
e) any delay, impediment or prevention caused by or attributable to the Employer, the employer's personnel or the Employer's other contractors.

YES ☒ NO ☒

Non-Excusable

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Step 2.2a – Does the clause require additional notification?

- ❖ In **testing**, the requirements stated above the decision tree will first consider if **there is a requirement** in the clause for an additional notification over and above the notification required by clause 20.2.

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Step 2.2b – Did the contractor provide the required notification?

- ❖ If the **response is affirmative** it will be established if an additional notification was provided in line with the **specific requirements** contained in the specific clause.
- ❖ If the **additional notification provision** was **not complied** with it is advisable **not to immediately reject** the claim but **rather to apply the provision** in clause 20.2 to take account of the extent (if any) to which the **failure has prevented or prejudiced** proper investigation of the claim.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Step 2.2c – Was the delay as a result of the contractor's failure?

❖ The **next decision** will be to determine whether there was **any failure** on the **part of the contractor**.

- ✓ The failure may include an error, action or inaction.
- ✓ Failure on the part of the contractor will result in the **claim not being considered**.

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Step 2.2d – Does the clause provide for other requirements to be met?

- ❖ If there was **no failure or error** on the part of the contractor
the **decision tree** will consider **whether the clause** provides for **any other specific requirements** to be complied with.
 - ✓ If **no other specific requirements** need to be met the delay will be accepted as an **excusable delay**.

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Step 2.2d – Does the clause provide for other requirements to be met?

- ❖ However, **if** the clause provides for any **specific requirements** the clause will have to be **consulted** to establish **whether** these requirements were **adhered** to.
 - ✓ If the **contractor complied** with the **specific requirement explained in detail** in the next **couple of pages** the delay will be accepted as **excusable**.
 - ✓ If **not**, the **clause will provide guidance** on **whether** the claim may be **rejected**.

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Is the delay excusable?

Is the delay catered for in clause 8.5(a)?

The Contractor shall be entitled to an extension of the Time for Completion if and to the extent that completion is or will be delayed by any of the following causes:

A Variation (unless an adjustment to the Time for Completion has been agreed under clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract.

YES ☒ NO ☒

Has an adjustment to the Time for Completion been agreed under clause 13.3 [variation procedure]?

YES ☒ NO ☒

EOT to be dealt with in terms of clause 13.3 (variation procedure)

Is the delay catered for in clause 8.5 (b)?
b) a cause of delay giving entitlement to EOT of time under a clause of these Conditions

YES ☒ NO ☒

Does the clause require additional notification?

YES ☒ NO ☒

Did the contractor give the required notification?

YES ☒ NO ☒

Was the delay as a result of the contractor's failure?

YES ☒ NO ☒

Non-Excusable

Does the clause provide for other requirements to be met?

YES ☒ NO ☒

Did the contractor meet the requirements?

NO ☒ YES ☒

Non-Excusable

Excusable

Is the delay catered for in clause 8.5 (c)?
c) exceptionally adverse climatic conditions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (d)?
d) unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (e)?
e) any delay, impediment or prevention caused by or attributable to the Employer, the employer's personnel or the Employer's other contractors.

YES ☒ NO ☒

Non-Excusable

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

Nr	Clause	Additional notification	As a result of contractor's failure	Specific requirement
1.9	Delayed drawings	✓	✓	✓
2.1	Right of access		✓	✓
4.7	Setting out		✓	
4.12	Unforeseeable conditions	✓		✓
4.23	Archaeological	✓		
7.4	Testing		✓	
8.6	Delays by authorities		✓	
8.10	Suspension of work		✓	
10.3	Interference with tests for completion			✓
13.6	Adjustments for changes			✓
16.1	Contractor's entitlement to suspend work	✓		✓
18	Exceptional Events	✓		✓

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 1.9 – Delayed Drawings and Instructions

- ❖ If the contractor was **delayed** due to late drawings and instructions, a claim for additional time can be submitted in terms of **clause 1.9**.
- ❖ It would first be determined **whether** the contractor gave **notice** of a possible delay if the **required information** was **not issued** within a **reasonable time**.
- ❖ If the **notice** was **not given**
the **impact** will be considered in **terms of clause 20.1**, which provides for the **engineer** to take into account the **extent (if any)** to which the **failure has prevented or prejudiced** proper investigation of the claim.
 - ✓ If it is **found** that by **providing timeous notice** of the information required the **delay could have been prevented** it is likely that **no additional time** will be awarded.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 1.9 – Delayed Drawings and Instructions

1.9

Delayed Drawings or Instructions

The Contractor shall give a Notice to the Engineer whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the Contractor within a particular time, which shall be reasonable. The Notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and details of the nature and amount of the delay or disruption likely to be suffered if it is late.

If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Engineer to issue the notified drawing or instruction within a time which is reasonable and is specified in the Notice with supporting details, the Contractor shall be entitled subject to Sub-Clause 20.2 [Claims For Payment and/or EOT] to EOT and/or payment of such Cost Plus Profit.

However, if and to the extent that the Engineer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such EOT and/or Cost Plus Profit.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 1.9 – Delayed Drawings and Instructions

❖ The **second step** will be to **determine whether** the **content requirements** of the **notice** were **complied** with.

✓ **Clause 1.9** states that the notice should include the following:

- Details of the necessary drawing or instruction,
- Details of why and by when it should be issued, and
- The nature and amount of the delay or disruption likely to be suffered if it is late.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 1.9 – Delayed Drawings and Instructions

- ❖ If the **notification did not** include the **above mentioned content requirements** the **impact** of the **non-adherence** would **again have** to be considered in terms of **clause 20.2**.
- ❖ The **final consideration** would be to **establish whether** the **engineer's failure** to provide the **drawing or instruction late** was **caused by an error or delay** by the **contractor**.
 - ✓ If this was the **case**, the contractor would **not be entitled** to an extension of time **(to the extent)**.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 2.1 – Right of Access to Site

2.1

Right of Access to the Site

The Employer shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the Contract Data. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Employer is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Employer shall do so in the time and manner stated in the Specification. However, the Employer may withhold any such right or possession until the Performance Security has been received.

If no such time is stated in the Contract Data, the Employer shall give the Contractor right of access to, and possession of, those parts of the Site within such times as may be required to enable the Contractor to proceed in accordance with the Programme or, if there is no Programme at that time, the initial programme submitted under Sub-Clause 8.3 [Programme].

If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Employer to give any such right or possession within such time, the Contractor shall be entitled subject to Sub-Clause 20.2 [Claims For Payment and/or EOT] to EOT and/or payment of such Cost Plus Profit.

However, if and to the extent that the Employer's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the applicable Contractor's Documents, the Contractor shall not be entitled to such EOT and/or Cost Plus Profit.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 2.1 – Right of Access to Site

❖ Clause 2.1 provides for the **contractor** to claim for additional time **if access to the site** was provided **later than the time** stated in the **contract data**.

❖ If the **right of access** was **delayed**,

it would be **necessary to determine**

whether the **delay** was **not caused** by the **late submission** of the **performance security** by the **contractor**.

✓ If this was the **case** the delay is **not excusable**;

as the **employer may**, according to clause 2.1 **withhold possession of the site** until the **performance security** has been received

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

☐ Clause 2.1 – Right of Access to Site

- ❖ If the **employer's failure** was as a result of an **error** or **delay** by the **contractor** the delay is not excusable **(to the extent)**.

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 4.7 – Setting Out

4.7

Setting Out

The Contractor shall set out the Works in relation to the items of reference under Sub-Clause 2.5 [*Site Data and Items of Reference*].

4.7.1 Accuracy

The Contractor shall:

- (a) verify the accuracy of all these items of reference before they are used for the Works;
- (b) promptly deliver the results of each verification to the Engineer;
- (c) rectify any error in the positions, levels, dimensions or alignment of the Works; and
- (d) be responsible for the correct positioning of all parts of the Works.

4.7.2 Errors

If the Contractor finds an error in any items of reference, the Contractor shall give a Notice to the Engineer describing it:

- (a) within the period stated in the Contract Data (if not stated, 28 days) calculated from the Commencement Date, if the items of reference are specified on the Drawings and/or in the Specification; or
- (b) as soon as practicable after receiving the items of reference, if they are issued by the Engineer under Sub-Clause 2.5 [*Site Data and Items of Reference*].

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 4.7 – Setting Out

4.7.3 Agreement or Determination of rectification measures, delay and/or Cost

After receiving a Notice from the Contractor under Sub-Clause 4.7.2 [Errors], the Engineer shall proceed under Sub-Clause 3.7 [Agreement or Determination] to agree or determine:

- (a) whether or not there is an error in the items of reference;
- (b) whether or not (taking account of cost and time) an experienced contractor exercising due care would have discovered such an error
 - when examining the Site, the Drawings and the Specification before submitting the Tender; or
 - if the items of reference are specified on the Drawings and/or in the Specification and the Contractor's Notice is given after the expiry of the period stated in sub-paragraph (a) of Sub-Clause 4.7.2; and
- (c) what measures (if any) the Contractor is required to take to rectify the error

(and, for the purpose of Sub-Clause 3.7.3 [Time limits], the date the Engineer receives the Contractor's Notice under Sub-Clause 4.7.2 [Errors] shall be the date of commencement of the time limit for agreement under Sub-Clause 3.7.3).

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

☐ Clause 4.7 – Setting Out

If, under sub-paragraph (b) above, an experienced contractor would not have discovered the error:

- (i) Sub-Clause 13.3.1 [*Variation by Instruction*] shall apply to the measures that the Contractor is required to take (if any); and
- (ii) if the Contractor suffers delay and/or incurs Cost as a result of the error, the Contractor shall be entitled subject to Sub-Clause 20.2 [*Claims For Payment and/or EOT*] to EOT and/or payment of such Cost Plus Profit.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

☐ Clause 4.12 – Unforeseeable Physical Conditions

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 4.24 – Archaeological and Geological Findings

4.23

Archaeological and Geological Findings

All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Employer. The Contractor shall take all reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

The Contractor shall, as soon as practicable after discovery of any such finding, give a Notice to the Engineer in good time to give the Engineer opportunity to promptly inspect and/or investigate the finding before it is disturbed. This Notice shall describe the finding and the Engineer shall issue instructions for dealing with it.

If the Contractor suffers delay and/or incurs Cost from complying with the Engineer's instructions, the Contractor shall be entitled subject to Sub-Clause 20.2 [Claims For Payment and/or EOT] to EOT and/or payment of such Cost.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 7.4 – Testing by the Contractor

- ❖ According to clause 7.4, the **contractor** can ask for **additional time** if a delay was **suffered**, as a result of **testing required**, or as a result of a delay for which the **employer is responsible**.
- ❖ As a **starting point**, it should be considered **whether a delay was suffered** as a direct result of the **instruction for testing**.
 - ✓ However, if the **tests show** that the tested plant, material or workmanship was **not according** to the **contract**,
the **delay will not be considered excusable**; as this would **not be classified as an employer's responsibility**, as required by the clause.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 8.6 – Delays Caused By Authorities

❖ **Delays caused by authorities** would be considered according to **clause 8.5** as an excusable delay, provided the **following conditions** are met:

1. The contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in the country;
2. The authorities delayed or disrupted the contractor's work; and
3. The delay or disruption was unforeseeable.

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

☐ Clause 8.10 – Consequences of Employer's Suspension

8.10

Consequences of Employer's Suspension

If the Contractor suffers delay and/or incurs Cost from complying with an Engineer's instruction under Sub-Clause 8.9 [*Employer's Suspension*] and/or from resuming the work under Sub-Clause 8.13 [*Resumption of Work*], the Contractor shall be entitled subject to Sub-Clause 20.2 [*Claims For Payment and/or EOT*] to EOT and/or payment of such Cost Plus Profit.

The Contractor shall not be entitled to EOT, or to payment of the Cost incurred, in making good:

- (a) the consequences of the Contractor's faulty or defective (design, if any) workmanship, Plant or Materials; and/or
- (b) any deterioration, loss or damage caused by the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.9 [*Employer's Suspension*].

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 8.10 – Consequences of Employer's Suspension

- ❖ It should be considered **whether a delay** was suffered as a **result of the suspension and/or from the **resumption**** of the work after suspension.
- ❖ In addition, it should be established **whether the suspension was not a result of any wrongdoing** on the **part of the contractor**.
- ❖ If the **contractor was not responsible** for the suspension, then the **delay is excusable**.

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

☐ Clause 10.3 – Interference With Tests On Completion

❖ According to clause 10.3, if the contractor is prevented, for more than 14 days,

from carrying out the tests on completion,

by a cause for which the employer is responsible, and

the contractor suffers a delay,

the contractor is entitled to an extension of the contract period.

If the Contractor is prevented, for more than 14 days (either a continuous period, or multiple periods which total more than 14 days), from carrying out the Tests on Completion by the Employer's Personnel or by a cause for which the Employer is responsible:

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 10.3 – Interference With Tests On Completion

- ❖ The first consideration would be to **determine whether interference** with the **tests delayed** the contractor for **more than 14 days**.
 - ✓ If this was **indeed the case**, the **next decision** would be to determine **whether** the delay was as a result of a cause that the **employer was responsible** for.
 - ✓ If this answer is in the **affirmative**, the **delay can be accepted** as being an **excusable delay**.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 13.6 – Adjustment For Changes in Law

- ❖ If there are **changes** in the **laws of the country**, or in the **judicial or official governmental interpretation** of such laws,
that **delay the contractor**, clause 13.6 provides for **additional time** to be considered in this regard.

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Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 13.6 – Adjustment For Changes in Law

- ❖ It should first be determined **whether** the contractor suffered a delay as a result of a **change in law**.
- ❖ If the **contractor was delayed**, the **next consideration** would be to **determine whether** the change in law **took place** after the base date of the contract.
 1. If the change in legislation took **place before the commencement** of the project the contractor should have been **aware of the impact**.
 2. If the **change in legislation** took place **after the base date** the next decision will be to **determine whether** the relevant delay **had not already been taken** into account in the determination of a **previous extension** of time claims.
 3. If the delay had **not been previously taken** into account the delay can be considered as **excusable**.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 16.1 – Contractor’s Entitlement to Suspend Work

If:

- (a) the Engineer fails to certify in accordance with Sub-Clause 14.6 [Issue of IPC];
- (b) the Employer fails to provide reasonable evidence in accordance with Sub-Clause 2.4 [Employer’s Financial Arrangements];
- (c) the Employer fails to comply with Sub-Clause 14.7 [Payment]; or
- (d) the Employer fails to comply with:
 - (i) a binding agreement, or final and binding determination under Sub-Clause 3.7 [Agreement or Determination]; or
 - (ii) a decision of the DAAB under 21.4 [Obtaining DAAB’s Decision] (whether binding or final and binding)

and such failure constitutes a material breach of the Employer’s obligations under the Contract,

the Contractor may, not less than 21 days after giving a Notice to the Employer (which Notice shall state that it is given under this Sub-Clause 16.1), suspend work (or reduce the rate of work) unless and until the Employer has remedied such a default.

If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall be entitled subject to Sub-Clause 20.2 [Claims For Payment and/or EOT] to EOT and/or payment of such Cost Plus Profit.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

❑ Clause 16.1 – Contractor’s Entitlement to Suspend Work

- ❖ The clause also gives the contractor the **entitlement to claim** for additional time if the **suspension** of the works caused a **delay**.
- ❖ It should **first** be **determined whether** the **contractor suffered a delay** as a result of the suspension.
- ❖ The **second** consideration would be to **determine if the contractor was entitled to suspend the work** in terms of clause 14.6, clause 2.4 or clause 14.7.
 - ✓ If the **contractor was entitled** to suspend the work, the **third consideration** would be to **determine whether** the contractor provided **at least 21 days’ notice** of the planned suspension.
- ❖ If **all these conditions** were **met the provisions** of the clause were **complied with**; and the delay would be deemed **excusable**.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

□ Clause 18.1 – Exceptional Events

18.1

Exceptional Events

“**Exceptional Event**” means an event or circumstance which:

- (i) is beyond a Party's control;
- (ii) the Party could not reasonably have provided against before entering into the Contract;
- (iii) having arisen, such Party could not reasonably have avoided or overcome; and
- (iv) is not substantially attributable to the other Party.

An Exceptional Event may comprise but is not limited to any of the following events or circumstances provided that conditions (i) to (iv) above are satisfied:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;
- (b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war;
- (c) riot, commotion or disorder by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors;
- (d) strike or lockout not solely involving the Contractor's Personnel and other employees of the Contractor and Subcontractors;
- (e) encountering munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity; or
- (f) natural catastrophes such as earthquake, tsunami, volcanic activity, hurricane or typhoon.

Step 2.2 – Is the delay catered for in clause 8.5 (b)?

☐ Clause 18.1 – Exceptional Events

18.4

Consequences of an Exceptional Event

If the Contractor is the affected Party and suffers delay and/or incurs Cost by reason of the Exceptional Event of which he/she gave a Notice under Sub-Clause 18.2 [*Notice of an Exceptional Event*], the Contractor shall be entitled subject to Sub-Clause 20.2 [*Claims For Payment and/or EOT*] to:

- (a) EOT; and/or
- (b) if the Exceptional Event is of the kind described in sub-paragraphs (a) to (e) of Sub-Clause 18.1 [*Exceptional Events*] and, in the case of sub-paragraphs (b) to (e) of that Sub-Clause, occurs in the Country, payment of such Cost.

Is the delay excusable?

Is the delay catered for in clause 8.5(a)?

The Contractor shall be entitled to an extension of the Time for Completion if and to the extent that completion is or will be delayed by any of the following causes:

A Variation (unless an adjustment to the Time for Completion has been agreed under clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract.

YES ☒ NO ☒

Has an adjustment to the Time for Completion been agreed under clause 13.3 [variation procedure]?

YES ☒ NO ☒

EOT to be dealt with in terms of clause 13.3 (variation procedure)

Is the delay catered for in clause 8.5 (b)?
b) a cause of delay giving entitlement to EOT of time under a clause of these Conditions

YES ☒ NO ☒

Does the clause require additional notification?

YES ☒ NO ☒

Did the contractor give the required notification?

YES ☒ NO ☒

Was the delay as a result of the contractor's failure?

YES ☒ NO ☒

Non-Excusable

Does the clause provide for other requirements to be met?

YES ☒ NO ☒

Did the contractor meet the requirements?

NO ☒ YES ☒

Non-Excusable

Excusable

Is the delay catered for in clause 8.5 (c)?
c) exceptionally adverse climatic conditions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (d)?
d) unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (e)?
e) any delay, impediment or prevention caused by or attributable to the Employer, the employer's personnel or the Employer's other contractors.

YES ☒ NO ☒

Non-Excusable

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Step 2.3. – Is the delay catered for in clause 8.4 (c)?

- ❑ If a delay was experienced as a result of **exceptional adverse climatic conditions**, **clause 8.5 (c)** allows for the contractor to **request an extension** of the contract period.
- ❑ With the **specific reference** to **exceptional adverse climatic conditions**, it is clear that **normal** adverse climatic conditions that can be **foreseen** by assessing **annual weather records** would **not be viewed** as an **excusable delay**.
 - ❖ However, should the **contractor be able to prove** that the climatic conditions were **exceptionally adverse**; the delay would be viewed as **excusable**.

Is the delay excusable?

Is the delay catered for in clause 8.5(a)?

The Contractor shall be entitled to an extension of the Time for Completion if and to the extent that completion is or will be delayed by any of the following causes:

A Variation (unless an adjustment to the Time for Completion has been agreed under clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract.

YES ☒ NO ☒

Has an adjustment to the Time for Completion been agreed under clause 13.3 [variation procedure]?

YES ☒ NO ☒

EOT to be dealt with in terms of clause 13.3 (variation procedure)

Is the delay catered for in clause 8.5 (b)?
b) a cause of delay giving entitlement to EOT of time under a clause of these Conditions

YES ☒ NO ☒

Does the clause require additional notification?

YES ☒ NO ☒

Did the contractor give the required notification?

YES ☒ NO ☒

Was the delay as a result of the contractor's failure?

YES ☒ NO ☒

Non-Excusable

Does the clause provide for other requirements to be met?

YES ☒ NO ☒

Did the contractor meet the requirements?

NO ☒ YES ☒

Non-Excusable

Excusable

Is the delay catered for in clause 8.5 (c)?
c) exceptionally adverse climatic conditions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (d)?
d) unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (e)?
e) any delay, impediment or prevention caused by or attributable to the Employer, the employer's personnel or the Employer's other contractors.

YES ☒ NO ☒

Non-Excusable

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Step 2.4. – Is the delay catered for in clause 8.4 (d)?

- ☐ **Clause 8.5 (d)** provides for delays caused by **unforeseeable shortages** in the availability of **personnel or goods** caused by an epidemic or governmental actions.
- ☐ If the delay were a **result of these causes**, it would be accepted as an **excusable delay**.

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Is the delay excusable?

Is the delay catered for in clause 8.5(a)?

The Contractor shall be entitled to an extension of the Time for Completion if and to the extent that completion is or will be delayed by any of the following causes:

A Variation (unless an adjustment to the Time for Completion has been agreed under clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract.

YES ☒ NO ☒

Has an adjustment to the Time for Completion been agreed under clause 13.3 [variation procedure]?

YES ☒ NO ☒

EOT to be dealt with in terms of clause 13.3 (variation procedure)

Is the delay catered for in clause 8.5 (b)?
b) a cause of delay giving entitlement to EOT of time under a clause of these Conditions

YES ☒ NO ☒

Does the clause require additional notification?

YES ☒ NO ☒

Did the contractor give the required notification?

YES ☒ NO ☒

Was the delay as a result of the contractor's failure?

YES ☒ NO ☒

Non-Excusable

Does the clause provide for other requirements to be met?

YES ☒ NO ☒

Did the contractor meet the requirements?

NO ☒ YES ☒

Non-Excusable

Excusable

Is the delay catered for in clause 8.5 (c)?
c) exceptionally adverse climatic conditions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (d)?
d) unforeseeable shortages in the availability of personnel or goods caused by epidemic or governmental actions

YES ☒ NO ☒

Is the delay catered for in clause 8.5 (e)?
e) any delay, impediment or prevention caused by or attributable to the Employer, the employer's personnel or the Employer's other contractors.

YES ☒ NO ☒

Non-Excusable

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Step 2.5. – Is the delay catered for in clause 8.4 (e)?

- ☐ The **final consideration** would be to **establish whether** the cause of the delay is as a result of clause 8.5 (e) – any delay, impediment or prevention caused by or **attributable to** the employer, the employer's personnel, or the employer's other contractors.
- ☐ Should this be the **case**, the delay would be deemed **excusable**; and the next step in the **decision-tree framework** would be to determine whether the **delay is critical**.

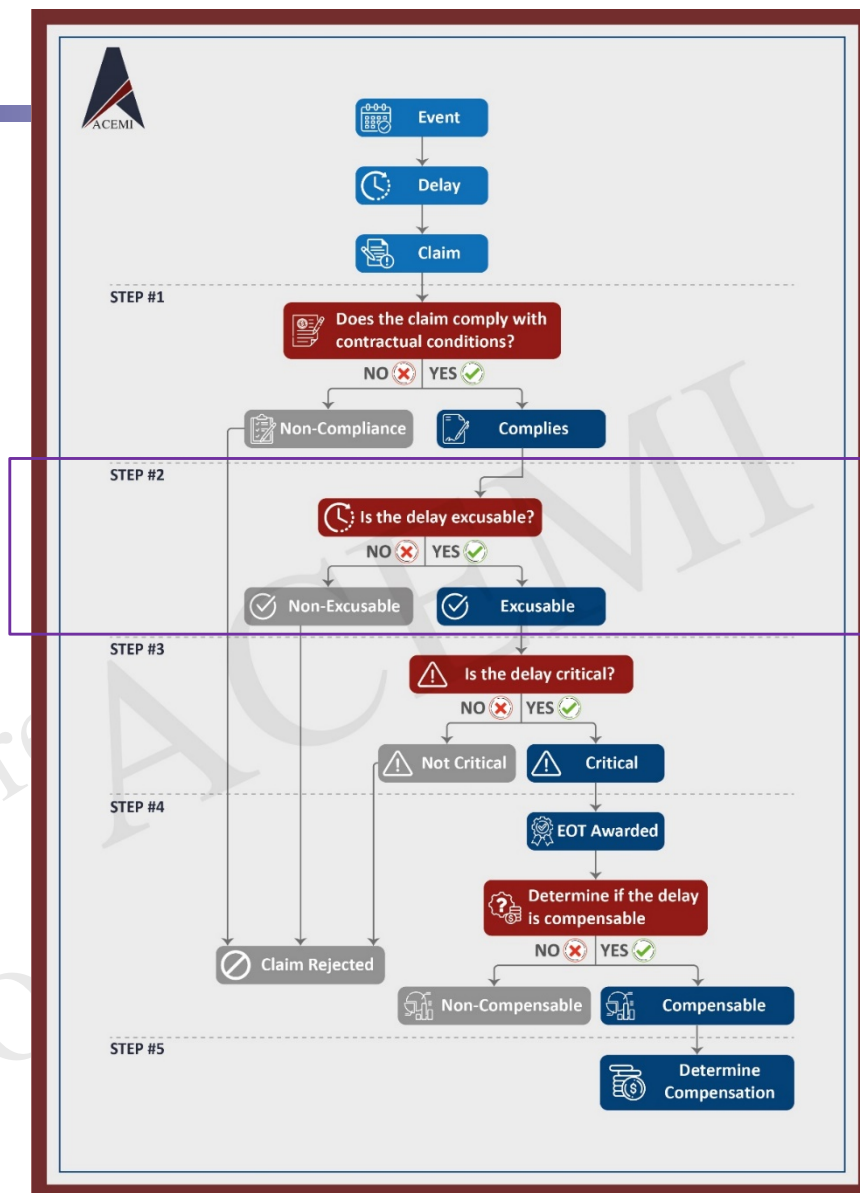
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Step 2.5. – Is the delay catered for in clause 8.4 (e)?

- ☐ If the cause of the delay is **not catered** for in clauses 8.4 (a) to (e), the claim could be **rejected**.

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Step 3 – Is the delay Critical?



- ☐ **Criticality** is **indirectly** discussed in clauses 8.4 and 17.4 of the FIDIC red book.
- ☐ Both these clauses **refer to circumstances**, which would delay completion.
- ☐ The contractor would **only be entitled** to claim for additional time for events, which would result in a delay of completion, or
in other words for **critical delays**.

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8.4

Extension of Time for Completion

The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

- (a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,
- (b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- (c) exceptionally adverse climatic conditions,
- (d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- (e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

General Conditions

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17.4 Consequences of Employer's Risks

If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Engineer and shall rectify this loss or damage to the extent required by the Engineer.

If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Engineer and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (f) and (g) of Sub-Clause 17.3 [Employer's Risks], reasonable profit on the Cost shall also be included.

After receiving this further notice, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

8.3 Programme

- (g) all activities (to the level of detail stated in the Specification), logically linked and showing the earliest and latest start and finish dates for each activity, the float (if any), and the critical path(s);

8.5 Extension of Time for Completion

The Contractor shall be entitled subject to Sub-Clause 20.2 [*Claims For Payment and/or EOT*] to EOT if the measured quantity of any item of work in accordance with Clause 12 [*Measurement and Valuation*] is greater than the estimated quantity of this item in the Bill of Quantities or other Schedule by more than ten per cent (10%) and such increase in quantities causes a delay to completion for the purposes of Sub-Clause 10.1 [*Taking Over the Works and Sections*]. The agreement or determination of any such Claim, under Sub-Clause 20.2.5 [*Agreement or determination of the Claim*], may include a review by the Engineer of measured quantities of other items of work which are significantly less (by more than 10%) than the corresponding estimated quantities in the Bill of Quantities or other Schedule. To the extent that there are such lesser measured quantities, the Engineer may take account of any favourable effect on the critical path of the Programme. However, the net effect of all such consideration shall not result in a net reduction in the Time for Completion

Introduction

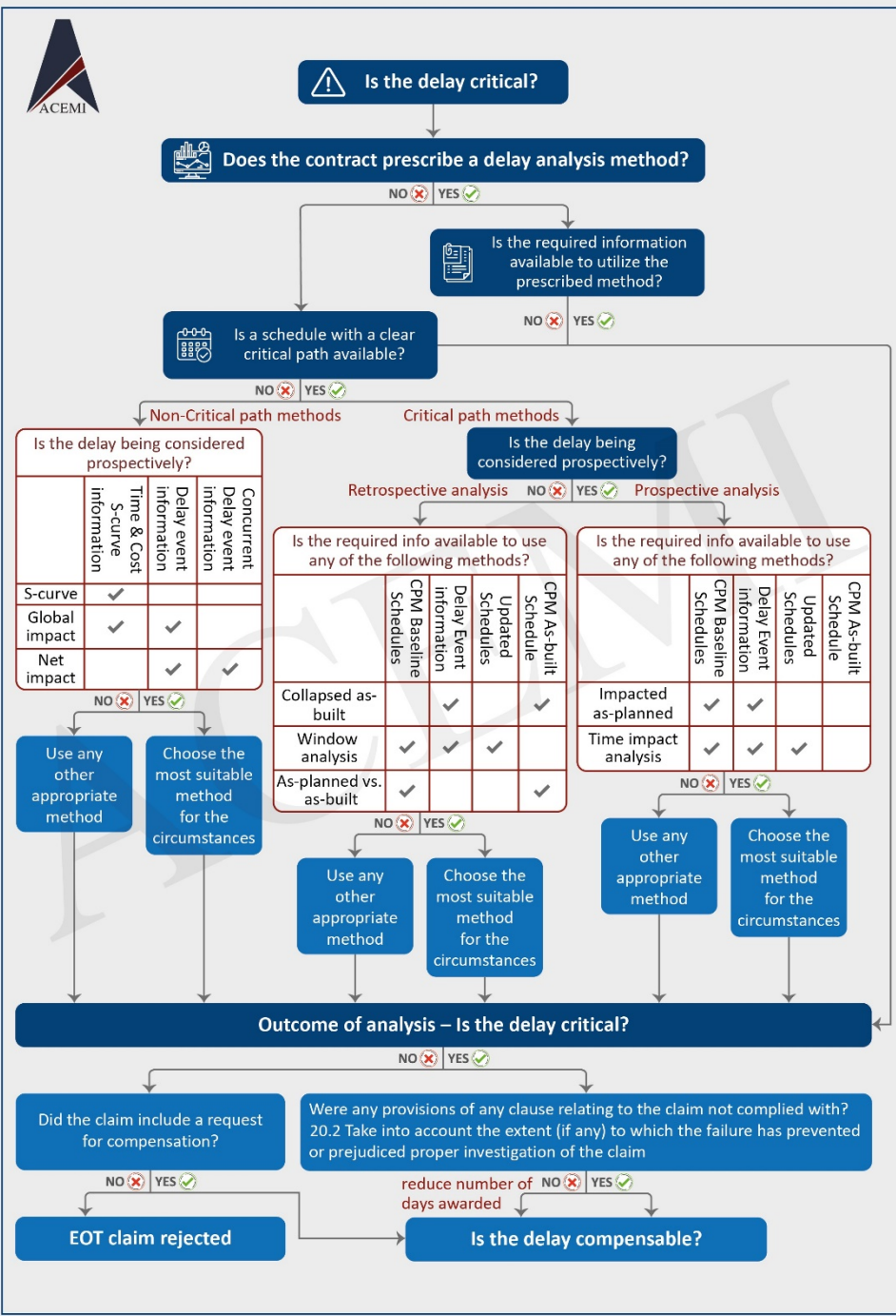
❑ According to **clause 20.2**,

the **engineer** shall **respond** to the claim,

1. indicating **whether** the claim is approved or disapproved, and
2. must provide **detailed comments**.

❑ **No mention is made** of a **specific delay analysis** method to be utilized to come to a conclusion in terms of approval or disapproval.

❑ The **choice of the delay** analysis method is **left to the discretion** of the **engineer**.



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Step 3.1 - Step 3.3: Choice of delay analysis method

- ☐ The **process to choose a suitable delay analysis method** for the FIDIC red book is the **same** as the process followed for the **AIA 201 (2017)** because **both contracts do not specify** a specific delay analysis method.
- ☐ The **steps to follow** when making this decision are described in **AIA 201 (2017) Step 3 decision tree**.

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Step 3.4 – Is the delay critical?

- ❑ The **selected analysis method** should be utilized to **determine whether** the delay was **critical**.
- ❖ The **outcome** of the **analysis process** would also provide an indication of the **number of days** the completion date was delayed.

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Step 3.4 – Is the delay critical?

❑ Step 3.4a - Did the claim include a request for compensation?

- ❖ If the **outcome** of the delay analysis shows that the delay is **not critical** no extension of the contract period would be granted.
 - ✓ FIDIC provides for **compensation** to be **considered even though no additional time** is granted.

20.2

Claims For Payment and/or EOT

If either Party considers that he/she is entitled to any additional payment by the other Party (or, in the case of the Employer, a reduction in the Contract Price) and/or to EOT (in the case of the Contractor) or an extension of the DNP (in the case of the Employer) under any Clause of these Conditions or otherwise in connection with the Contract, the following Claim procedure shall apply:

Step 3.4 – Is the delay critical?

❑ Step 3.4a - Did the claim include a request for compensation?

- ❖ If the **outcome** of the delay analysis shows that the delay is **not critical** no extension of the contract period would be granted.
 - ✓ FIDIC provides for **compensation** to be **considered even though no additional time** is granted.
 - For this reason, the **decision tree** considers **whether a request** for **compensation is made**.
 - If **no compensation** is requested the **claim** would be **rejected** but if a **compensation request** is included the cost component would still be **further considered**.

Step 3.4 – Is the delay critical?

❑ Step 3.4b - Were any provisions of a clause relating to the claim not complied with?

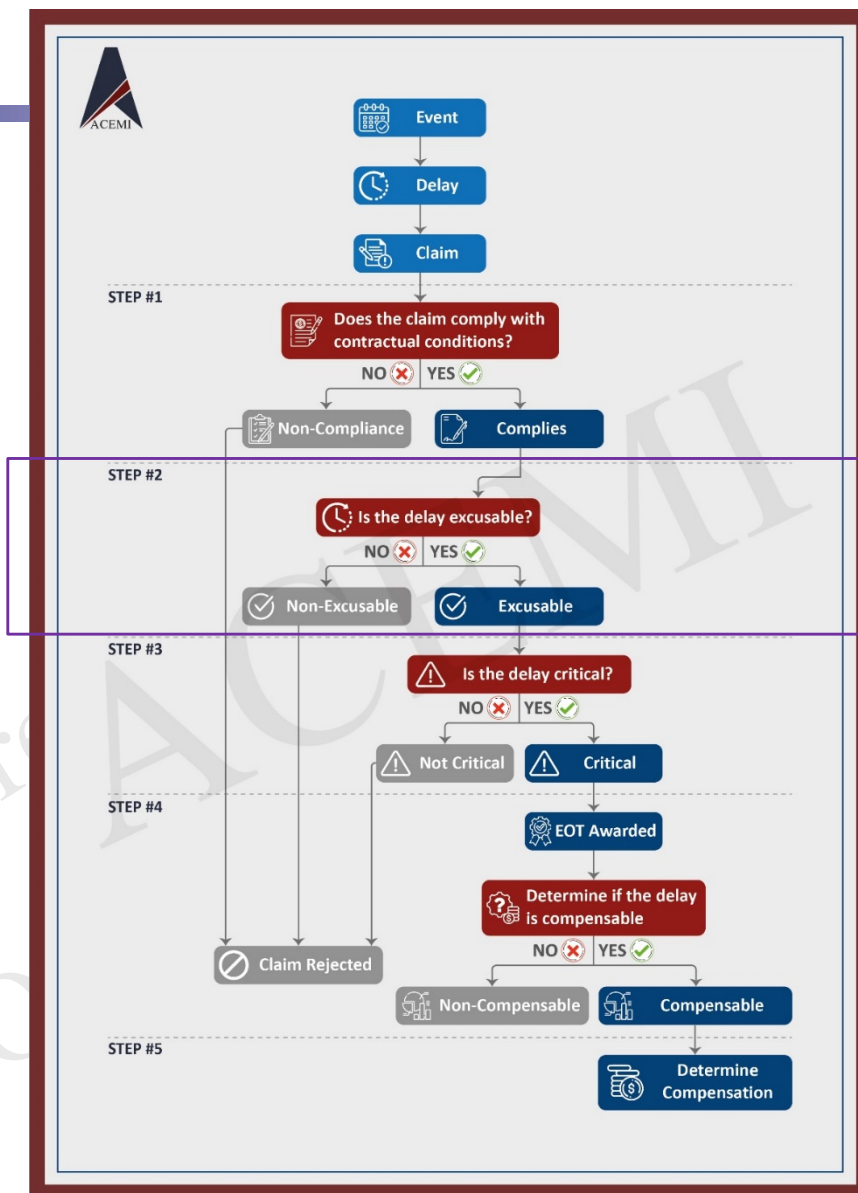
❖ The decision tree would also take into account **whether any provisions** of any of the clauses relating to the claim were **not complied with**.

✓ If this were the case, the **extent (if any)** to which the **failure has prevented or prejudiced** the proper investigation of the claim should be **taken** into account, in accordance with **clause 20.2**.

✓ This assessment might lead to the **reduction** in the number of days **awarded**, or

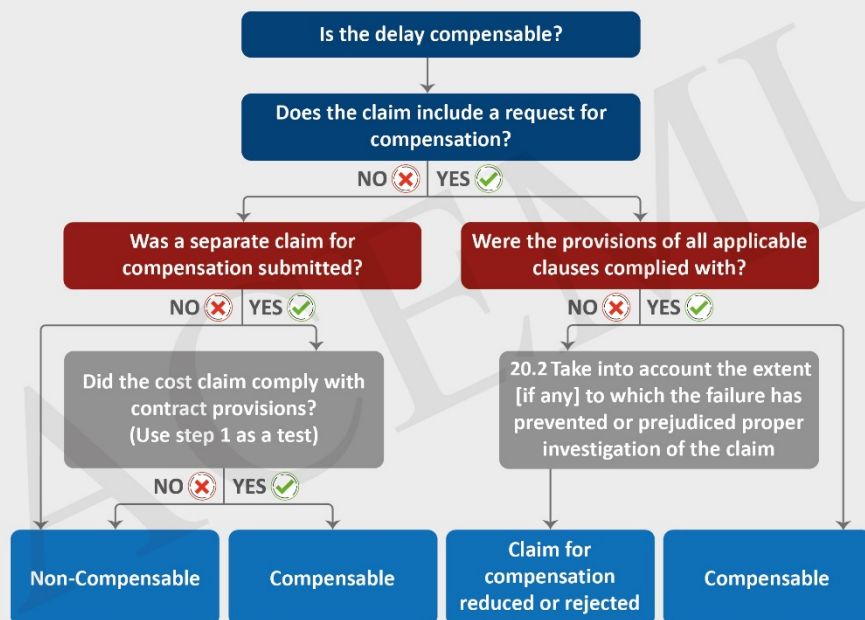
if non-compliance made it **impossible** to properly investigate the claim; it could result in the claim being **rejected**.

Step 4 – Is the delay compensable?



Introduction

- ❑ **Contrary to some** of the other construction contracts, the award of an extension of time claim in **FIDIC does not automatically** include the **payment of compensation** under certain circumstances.
- ❑ The **contractor should**, in accordance with **clause 20.1**, give **notice within 28 days** of becoming aware of an event that might result in **additional costs**.
- ❑ In practice, it is **likely that a claim** for EOT in terms of clause 20.1 would also include a **claim for compensation**.



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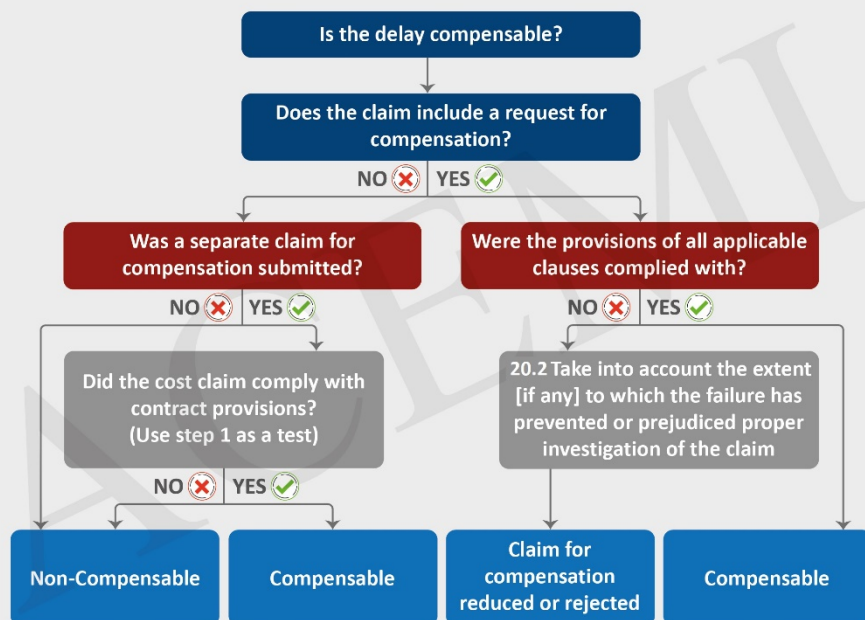
Clause number	Clause Title	Type of compensation
1.9	Delayed drawings or instructions	Cost & profit
2.1	Right of access to site	Cost & profit
4.7	Setting-out	Cost & profit
4.12	Unforeseeable physical conditions	Cost
4.24	Fossils	Cost
7.4	Testing	Cost & profit
8.9	Consequences of suspension	Cost
10.2	Taking over parts of the work	Cost & profit
10.3	Interference with tests on completion	Cost & profit
11.2	Cost of remedying defects	Compensation determined in terms of clause 13.3 variation orders
11.8	Contractor to search	Cost & profit
12.4	Omissions	Cost
13.2	Value engineering	50% of saving
13.3	Variation order	Compensation determined in terms of clause 12.3 evaluations
13.7	Adjustment or changes in legislation	Cost
15.5	Employer's entitlement to terminate	Cost & damages
16.1	Contractor's entitlement to suspend work	Cost & profit
16.4	Payment on termination	Cost, profit & damages
17.4	Consequences of employer's risk	Cost & profit in some instances
19.4	Consequences of force majeure	Cost
19.6	Optional termination, payment and release	Cost
19.7	Release from performance under the law	Cost

<i>Clause number</i>	<i>Clause Title</i>	<i>Type of compensation</i>
1.9	Delayed drawings or instructions	Cost & profit
2.1	Right of access to site	Cost & profit
4.7	Setting-out	Cost & profit
4.12	Unforeseeable physical conditions	Cost
4.23	Archaeological and geological findings	Cost
7.4	Testing by the contractor	Cost & profit
8.10	Consequences of employer's suspension	Cost & profit
10.2	Taking over parts	Cost & profit
10.3	Interference with tests on completion	Cost & profit
11.2	Cost of remedying defects	Compensation determined in terms of clause 13.3 variation orders
11.8	Contractor to search	Cost & profit
12.4	Omissions	Cost
13.2	Value engineering	Particular conditions
13.3	Variation order	Compensation determined in terms of clause 12.3 valuation of the works
13.6	Adjustment or changes in laws	Cost
15.5	Termination for employer's convenience	Cost & damages
16.1	Suspension by contractor	Cost & profit
16.4	Payment after termination by contractor	Cost, profit & damages
18.4	Consequences of an exceptional events	Cost & profit in some instances
18.5	Optional termination	Cost
18.6	Release from performance under the law	Cost

Step 4.1 – Does the claim include a request for compensation?

- ☐ The decision tree considers as a **starting point whether** the claim includes a **request for compensation**.

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Step 4.2 – Was a separate claim for compensation submitted?

❑ If the claim did **not include a request** for compensation it **cannot immediately** be categorized as **non-compensable**

because the **FIDIC makes provision** for **cost claims** to be submitted independently from the extension of time claims.

❖ The decision tree continues to consider **whether a separate claim** for cost was submitted.

✓ In **cases where a separate cost claim** was submitted the **Step 1 decision tree** can be utilized to **test compliance** with the contract provisions.

➤ If the **cost claim did not comply** with **notification provision** it is non-compensable.

Step 4.2 – Was a separate claim for compensation submitted?

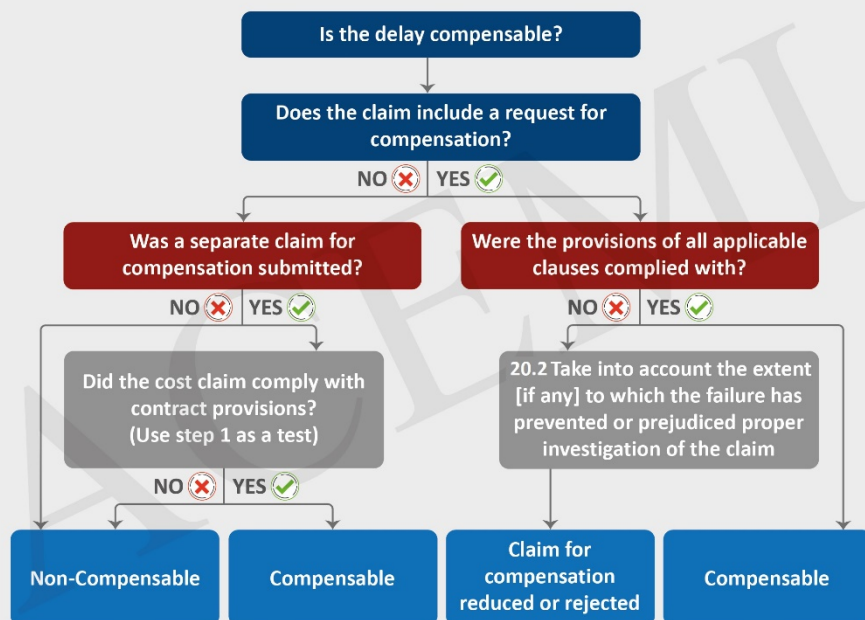
- ☐ If the **notification provision** was **complied** with, **Step 1** will further test other compliance issues.
- ☐ The **outcome might** be that
 1. the claim is deemed compensable or
 2. the cost can be reduced or rejected as a result of any compliance failure by the contractor in terms of the following provision in clause 20.2:

Step 4.2 – Was a separate claim for compensation submitted?

☐ **20.2** If the **Contractor fails** to comply with this or another Clause in relation to any claim,

any extension of time and/or additional payment shall take account of the extent (if any) to which the **failure has prevented or prejudiced** proper investigation of the claim.

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Step 4.3 – Were the provisions of all applicable clauses complied with?

- ❑ In step 4.3 the decision tree **tests whether** the provisions of **all applicable clauses** were **complied** with.
 - ❖ If the **provisions** of the relevant clauses were **not complied with**, the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim should be taken into account, as stipulated by clause 20.2.
 - ✓ The outcome of the **assessment might** result in the compensation being **reduced or not awarded**.

Step 4.3 – Were the provisions of all applicable clauses complied with?

☐ If the **provisions were complied** with, then compensation is **payable**.

The **specific clause** would provide guidance on how the compensation should be determined – **see table**.

<i>Clause number</i>	<i>Clause Title</i>	<i>Type of compensation</i>
1.9	Delayed drawings or instructions	Cost & profit
2.1	Right of access to site	Cost & profit
4.7	Setting-out	Cost & profit
4.12	Unforeseeable physical conditions	Cost
4.23	Archaeological and geological findings	Cost
7.4	Testing by the contractor	Cost & profit
8.10	Consequences of employer's suspension	Cost & profit
10.2	Taking over parts	Cost & profit
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13.2	Value engineering	Particular conditions
13.3	Variation order	Compensation determined in terms of clause 12.3 valuation of the works
13.6	Adjustment or changes in laws	Cost
15.5	Termination for employer's convenience	Cost & damages
16.1	Suspension by contractor	Cost & profit
16.4	Payment after termination by contractor	Cost, profit & damages
18.4	Consequences of an exceptional events	Cost & profit in some instances
18.5	Optional termination	Cost
18.6	Release from performance under the law	Cost

Float Ownership

Float ownership in FIDIC

❑ While FIDIC is a commonly utilized standard contract, it does **not explicitly** address the **concept of float**.

❖ We have observed that when a contract **lacks explicit provisions** regarding this matter,

the existing clauses **tend to be too ambiguous** to provide **precise guidance** on

1. handling float,
2. **its ownership** and
3. any resulting **extension of time (EOT) entitlements**.

The programme: a key management tool

❑ Now the Second Edition of the FIDIC form, following the approach of the **2011 Red**

Book subcontract,

not only mandates the **software to be used**

but also sets out that the **contract programme** must include

all (logically linked) activities, and

set out the sequence and timing of inspections and tests.

8.3

Programme

The Contractor shall submit an initial programme for the execution of the Works to the Engineer within 28 days after receiving the Notice under Sub-Clause 8.1 [Commencement of Works]. This programme shall be prepared using programming software stated in the Specification (if not stated, the programming software acceptable to the Engineer). The Contractor shall also submit a revised programme which accurately reflects the actual progress of the Works, whenever any programme ceases to reflect actual progress or is otherwise inconsistent with the Contractor's obligations.

The programme: a key management tool

□ In addition,

1. all key dates must be identified, and
2. all activities are to be logically linked, also
3. identifying float, rest days and holidays as well as the delivery of materials.
4. A supporting method statement is also required.

8.3

Programme

The programme: a key management tool

❑ FIDIC's **emphasis** here is very much on a **more effective approach** to project management, including not just the activities on site but those activities that **lead up to the effective construction work** at the site;

in other words,

1. **everything not only in relation** to the contract but also
 2. in relation to the **effective running of the project**.
- ❖ This **all helps explain why one** of the final paragraphs of the new sub-clause 8.3 **notes that**:

The programme: a key management tool

- ❑ *“The Contractor shall proceed in accordance with the Programme, subject to the Contractor’s other obligations under the Contract.*
- ❑ *The Employer’s Personnel shall be entitled to rely on the Programme when planning their activities.”*

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The programme: a key management tool

- ❑ The programme is there to **benefit** the **whole project**.
 - ❖ For example, **sub-clause 2.1** notes that the **Contractor** is **not given exclusive access to the site**.
 - ❖ Accordingly, the **Employer and Engineer** may well **rely on the Contractor's programme information** to **plan the requirements** of other parties **who may need access to the site**.

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Sub-clause 8.3 [Programme]

- ☐ The **Contractor** is required to proceed as **set out by his programme**,
unless he receives Notice from the **Engineer** stating that the programme does
not reflect either
- 1. actual progress on site** or
 - 2. requirements of the Contract.**

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Sub-clause 8.3 [Programme]

❑ Obviously this programme will **not only** be used to

1. demonstrate **progress**, but also
2. demonstrate whether any **delay may cause a delay to completion**.

✓ By sub-clause 4.20(h), the Contractor must submit **monthly progress reports**.

➤ These must include a comparison of planned and actual progress.

By sub-clause 14.3, **these reports** are a precondition to payment.

(h) comparisons of actual and planned progress, with details of any events or circumstances which may adversely affect the completion of the Works in accordance with the Programme and the Time for Completion, and the measures being (or to be) adopted to overcome delays.

Sub-clause 8.3 [Programme]

- ❑ Obviously this programme will **not only** be used to
1. demonstrate **progress**, but also
 2. demonstrate whether any **delay may cause a delay to completion**.
- ✓ By sub-clause 4.20(h), the Contractor must submit **monthly progress reports**.
- These must include a comparison of planned and actual progress.
- By sub-clause 14.3, **these reports** are a precondition to payment.

14.3

Application for Interim Payment

The Contractor shall submit a Statement to the Engineer after the end of the period of payment stated in the Contract Data (if not stated, after the end of each month). Each Statement shall:

- (a) be in a form acceptable to the Engineer;
- (b) be submitted in one paper-original, one electronic copy and additional paper copies (if any) as stated in the Contract Data; and
- (c) show in detail the amounts to which the Contractor considers that the Contractor is entitled, with supporting documents which shall include sufficient detail for the Engineer to investigate these amounts together with the relevant report on progress in accordance with Sub-Clause 4.20 [Progress Reports].

Sub-clause 8.3 [Programme]

❑ The **positive obligation** on the Contractor to update the programme **whenever** it ceases to reflect actual progress remains.

❖ Further, by **sub-clause 8.3(k)(v)**, the **Contractor is required** to provide **proposals** to overcome the effects of any **delays to progress**;
perhaps another example of the movement towards **transparency**.

✓ It is also something that the **Contractor may need to do**, as part of the consultations following any **advance warning** given under sub-clause

8.4.

- (k) a supporting report which includes:
 - (i) a description of all the major stages of the execution of the Works;
 - (ii) a general description of the methods which the Contractor intends to adopt in the execution of the Works;
 - (iii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel, and of each type of Contractor's Equipment, required on the Site, for each major stage of the execution of the Works;
 - (iv) if a revised programme, identification of any significant change(s) to the previous programme submitted by the Contractor; and
 - (v) the Contractor's proposals to overcome the effects of any delay(s) on progress of the Works.

Sub-clause 8.5 Extension of time for completion

8.5

Extension of Time for Completion

The Contractor shall be entitled subject to Sub-Clause 20.2 [*Claims For Payment and/or EOT*] to EOT if the measured quantity of any item of work in accordance with Clause 12 [*Measurement and Valuation*] is greater than the estimated quantity of this item in the Bill of Quantities or other Schedule by more than ten per cent (10%) and such increase in quantities causes a delay to completion for the purposes of Sub-Clause 10.1 [*Taking Over the Works and Sections*]. The agreement or determination of any such Claim, under Sub-Clause 20.2.5 [*Agreement or determination of the Claim*], may include a review by the Engineer of measured quantities of other items of work which are significantly less (by more than 10%) than the corresponding estimated quantities in the Bill of Quantities or other Schedule. To the extent that there are such lesser measured quantities, the Engineer may take account of any favourable effect on the critical path of the Programme. However, the net effect of all such consideration shall not result in a net reduction in the Time for Completion

Concurrency

Assessing an entitlement to an extension of time

- ❑ **Sub-clause 8.5** of the FIDIC Second Edition also makes a **reference to concurrency**, saying that

*if a delay caused by the Employer is concurrent with a Contractor delay, then the entitlement to an extension of time shall be assessed: “in accordance with the rules and procedures stated in the **Special Provisions**”.*

If a delay caused by a matter which is the Employer's responsibility is concurrent with a delay caused by a matter which is the Contractor's responsibility, the Contractor's entitlement to EOT shall be assessed in accordance with the rules and procedures stated in the Special Provisions (if not stated, as appropriate taking due regard of all relevant circumstances).

Assessing an entitlement to an extension of time

- ❑ This **rather neutral comment** will of course have the **effect of raising the issue** of concurrency as a matter that needs to be dealt with by the Parties when they negotiate and finalize the contract.

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Assessing an entitlement to an extension of time

- ❑ Civil law codes tend **not to make express provision** for concepts such as **concurrency**.
- ❖ As a general consideration, if the **contract does not provide** the answer, then it is **quite possible**, bearing in mind the **general requirements** of good faith and fairness,
that the **civil law** approach might tend to favour **apportionment**.
 - ✓ The variety of approaches is probably why **FIDIC have chosen** not to make a definitive statement on this topic.

Assessing an entitlement to an extension of time

- ☐ Civil law codes tend **not** to make express provision for concepts such as **concurrency**.

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 تأخیرات همزمان، این تاخیرات مجاز شمرده شده و صرفاً تمدید 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.

8.5 [Extension of Time for Completion]

❑ Finally, the **sub-clause raises** the question of concurrency. However, the addition **does not provide any definition:**

❖ “If a delay caused by a matter which is the Employer’s responsibility is concurrent with a delay caused by a matter which is the Contractor’s responsibility, the Contractor’s entitlement to EOT shall be assessed in accordance with the rules and procedures stated in the Particular Conditions **(if not stated, as appropriate taking due regard of all relevant circumstances).**”

8.5 [Extension of Time for Completion]

- ❑ Therefore the **actual approach** will be determined by the words and law of the contract.
- ❑ However, the second edition of the Society of Construction Law **is referenced by FIDIC in the Special Provisions**.

Sub-Clause 8.5

Extension of Time for Completion

The final paragraph of this Sub-Clause provides that the rules and procedures for assessing the Contractor's entitlement to an EOT where there is concurrency between delays attributable to both Parties shall be stated in the Special Provisions. This provision has been drafted by FIDIC in this manner because there is no one standard set of rules/procedures in use internationally (though, for example the approach given in the Delay and Disruption Protocol published by the Society of Construction Law (UK):

https://www.scl.org.uk/sites/default/files/SCL_Delay_Protocol_2nd_Edition_Final.pdf is increasingly being adopted internationally) and different rules/procedures may apply in different legal jurisdictions.

In preparing the Special Provisions, therefore, it is strongly recommended that the Employer be advised by a professional with extensive experience in construction programming, analysis of delays and assessment of extension of time in the context of the governing law of the Contract.

□ The **Protocol** goes on to say at **paragraph 10.2** that:

- ❖ “Where concurrent delay has been established, the Contractor should be entitled to an **EOT for the Employer Delay to Completion** ...
- ❖ The **Contractor Delay** should **not reduce the amount of EOT** due to the Contractor as a result of the Employer Delay.”

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14. Concurrent delay – effect on entitlement to compensation for prolongation

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

- 14.3 Where an Employer Delay to Completion and a Contractor Delay to Completion are concurrent, the Contractor may not recover compensation in respect of the Employer Risk Event unless it can separate the loss and/or expense that flows from the Employer Risk Event from that which flows from the Contractor Risk Event. If it would have incurred the additional costs in any event as a result of concurrent Contractor Delay, the Contractor will not be entitled to recover those additional costs. In most cases this will mean that the Contractor will be entitled to compensation only for any period by which the Employer Delay exceeds the duration of the Contractor Delay.



فرمول جامع برای تدوین لایحه تاخیرات (بر اساس دو قرارداد FIDIC و AIA)

بخش پنجم: نکات کلیدی برای پیاده‌سازی مدل آینده‌نگر و گذشته‌نگر TIA به شکل حرفه‌ای

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What we will learn?

- ☐ Prospective and Retrospective Time Impact Analysis
- ☐ Understanding Float
- ☐ Understanding Concurrent Delay
- ☐ TIA Contract Requirements
- ☐ TIA Requirements
 - ☐ Prospective and retrospective provision
 - ☐ Sharing the Float
 - ☐ Concurrent Delay

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What we will learn?

- ☐ Definition of TIAs
- ☐ Preparation of TIAs
- ☐ Review of the MBTA Delay Provisions Clauses
- ☐ Post-Construction TIA
- ☐ Case Review No. 1
- ☐ Case Review No. 2
- ☐ Guideline

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Prospective and Retrospective Time Impact Analysis

- ❑ The **vast majority of construction contracts** for major construction programs today contain **Critical Path Method (CPM) scheduling specifications** that include **Time Impact Analysis** ("TIA" requirements relative to evaluating the time-related effect of changes and delays in the work on a project's schedule and the contract time.
- ❑ These requirements typically require a contractor to
 1. prepare schedule "**fragnets**" (fragmentary networks) and
 2. "utilize the schedule **update** in effect at the time a change is issued or a **delay occurs**" for purposes of substantiating, **prospectively**, contractor's entitlement to an extension of the contract time

- ❑ Time impact analysis procedures have been in use since the **mid 1960's**.
- ❑ **While** in concept these procedures are **logical** and **appear to be rather straightforward** in terms of their use,
the **application of these procedures** during construction are fraught with **problems** arising from

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- (i) **scheduling specifications** that fail to **differentiate** between and **define the steps** to be taken in **evaluating the time impact** associated with changes and delays on a prospective (in advance of performance) versus a retrospective (after-the-fact) basis;
- (ii) **misunderstanding** with respect to the **differences** between the **preparation** of a TIA for a change or delay in the work on a prospective versus a retrospective basis;
- (iii) **disagreements** between owners and contractors over the **durations** and **logic** in **contractor schedule fragnets**; and
- (iv) **disagreements** with respect to the manner in which **contractors propose** to **incorporate fragnets** into the project schedule

- ❑ The **failure to properly utilize** time impact analysis procedures **undermines** the **effective utilization** of a schedule as a forward looking management tool, and can **likewise render** the schedule ineffective for purposes of **contemporaneously** evaluating the effects of changes and delays in the work.
- ❖ In such a situation, a **project schedule** can become **nothing more than** a mere progress payment tool
that is **submitted** to an owner on a **monthly basis** in support of a contractor's progress payment request.

❑ In terms of the actual scheduling of the work, in the **absence** of a viable CPM schedule,

contractors **typically default** to the use of two to three-week look ahead bar charts in an effort to manage their projects;

albeit on a **short-term, rolling basis**, with **no clear long term picture** as to what work is actually critical as of any point in time, or when the project will be completed.

❖ Under such circumstances, contractors **resort** to reserving **their rights** to claim with respect to every problem, change, and perceived delay that occurs.

❖ And, **everyone prepares** for the inevitable dispute at the end of the job.

How, if at all, can this be avoided?

❑ The answer lies in

- (1) gaining a more **thorough understanding** of the time impact analysis process and the **steps involved** in preparing prospective and retrospective time impact analyses, and
- (2) **increasing** one's insight into how and why the process often **fails**.

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□ This section

- (a) **examines** TIA requirements and provisions within those requirements that can **undermine** their **successful** application,
- (b) **suggests** contractual language relative to the **preparation** of both prospective and retrospective TIAs,
- (c) **reviews** the steps required to **prepare** prospective and retrospective TIAs, and
- (d) **discusses** the application of **retrospective** time impact analysis procedures in **post-construction disputes**.

Overview

- ❑ The concept of "**equitable adjustment**" is **fundamental** to an understanding of the principles, procedures, and recommendations discussed in this section.
- ❑ The **typical changes clause**, such as
that used in the United States Government Standard Form 23A,
requires an "**equitable adjustment**" in the contract sum and
performance time
when the government issues or causes changes or delays in the
work.

Equitable adjustment

- ❑ In Bruce Construction, the **Court of Claims** stated that the **basic purpose** of an equitable adjustment is

"to leave the contractor whole when the Government modifies a contract."

- ❑ This statement has been **widely quoted** as stating the **basic theory** of equitable adjustment.

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Equitable adjustment

- ❑ The author of a law review article most aptly described the theory of equitable adjustment as the **"leave them where you found them" theory**, meaning that the purpose of an equitable adjustment:
*"is to leave the parties in the **same position** cost-wise and profit-wise as they would have occupied had there been **no change**, **preserving** them each as nearly as possible the **advantages and disadvantages** of their bargain."*

Equitable adjustment

❑ **Consistent** with the theory of **equitable adjustment**,

where the **price of a change order** is negotiated prior to performance of the changed work,

the **rule consistently followed** by courts and boards recognizes that estimated costs are **properly useable**,

provided that they constitute the **most accurate cost information** available at the **time** of the pricing.

❖ Where **changed work** is performed prior to **negotiating** a price, however, the **actual costs** incurred are available and are presumed **reasonable**.

Equitable adjustment

- ❑ The **concept** of equitable adjustment is **equally applicable** with respect to evaluation of the **time-related effect** of changes or delays in the work.
 - ❖ Thus, where the effect of a change on a project schedule is **evaluated in advance** of performance of the **changed work**,
it is appropriate to estimate or predict the impact of the change **prospectively**.
- ❑ The **utilization of prospective** time impact analysis procedures, such as those included in the Army Corps of Engineers Modification Impact Evaluation Guide and Veteran's Administration's VACPM Handbook,
are rooted in the **desire of owners** to protect their financial interests.

Equitable adjustment

- ❑ **Owners** want to identify and resolve **all issues** related to cost and time associated with the performance of **changed work** in advance of performance,
such that the **owner can shift the risk** associated with the performance of changed work to the contractor,
thus **limiting** its (the owner's) **exposure** to requests for additional time and compensation **after the changed work** has been **performed**.

Equitable adjustment

- ❑ At the **same time**, **owners are concerned** with maintaining
 - ❖ forward-looking viability of the project schedule and
 - ❖ its utility in performing future prospective time impact analyses.

- ❑ While the desire to achieve these objectives is **certainly understandable**,
as a matter of **practical reality**, they are **often difficult**, and sometimes,
given project conditions, **impossible to achieve**.

Real world of construction

- ❑ In the **real world of construction**, the **vast majority** of changed work is performed and delays occur **prior** to the time contractors **meet** with an owner to discuss their entitlement to an extension of the contract time.
- ❑ As is discussed in more detail later in this section, the problem presented by this situation is that **while the vast majority** of Time Impact Analysis requirements include provisions relative to the performance of **prospective time impact analyses**, the **majority of them do not** include requirements for performing **retrospective analyses**.
- ❑ As a result, in situations where changed work is performed or a delay occurs prior to the time the parties attempt to negotiate a time extension related to same, the **parties in the absence of a contractually-specified means** for analyzing these situations are **left to their own devices** in attempting to resolve the responsibility for and amount of the time extension to which a contractor may be entitled.

Understanding Float

Understanding float

- ☐ **Whether you are preparing** a time impact analysis on a prospective or retrospective basis, it is important to understand schedule float in terms of what it is, and "who owns it."
- ☐ The difference between the maximum time available within which to perform an activity and the duration of an activity is known as **total float**.

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- ❑ Courts and boards of contract appeals have typically equated "float" with "**total float.**" The General Services Administration Board of Contract Appeals has defined "float time" as follows:

Those paths which do not lie on the critical path have certain flexibility in that there is a difference between the earliest and latest expected times for a particular event. This difference, called "total float" in CPM, allows the manager latitude in the scheduling of non-critical activities that originate or terminate at that event, and to affect tradeoffs of resources to shorten or control his project. Total float is the time any given activity may be delayed before it will affect the project completion time. It is the difference between the latest start time and earliest start time. It is also the difference between the latest finish and the earliest finish.

- ☐ The **above definition** of float is **consistent** with the view **other courts and boards** have taken in which they have viewed "float" to mean "total float."

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Total float

- ❑ Early decisions held that the **contractor**, not the owner, **owned schedule float**.
- ❑ As **critical path method delay analysis** began to grow in terms of its **acceptance by courts and boards**,
however, these tribunals departed from their traditional view and approach to float ownership issues,
focusing not on "who owned the float" perse but on whether the delay(s) in question affected the project's critical path.
- ❑ **Two cases**, which were decided by the General Services Board of Contract Appeals, marked the shift in **focus from "float ownership"** to whether delay impacted the **project's critical path.**

Total float

- ❑ In the **first case**, the Board defined the issue to be *whether the delay alleged* by the contractor **"caused any delay in project completion."**
- ❖ On reconsideration, the **Board affirmed** its decision stating that **although Government delay did exist**,
it was of **no consequence** since that delay did not affect the project's critical path."

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Total float

- ❑ In the **second case**, the **Board denied** the **contractor a time extension** in a situation where the **Government** had caused **delays to certain activities** on the project.
- ❖ In this case, the **Board found** that the contractor was not entitled to a time extension for alleged Government delay **because there was no showing** that the **project's critical path was actually affected** by the alleged delay or that any project delay was actually caused by the alleged Government conduct.

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Total float

- ❑ **These cases and numerous others** confirm the court's and board's current approach to dealing with delay and time extension analysis, which is, in essence, that "**the project owns the float.**"

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Total float

- ❑ In **order to clarify the owner's position** with respect to the manner in which float is to be used in managing a project and evaluating time extensions,

owners often include float-sharing clauses in their time impact analysis requirements that address "float ownership" and provide, in essence, that "the project owns the float."

An ex-ample of such a clause is as follows:

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Understanding float

Activity delays shall not automatically mean that an extension of the Contract Completion Date is warranted or due the Contractor. A Contract Modification or delay may not affect existing critical activities or cause non-critical activities to become critical. A Contract Modification or delay may result in only absorbing a part of the available total float that may exist within an activity chain on the network, thereby not causing any effect on any interim milestone date or the Contract Completion Date. Total float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, for each and every activity in the schedule. Float is not for the exclusive use or benefit of either the Owner or the Contractor. Extensions of time to interim milestone dates or the Contract Completion Date under the Contract will be granted only to the extent that the equitable time adjustments to the activity or activities affected

by the Contract Modification or delay exceeds the total float of the affected activity or subsequent paths and extends any interim milestone date or the Contract Completion Date.

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Understanding Concurrent Delay

Concurrent delay

- ❑ It is also important when performing a **time impact analysis**,
to **understand concurrent delay** and its **impact** upon a contractor's entitlement to an extension of time.
- ❑ Although it is **not the purpose** of this Section to thoroughly treat this topic, for **purposes of discussion** the following basic principles are noted.

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Concurrent delay

- ❑ Concurrent delay exists when **two or more separate delay events** occur during the same time period.
- ❑ The **traditional view** of the courts and boards has been that when Government delay is concurrent or intertwined with contractor or excusable delays, **neither party** should be **able to recover** from the other for that period of delay.
 - ❖ Thus, the **owner cannot recover** liquidated damages and the **contractor cannot recover** costs of delay."

Concurrent delay

- ❑ With respect to the **apportionment** of time and damages,
the **courts have adopted the view** that when both parties to a contract breach
their contractual obligations by delaying performance,
a **court must assess** the delays **attributable** to each party and apportion
damages accordingly."

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Concurrent delay

- ❑ In order to **apportion damages** a court or board must be in the position to apportion delays between the parties.
 - ❖ This point is made taking into account the possible outcomes **when it is impossible to apportion** delays; namely:
 1. where contractor-caused delay is concurrent with owner-caused delay, the **contractor may not recover** its increased costs resulting from delay;
 2. where non-compensable delays are concurrent with Government-caused delays, a **contractor may not recover** its increased costs resulting from the delay; and,
 3. where the **owner has contributed to project delay** and such contribution **cannot be separated from other causes of delay**,
liquidated damages may not be enforced by the owner."

Concurrent delay

- ❑ A **party asserting entitlement** to a delay-based claim **must offer proof** reflecting a clear **apportionment** of the delay.
- ❑ In this regard, there are **numerous decisions** which address the **proof required** to **establish entitlement** to an extension of time and that required to establish a claim for **delay costs**.

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Concurrent delay

- ❑ In an **Armed Services Board of Contract Appeals** case,
the Board, in discussing the effect of concurrent delays, noted that **concurrent delay** does not bar **extensions of time**,
but it does bar monetary compensation for **daily fixed overhead costs** because
such costs would be **incurred** on account of the concurrent delay
even if the Government-responsible delay had **not occurred**.

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Concurrent delay

❑ In an **Armed Services Board of Contract Appeals** case,

the Court, in evaluating the record regarding various delays, indicated that **although** its **findings established** that the **contractor had incurred many delays** through its own fault and that of **its subcontractors** that prevented it from timely completing its work under the contract,

the **record also established** that the **Government had contributed** to the delays by **issuing change orders**.

Under the circumstances, the Court determined that the delays were not compensable and thus did not entitle the contractor to delay damages; although the Government's actions relieved the contractor from liability for liquidated damages.

Concurrent delay

- ❑ Likewise, in a **General Services Board of Contract Appeals case**," in which the Board addressed the issue of concurrent delay, the Board stated:

A delay for which the Government is responsible is excusable by definition, and it may also be compensable. The rule is that for a delay to be compensable under either the Changes clause or the Suspension of Work clause, it must result solely from the Government's action... If a period of delay can be attributed simultaneously to the actions of both the Government and the contractor, there are said to be concurrent delays, and the result is an excusable but not a compensable delay...

Concurrent delay

- ❑ In **Freeman-Darling, Inc.**, the General Services Board of Contract Appeals addressed the issues of a **contractor's compensable delay claim**, the owner's assessment of liquidated damages, and the effect of **apportionment of delay**.
- ❑ In this regard, in **denying** the **contractor's entitlement** to the recovery of delay costs, while at the same time finding that the **contractor should not be assessed liquidated damages**, the Board stated:

That delay was concurrent with delays due to changes and strikes. The law is well settled that where both parties contribute to the delay neither can recover damages, unless there is clear evidence by which we can apportion the delay and the expense attributable to each part.²¹ Since no method is apparent for apportioning the delays, appellant may not recover increased costs for the period of June 25 to August 2, 1982. Correspondingly, for purposes of liquidated damages, appellant must be credited with an extension equal to the delay that occurred during that period.

Critical path and concurrent delays

❑ In terms of the application of **critical path method scheduling** techniques to the **apportionment** of concurrent delays,

a **number of cases** provide insight as to how courts and boards view and utilize CPM **techniques and principles**.

The following cases are instructive.

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Critical path and concurrent delays

- ❑ The decision in "Utley-James" reflects the willingness of Boards to apportion concurrent delays, noting at page 89,109:

When venturing into this area, we must be wary of deciding too readily that there was a concurrent delay. We considered this issue in *Warwick Construction, Inc.*²³ and concluded that, at the very least, we would not require a contractor claiming a compensable delay to prove that in the absence of the Government's delaying actions it would have completed the job on schedule. However, we also adverted in *Warwick* to the basic principle of *Wunderlich Contracting Co. v. United States*,²⁴ which requires that a contractor seeking compensation establish 'the fundamental facts of liability, causation, and resulting injury.' That, we said, 'has always been the law,' and we adhere to it in this appeal as we have in the past.

The lesson of *Warwick* is that certain kinds of second-guessing are proscribed. To take an easy example, if the job schedule was originally such that the contractor needed certain widgets on hand by January 1, but because of a six-month delay attributable to the Government, the contractor rescheduled the delivery for July 1, the Government cannot be heard to say the delays were concurrent because the contractor would have had to wait six months for the widgets anyway. In such a situation there is no reason to doubt that the contractor could have had the widgets on January 1 and proceeded on schedule absent the Government-caused delay. Such a simplistic example poses no problem at all. The problem lies not in reaching the right conclusion, given such an example, but in determining whether a given fact situation is an example of such an occurrence or is instead an example of a true concurrent delay.

TIA Contract Requirements

TIA contract requirements

- ❑ The **Time Impact Analysis provisions** included in contracts **vary significantly** from **contract to contract**.
- ❑ As **previously discussed**, while the vast **majority of these requirements** include provisions relative to the performance of prospective time impact analyses, the majority of them do **not include requirements** for performing retrospective analyses.

TIA contract requirements

- ❑ *As a result, in situations where changed work is performed or a delay occurs*
 1. ***prior** to the time the parties attempt to **negotiate** a time extension related to same, or*
 2. *where the sheer number of changes and delays overwhelm the ability of the parties to evaluate these issues on a prospective basis,*
*the parties in the absence of a **contractually-specified means** for analyzing these situations are left to their **own devices** in attempting to resolve the responsibility for and amount of the time extension to which a contractor may be entitled.*
- ❑ Unfortunately, many of these situations end up being **"worked out" in a courtroom.**

Occasions in TIA

- ❑ On some occasions, **owners and their counsel** argue that the prospective time impact analysis procedures in the contract should be utilized for purposes of determining the extent to which a **contractor is entitled to an extension** of the contract time, and **contractors and their counsel** argue that retrospective analytic techniques must be used to analyze the **actual delay** that occurred in the work.
- ❖ On other occasions, contractors and their counsel take the position that the prospective TIA procedures in the contract should be utilized for purposes of analyzing delay, and owners and their counsel argue that retrospective techniques must be used to evaluate the delay in the work.

These situations are all too common.

TIA contract requirements

- ❑ An analysis of the **respective positions** of the parties **under either of these scenarios** requires a **careful examination of the contract** to determine precisely **what the contract specifies** with respect to the evaluation of schedule impacts associated with changes and delays in the work.

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TIA contract requirements

❑ For example,

- ❖ does the **contract** require that a prospective time impact analysis is the **only method** to be utilized in evaluating the effect of changes or delays in the work;
regardless of whether the changes or delays are **evaluated prior to, or after**, the changed work has been performed or the delay occurred?
- ❖ Or, does the **contract require** that prospective time impact analyses are to be used in "**forward pricing**" and evaluating changes and delays, and is **silent** with respect to how changes. and delays are to be evaluated in an **after-the-fact** situation?

TIA contract requirements

❑ In **addition**, it is important to

1. examine the **facts** and **circumstances** in a given situation and
2. evaluate the manner in which the **parties conducted themselves**.

❑ Moreover, it is essential to **determine whether the schedules** on the project were **accurately updated** to reflect progress achieved, delays experienced, and the time extensions due a contractor.

❖ In this situation, it **could be argued** that the **prospective time impact analysis procedures** in the **contract** cannot (and should not) be utilized for purposes of performing an **after-the-fact schedule delay analysis**.

TIA contract requirements

At best, what a court or board may decide in a given situation is **uncertain**.

Such uncertainty **can be avoided** by including both prospective and retrospective time impact analysis requirements in contracts.

TIA Requirement

Prospective and retrospective provision

TIA Requirement

- ❑ The **following is an example** of a Time Impact Analysis **requirement** that provides for **both** prospective and retrospective analysis of changes and delays in the work.
- ❑ The inclusion of such a provision in a contract provides a **contractually-prescribed mechanism** for evaluating the **effects** of changes and delays on **both** a prospective and retrospective basis.

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A. Requirements

☐ When **Change Orders** are ordered,

1. delays are experienced, or
2. the contractor believes it is entitled to an extension of time,

the **Contractor shall submit** to the Owner a written Time Impact Analysis **illustrating**

the **influence** of each Change Order or delay on the Contract Time, as follows:

A. Requirements

1. In situations where the **Owner elects to review** a **Proposal** from the Contractor **prior** to **directing** the Contractor to **proceed with the work** related to given Change Order, or a delay initiates,
the **Contractor shall submit** a written Time Impact Analysis, including
 1. a narrative and
 2. Fragmentary CPM Network (Schedule Fragnet),**demonstrating**
 1. **how the Contractor proposes to incorporate** the Change Order or delay into the Project Schedule and
 2. the **time impact**, if any, on the Project Schedule **Milestone Dates** set forth **under Section of Contract Documents**.

A. Requirements

1. The **Time Impact Analysis** shall **demonstrate** the anticipated time impact to the **Project Schedule Milestone Dates** based upon

1. the **date the Change Order** is **issued** to the Contractor, or the **date the delay initiated**;
2. the **status of construction** at that **point in time**; and
3. the **event time computations** of all affected activities.

The event times used in the Time Impact Analysis **shall be** those set forth in

1. the most current,
2. accepted (mutually agreed-to)

update of the Project Schedule in effect at the time

1. the Change Order is issued, or
2. the delay initiated.

A. Requirements

2. In situations where

- (i) the **Owner has directed** the performance of work **related to a Change Order in advance of determining** the time impact associated with the performance of the changed work; or
- (ii) the **Contractor and Owner have not agreed** on an adjustment to the Contract Sum and/or Contract Time **prior to the Owner directing** the Contractor to proceed with the work related to a Change Order; or
- (iii) the **Contractor has provided notice** of an alleged delay in the work and incurred a delay,

?????

A. Requirements

2. In situations where

- (i) the **Owner has directed** the performance of work **related to a Change Order in advance of determining** the time impact associated with the performance of the changed work; or
- (ii) the **Contractor and Owner have not agreed** on an adjustment to the Contract Sum and/or Contract Time **prior to the Owner directing** the Contractor to proceed with the work related to a Change Order; or
- (iii) the **Contractor has provided notice** of an alleged delay in the work and incurred a delay,
the **Contractor** shall submit a **written Time Impact Analysis**, including a narrative and Fragmentary CPM Network (Schedule Fragnet) demonstrating the **actual effect** of the Change Order or delay on the Project Schedule Milestone Dates.

A. Requirements

2. The **Time Impact Analysis** shall **demonstrate** the time impact to the Project Schedule **Milestone Dates** based on an "as-planned" to "as-built" comparison of
- (i) the **event times** according to the most current, accepted (mutually agreed-to) **update** of the Project Schedule in effect at the **time** the
 1. Change Order was issued or
 2. the alleged delay initiated, to
 - (ii) a **Project as-built schedule** which covers the **period of time** during which
 1. the **changed work** was performed or
 2. delay was incurred.

A. Requirements

2. In developing the **as-built schedule**

the Contractor shall utilize

1. activity "**actual start**" and "**actual finish**" date information included in the **Project Schedule Update(s)**, in conjunction with
2. as-built schedule **activity information** obtained from the **Contractor's Daily Construction Reports** and other available sources,
to **graphically depict**
the sequence and manner in which the **Contractor actually performed** the work under the Contract during
 1. the time the changed work was **performed** or
 2. the delay occurred.

A. Requirements

2. **Thereafter**, the Contractor shall

(1) **identify** the **as-built critical path** to completion through the period of time during which the subject

1. Change Order work was performed or
2. alleged delay occurred;

(2) **prepare** a **Fragmentary CPM Network (Schedule Fragnet)** which **graphically** depicts the manner in which

1. the Change Order work was performed or
2. the delay occurred; and

(3) **incorporate** the **Schedule Fragnet** into the as-built schedule demonstrating how the changed work or delay affected the **as-built critical path**.

B. Time Extensions

- ❑ Time Extensions: **Activity delays** shall **not automatically** mean that an extension of the Contract Time is **warranted** or due the Contractor.
- ❑ It is **possible** that a modification, change or delay will **not affect** projected or as-built critical activities or **cause** noncritical activities to become critical.
- ❑ A **Change Order** or **delay** may result in **only absorbing** a portion of the available total float that may exist within an activity chain of the Project Schedule, thereby **not causing** any effect on the Project Schedule Milestone Dates.
- ❑ **Float is not** for the exclusive use or benefit of the Owner or the Contractor.
- ❑ **Extensions** of time to the Project Schedule Milestone Dates under the Contract will be **granted only** to the extent that the **time adjustments** to the activity or activities affected by a change order or delay **extends** any interim Milestone Date or the date of Substantial Completion as set forth under **Section of the Contract Documents**.

C. Procedure

1. Each Time Impact Analysis shall be submitted as follows:

- a. For Change Orders and delays, the **analysis discussed above** under Subparagraph **A.1** shall be submitted within fourteen (14) calendar days

following

1. the Owner's issuance of the Change Order, or
2. initiation of the delay,
as a part of the Contractor's proposal for the Work or delay contemplated by the proposed Change Order.

C. Procedure

❑ 1. Each Time Impact Analysis shall be submitted as follows:

b. For Change Orders or delays, the **analysis discussed above** under Subparagraph **A.2** shall be submitted within fourteen (14) calendar days

following completion of the Work related to

1. the Change Order, or
2. conclusion of the delay.

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TIA Requirement

Sharing the Float

موسسه مهندسی و مدیریت ساخت علوی پور (ACEMI)

دفتر آموزش



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



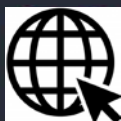
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