نحوه اثبات محق بودن به ادعا و دستور تغییر

ابزارهای حیاتی + نکات کلیدی

(بر اساس اسنادی از AACE و ASCE)

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What we will learn?

- ❑ **Introduction**
- ❑ **Recommended practice**
  - ❖ **Elements Necessary to Demonstrate Entitlement Basis for a Change Order Request or Claim**
    - ✓ Causal Event Occurrence
    - ✓ Adherence to Contract Change Notice Requirements
    - ✓ Contractual Entitlement to Request a Contract Change or Make a Claim
    - ✓ Demonstration of Causation
    - ✓ Prudent Effort to Mitigate any Impacts
    - ✓ Assignment of Responsibility
    - ✓ Quantification of Impacts

What we will learn?

- Recommended practice
  - **The Elements are Inter-related**
  - **Document Retention and Organization**
  - **Change Order Request or Claim Submission**

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What we will learn?

- **Pricing construction claims and change orders**
  - **Forward pricing**
    - ✓ Risk in forward pricing
    - ✓ Use of standard formats
    - ✓ Material quantities and prices
  - **Post pricing**
    - ✓ Cost analysis
    - ✓ Actual costs
    - ✓ Reasonable costs developed from existing job data
    - ✓ Reasonable cost estimation

What we will learn?

- **Pricing construction claims and change orders**
  - **The proposal – Request for equitable adjustment**
    - General pricing philosophy
    - Unit price contract considerations
    - Pricing elements and details
    - Production rates
  - **Impact and inefficiency costs**
    - How impact costs are incurred
    - Specific, identifiable extra work
    - Pricing inefficiency and loss of productivity

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What we will learn?

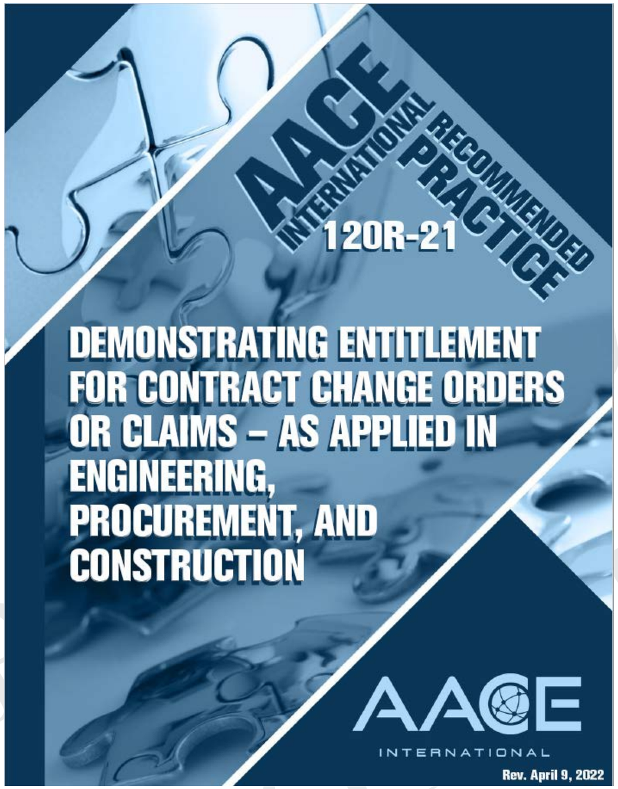
- **Pricing construction claims and change orders**
  - **Material costs**
    - ✓ Reasons for material claims
    - ✓ Other costs associated with material claims
    - ✓ Additional material quantities and cost calculation
  - **Equipment costs**
    - ✓ Additional equipment usage
    - ✓ Cost of equipment

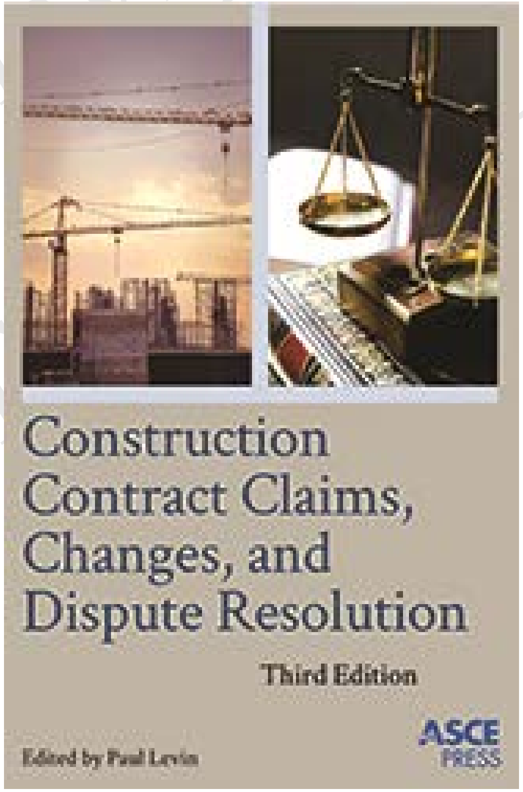
What we will learn?

- **Pricing construction claims and change orders**
  - **Overhead and profit**
    - ✓ Project overhead rates
    - ✓ Overhead on large claims
    - ✓ Home office overhead
    - ✓ Profit
  - **Other elements of claim pricing**
    - ✓ Interest costs
    - ✓ Insurance costs
    - ✓ Bond costs
    - ✓ Legal fees, change orders, and claim-preparation costs

Reference

Primary reference





Introduction

Contract

- The **foundation** of the **construction process** is the contract.
- The contract should describe in **detail**
  1. The scope of the contractor’s work,
  2. The amount of work to be performed,
  3. The schedule over which it will be performed,
  4. The conditions existing at the site, and
  5. The amount and method of payment.

Are we allowed to change them?

Contract

- These key parameters are **all subject to change** during performance of the work as a result of
  - Changes or refinement in design,
  - Differing conditions at the site, or
  - Changes to the schedule of performance.

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Changed work

- Contractors **expect both** to

1. **Perform** <u>changed</u> or <u>additional</u> work and
2. **Receive** appropriately <u>adjusted</u> compensation and schedule

as a result of the changed and/or additional work through change orders issued by the owner.

What does claim mean here?

Claim

- Claims **result when**

  the parties are **unable to reach an agreement** on price and/or time to perform extra work,

  including costs and time for delays, acceleration, and impact costs experienced on the project.

*A claim is the contractor or subcontractor's substantive **description** and **detail** that supports the change in time and extra costs incurred, or to be incurred, due to changed or added work.*

In case of dispute?

Dispute

- In case of a dispute over the amount to be paid, the amount sought is often termed **"damages."**

Prerequisite?

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Prerequisite

- The **party paying** for the added work, typically
  1. Owner or its representative (when a contractor initiates a claim) or
  2. Contractor (when a subcontractor initiates a claim),

  needs **detailed** schedule and cost **analyses and discussions** to

  understand,

  negotiate, and

  justify

  extra contract time and costs.

RP intention

- This recommended practice (RP) addresses the **necessary elements** to **determine** technical entitlement for
    1. Change order request (COR) or
    2. Claim

  as applied in engineering, procurement, and construction.
- While any definitions **provided by contract documents** would **supersede this RP**, in the **absence of clarity in the contract**, **this RP** defines key elements of the change request process.
- These elements of a COR or claim **apply to any typical** design, procurement, and construction contracting strategy or delivery method.

RP intention

- This recommended practice is **relevant to stakeholders** on a capital construction project; this includes
  owner, contractor, subcontractor, construction manager, or other stakeholders.
- **Although** this recommended practice is written in the context of a contract between an **owner and contractor**,
  it is equally **applicable to any parties** contracted to perform a project including owners and architect-engineers (A/E), as well as general contractors and their subcontractors.
- This RP can **also be used as an internal change management** guideline within an organization's management procedures.
  - In the context of this recommended practice, the **contractor is assumed** to be the **claimant**.
    - ✓ Of course, this is **not always the case**.
      The owner/employer, A/E, and a subcontractor can also be claimants as well.

RP intention

- For more discussion concerning the project change management process, refer to AACE International’s **RP 100R-19, Contract Change Management** – As Applied in Engineering, Procurement, and Construction.

https://dralavipour.com/video-course/contract-change-management

What is change in the context of a project?

Change in the context of a project

- In the **context of a project**, change is defined as an

  "alteration or variation to a scope of work and/or the schedule for completing the work."

  - However, changes can include more than alterations or variations to work scope.
    - ✓ Change can also include **revisions** to contract terms, sequences of work, alteration of work conditions, and other administrative revisions.

Reasons for a change?

Reasons for changes

- **A number of different** events, changes, or owner-responsible actions can influence the development of change orders on projects.

- These events, changes, or owner-responsible actions can result from either foreseen or unforeseen conditions,

  many of which are listed and described in **AACE International Recommended Practice 100R19.**

What to do before executing a change?

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COR

- **Before a change order** is executed between the parties,

  typical construction contracts require

  a COR, or proposal,

  first be submitted by the contractor to the owner

  as well as **related predecessor and successor actions** (i.e., notice, follow-up, and resolution).

What is COR?

COR

- A **COR is defined** as:

A proposal from a **claimant** concerning a requested change to

1. The contract's compensation amount or payment terms,
2. Time of completion,
3. Product or performance specification, or
4. Other terms within the contract.

What should be included in the COR?

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COR

- The COR should provide **enough relevant** information and analysis to **adequately demonstrate** the contractor's entitlement to **variances** in cost or schedule associated with the **change in scope**.
  - However, Change is **not made without inconvenience**, even from worse to better.

What inconveniences?

Inconveniences

- The **inconveniences** that often occur <u>during</u>, and sometimes <u>after</u>, project execution concern **steps** that owners and contractors take towards a**chieving final agreement** with respect to a <u>contract COR</u>.

- The challenges often stem from the owner's and contractor's perspectives as to whether the contractor has **adequately provided** the <u>documentation</u> and <u>analyses</u>

  necessary to demonstrate entitlement to a requested change such that a contract change order should be executed.

Inconveniences

- The **approval** of a change order **may not occur** in a timely manner, which may indicate that

  the **owner feels** the contractor has **not provided enough information or analyses** to **justify** increasing the contract compensation or granting an extension of time to the project schedule.

  - Often, what the owner finds **missing in a COR** is
    1. One or more of the required elements of a change order, or
    2. That one or more are inadequately demonstrated.

These elements are further discussed in the Recommend Practice section.

What is the solution?

Solution

- It is recommended that
  1. The **elements** that should be demonstrated in a contract **COR**, and
  2. The **extent** to which they should be described,

  be **agreed upon before** the contract is signed and work commences.
- Because the potential stakes associated with disputed changes can be significant, **many disputes** can be **avoided** with this common understanding established well before the project begins.

*A **facilitated alignment session** at the start of the project is a good way to bring such expectations into common agreement.*

Why disputes arise?

Disputes arise

- **Disputes** often arise due to the parties’ inability or unwillingness to come to an **agreement** on pending contract changes in a **timely manner**.
  - If an **agreement cannot** be achieved on **one or more CORs** during project execution,

    the contractor **may choose to re-submit** the disputed CORs as **claims** at the **end of the project** to recover cost and time impacts for which it believes it is **entitled**.

Same elements for claims?

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Resolution

- Just as with a change order request, the **same elements** must be demonstrated to establish the contractor's entitlement to a claim.

- Typically, once a **disputed COR** has been submitted as a **claim**, resolution will have been escalated to
  1. **Higher levels** within both parties' organizations or
  2. **Dispute resolution process** established in the contract.

Recommended Practice

Introduction

- The **change management** plan should align with the specific needs of the project.

  For example, **avoid using** a change management process intended for a cost reimbursable contract on a fixed price contract project.

Experience has shown that most change management processes ***focus primarily on cost elements*** *of a change and not enough is written that addresses proper treatment of* ***schedule change management.***

Introduction

- One **option of a change management process** can be found in AACE's Recommended Practice **100R-19**, Contract Change Management – As Applied in Engineering, Procurement, and Construction.

Introduction

1. **Prior to contract execution**, it is recommended that the parties agree to

   what elements should be **included in a COR** to form the bases of the change.

2. It is also recommended that the parties agree on what types of documentation and analyses would be necessary to

   serve as **support to each** of the following basis elements.

Elements Necessary to Demonstrate Entitlement Basis for a Change Order Request or Claim

Introduction

- Typically, contracts place the burden of **demonstrating** the following elements on the **claimant**.

*For an owner to approve a change order requested by a designer or contractor, the following are **seven primary basis elements** of the request that should be satisfactorily demonstrated.*

Introduction

- One of the **most frequent causes** of disputes on construction projects is the **inability** for the owner and contractor to come to an **agreement on contract changes**.

- It is expected that a **significant number of contractual change disputes** can be avoided or eliminated by the early establishment of:

  a) a clear and concise **change management process**; and

  b) a clear **set of demonstrated elements** that define the bases for a contract change.

Seven primary basis elements

- They are identified as:
  1. Causal event occurrence;
  2. Adherence to contract change notice requirements;
  3. Contractual entitlement to request a contract change or make a claim;
  4. Causation;
  5. Prudent effort to mitigate any impacts;
  6. Assignment of responsibility; and
  7. Quantification of impacts.

Seven primary basis elements

- The following is a <u>description</u> of each element and <u>why</u> it is important to be included in the change order request or claim.

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Casual event occurrence

- **Before** a contractor can establish causation **(see item no. 4)**, this element establishes **whether** an event that potentially caused an impact has actually occurred.
  - Normally, upon **discovery** of the changed condition,
    this knowledge is **shared amongst** the contractor's project team so that the appropriate **internal steps** are taken to
    initiate and support the change order request.
- A causal event that impacted the contractor may also have been an action that did not take place,
  such as a **missed deadline** by a party it had **no control over**
  but **had to rely on** to complete its work.

*This element of a substantiating that a causal event occurred **may seem to be simple to demonstrate**, but failure to do so has led to **many disputes**.*

Casual event occurrence

- A simple example could be determining whether **adverse weather** occurred such that it **impacted** the contractor's **ability to work**.
  - Typically, contracts allow the contractor to submit a **change order request** if it was impacted as a **result of adverse weather**.

What is the common dispute about that?

Casual event occurrence

- Sometimes, there can be a dispute on

  whether a rain event **occurred at all**,

  especially at **locations** where rain measurement **stations are too far away** to

  adequately quantify the amount of rain that fell on the project site.

Of course, actions should be taken ***prior to the project's onset*** *to*

account *for and* ***quantify***

the possibility of adverse weather,

but these measures are ***not always anticipated*** *or are* ***simply not taken****.*

Who has the responsibility to demonstrate?

Casual event occurrence

- As the **claimant**, it would be the **contractor's responsibility** to demonstrate that the event **did indeed occur**.
- Therefore, the contractor would have to provide **evidence in the form of such records** including
  - Certified test results,
  - Photographs,
  - Contemporaneous weather records,
  - First-hand testimonials,
  - Minutes of meetings, and
  - Other documentation

  to show that the event that **caused the impacts** for which it has claimed did occur

Casual event occurrence

- **Without** first demonstrating or gaining acknowledgement from the owner that an **event occurred**,

  it would be **impossible** to demonstrate a **causal relationship** to the alleged **resulting impacts**.

Adherence to contract change notice requirements

- It is important that **all parties** to a contract be **familiar** with the terms of the contract.

- In this case, particular focus should be on the change management process and the claims submission process,

  part of which should include the **submission** of a proper and timely notice.

Adherence to contract change notice requirements

- Typically, **construction contracts** require that once the **contractor has identified** a <u>potential</u> changed condition,
  - it has a **specified number of days** to provide notice to the owner of a potential change;
    - the **submission of other documentation** may also be subject to time <u>limitations</u>.

Adherence to contract change notice requirements

- The **first step** in requesting a change order or prosecuting a change order claim is to **recognize** the potential contractual basis for an **adjustment** in time or price.

- **Early recognition** is required to ensure that **notice requirements** are met, and that costs and documentation **needed to support** the change order claim are maintained.

Reasons for timely notification?

Adherence to contract change notice requirements

- Among the **reasons timely notification** should be submitted to the owner are the following:
  - Provides the **owner a chance** to **examine** the actual conditions on-site or **investigate** the issues under examination at the time of their occurrence;
  - Gives the owner a better chance to **mitigate** the potential adverse effects of the issues under examination (e.g., delay-causing events, adverse conditions, previously unknown site conditions, or changes to the scope);

Adherence to contract change notice requirements

- Among the **reasons timely notification** should be submitted to the owner are the following:
  - Provides the owner with an opportunity to **explore more** reasonable and/or less costly options, and possibly change its work plan by:
    - ✓ **Modifying** the design to avoid or otherwise better manage **pertinent risks**;
    - ✓ **Requesting** the **contractor** to provide a proposal or change order request to execute the changed work;
    - ✓ **Identifying** changes such as change in the **contractor's means and methods** or to **exclude** certain work elements **from the contractor's** scope of work;

Adherence to contract change notice requirements

- Among the **reasons timely notification** should be submitted to the owner are the following:
  - Provides the owner with an opportunity to <u>adjust its budget</u> and <u>pursue additional funding opportunities</u> as needed.

Adherence to contract change notice requirements

- **Not all** notice **requirements** in a contract are the **same**.
  - *For example, for force majeure and differing site conditions clauses, notice **timing is often shorter** than for other types of change / delay.*
    - ✓ Further, the required elements for a proper notice may change from one **contract clause to another**.

Adherence to contract change notice requirements

- Additionally, there may be **continuing notice obligations** to keep the **client updated** on how the contractor is "spending the client's money".
  - *For example, with respect to notices of delay, sometimes it may* ***take months for a delay event*** *to run its* ***full course*** *and the contractor to acquire the necessary data to support its claim.*
    - ✓ In this case, contracts may require **monthly updates** be submitted to the owner that inform on the status of delay event.

Adherence to contract change notice requirements

- **Contractors** often contend that the owner had constructive notice during meetings, progress reviews, and project progress reports that a change occurred that would impact its time and cost of performance.
- A contractor should **not solely rely on this contention** as there is significant uncertainty that a **court or arbitration panel** will make an award based on constructive notice and require formal notice for the COR or claim to prevail.

Estimate of cost and time included in the notice?

Adherence to contract change notice requirements

- Often, **contracts** require that the contractor include a high-level estimate of the pricing and schedule impacts within the **initial notice** of change.

- Informing the owner as **early as possible** of a potential change and the associated change to the contractor's pricing and schedule completion date

  allows the owner the **opportunity** to identify and consider other options

  if the contractor's estimated cost and schedule **impacts** can be avoided or mitigated.

Contractual entitlement to request a contract change or make a claim

- In summary, the contractor must **demonstrate** that it has a contractual right to make the requested change and the resulting change

  was **not already contained** within the scope, specification, or terms of its current agreement with the owner.
- There **may be specific types of change** events that are identified in the contract for which the **contractor is prohibited** from requesting a change.
- It is recommended that an **attorney be consulted** to determine whether the contract terms provide **entitlement for the claimant** to submit a contract COR concerning an event.

Contractual entitlement to request a contract change or make a claim

- There may be specific types of change events that are identified in the contract for which the contractor is **prohibited from requesting a change.**
  - *Using the **adverse weather example again**,*

    construction contracts often contain **wording that the contractor should be familiar** with the climate conditions of the geographic area of the project site at **all times of the year**

    with respect to **potential impacts** to the project schedule and other related costs.

Contractual entitlement to request a contract change or make a claim

- This type of statement indicates that the **contractor cannot request** an adjustment resulting from a **climatic event** that should have been anticipated as a possible occurrence based on **historical climatic records**.

- **Before the start** of the project, the contractor should identify anticipated climate-related risks and

  incorporate their potential impacts within its proposed bid/budget, cost / schedule basis documentation, and project baseline schedule.

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Demonstration of causation

- **Once** a causal event has been demonstrated to have occurred or is occurring, the **next test** for the contractor is to demonstrate that this event **contemporaneously impacted** its forecasted final costs and completion date.
  - Although the event is contemporaneous, its **impacts may not be felt** until far into the **future of the project**.

Demonstration of causation

- The contractor must demonstrate that
  1. There was a **cause-and-effect** relationship between a **causal event** that was not its responsibility (or there was a shared responsibility) and
  2. The **effects that event had** on its ultimate project cost or ability to finish the project by the current contract completion date.

Demonstration of causation

- Demonstrating causation is often the **most difficult aspect** of a COR for the contractor to prove, **especially if** the contractor did not **keep good project records**.
- Often the need to start capturing detailed and relevant documentation s**hould have been underway before** the change event occurred.
  - It is **not typically feasible** for a contractor to **keep records in anticipation** for the possibility that a **change might occur**.
  - Quite often, an event **arises and issues** such as productivity loss are **not immediately understood**;

    therefore, it does **not immediately trigger** the start of detailed record keeping.

Demonstration of causation

- A **list of common causes** of changes can be found in RP 100R-19.

Demonstration of causation

- *Reverting back to the rain event example, the contractor will have to **demonstrate that the magnitude of the adverse rain** that occurred*

  *was **not only unanticipated** per the terms of the contract,*

  *but also **affected the project's ability** to move forward efficiently, or not at all, as per the schedule.*

- It must also be demonstrated that **additional costs** were incurred to **mitigate or respond** to the rain's effects.

Demonstration of causation

- It is recommended that the contractor provide

  1. Labor and other productivity records,
  2. Photographs of work affected by the rain,
  3. Correspondence,
  4. Vendor records, and
  5. Evidence that the project's critical path was impacted by the event.

     - There should be a clear understanding of the work that was **contemporaneously on or near the critical path** at the time the **causal event occurred.**
     - Additionally, the **contractor** should **demonstrate concurrent delay** if it occurred.

Demonstration of causation

- The **recommended course of action** that an owner and contractor should take to either <u>demonstrate or refute</u> causation for an event that caused a cost or schedule impact is

  to **collect and maintain good records** during the project.

Prudent effort to mitigate any impacts

- Typically, contracts require that **both parties** have a **duty to mitigate** the impacts of a change.
  - However, if a contractor intends to request a **change order for impacts** resulting from a change,

    the owner will typically request that the **contractor demonstrate** the mitigation efforts it performed and the show the resulting effects.
    - It is recommended that a contractor confronted with a changed condition

      should make its **best efforts to mitigate** the potential impacts of the change.

Prudent effort to mitigate any impacts

- **Providing evidence** that the contractor acted to <u>avoid</u> or <u>mitigate</u> the **impacts** resulting from a change should **indicate to the owner that**

  the **COR** resulted **only after the contractor did its best** to reduce the cost and schedule impacts.

Prudent effort to mitigate any impacts

- By identifying and performing <u>impact avoidance</u> or <u>mitigation efforts</u> resulting from a changed condition to the project

  typically **indicates** the **contractor did** what any prudent contractor should do.

- These efforts should also **demonstrate to the owner** the <u>contractor's intentions to collaborate</u>

  with the **owner with respect** to completing the project as efficiently as possible from a cost and schedule perspective.

Assignment of responsibility

- **Identifying** the party that is **responsible** for a change may **seem simple** to demonstrate, and **often is**.
  - *For example, the owner would most likely be responsible for the additional costs that arise as a result of a change in scope that it directed.*
    - However, this is not always the case when **determining who is responsible for delay** and the **associated costs**.
      - This can sometimes be challenging, especially when other in**tervening effects are simultaneously impacting** the project schedule.

Assignment of responsibility

- With respect to **delays** arising from **changes**, including owner-directed changes,

  the contractor will have to demonstrate that the change impacted the project schedule's critical path or other contractually-defined milestones at the time that the change occurred.

What if the contractor cannot demonstrate?

Assignment of responsibility

- If the contractor **cannot demonstrate** that the change will affect the **contemporaneous critical path** once the changed work is performed,

  then there are **no time impacts** to the project completion date.

Assignment of responsibility

- However, there may be **events** that affect the contractor’s direct cost of performing the work

  even though the event, change, or owner-caused action did **not affect the current critical path** of the project;

  for example, acceleration or disruption costs.

An event, change, or owner-caused action may result in **delay to a subcontractor’s work** that was **not on the current project critical path**,
but that **subcontractor’s work was extended** in time compared to its planned schedule for completion, and thus its **time related costs** were increased.

Assignment of responsibility

- Additionally,

  even if the **contractor can demonstrate** that there was a change that **impacted the critical path,**

  it must also demonstrate whether there **was or was not concurrent** delay.

  - *In cases where concurrent delay can be demonstrated to have occurred, one delay that was caused by the owner and a concurrent delay that was caused by the contractor, the contractor may only be entitled to a time extension but no time-related costs unless the contract provides otherwise.*

Assignment of responsibility

- Lastly, **determining responsibility** for a change and its resultant impacts can be difficult to establish **retrospectively** as a result of poor project documentation, especially when:
  a) A change was **not specifically directed** by the owner,
  b) Occurrence of the causal event **cannot** be established, or
  c) When **causation cannot** be clearly determined.

As noted previously, it is important for both parties to maintain good records contemporaneously throughout the life of the project.

Quantification of impacts

- For the contractor to be **granted an increase** to its contract price or a time extension as a result of a contract change, it must **quantify** the **associated impacts**.

- That is, the **contractor must calculate** how much additional money and time would be needed to successfully complete the project according to the terms of the contract.

Quantification of impacts

- The **contract** should define **what documentation** the contractor is to **submit** to the owner in support of its requested cost and time extension quantifications that result from a contract change.
  - However, **contracts** are often **silent or ambiguous** with respect to **what supporting** analyses and documentation the contractor is to provide.

This understanding is especially important when the **changes** are **related to quantifying** the effects of disruption and project delays.

Quantification of impacts

- It is recommended that the contractor demonstrate that the cost or schedule impacts, which **have been or will be realized** as a result of the change, are **reasonable** and **supportable**.
  - Although these terms can be **subjective in interpretation**, it is important that the **claimant only include quantification** of costs or delays that it can **reasonably support.**

Quantification of impacts

- Concerning a **time extension request**,

  if <u>not specified in the contract</u>,

  a common way to **contemporaneously quantify** forecasted schedule impacts is through the use of <u>time impact analysis</u>,

  using the most **recent schedule update** prior to the occurrence of the event, change, or owner-caused action or inaction.

Quantification of impacts

- The amount of information and analyses necessary to demonstrate each element should be **scalable** based on
  - The complexity of the project and
  - The specific issue being evaluated in the COR or claim.

Pricing construction claims and change orders?
Another section!

The Elements are Inter-related

The elements are inter-related

- Each of the above-described elements of a change order request or claim are **individually important** in demonstrating entitlement to additional costs and time extensions.
  - However, each **cannot** be **considered individually without** also being considered collectively.
    - ✓ **Each of the seven elements** are <u>inter-related</u> and, in some way, may affect the **contractor's ability** to demonstrate the other elements.

The elements are inter-related

- *For example, causation cannot be determined until the causal event has been identified as having occurred, and responsibility cannot be determined without*
  - *Understanding what caused the change,*
  - *When it occurred, and*
  - *Legal entitlement has been demonstrated.*

When there are disputed changes (i.e., claims), these relationships are often complex and require a thorough understanding of all seven elements to also understand their interconnectivity.

Document Retention and Organization

Document retention and organization

- As previously noted, it is highly recommended that the claimant **contemporaneously collect** and maintain project records throughout the life of the project.

- Often, the **records kept early** in the project will be **helpful** in demonstrating a **change occurred later** in the project.

- This point cannot be **emphasized enough**.

- It is also important that **contemporaneous documentation** be kept to <u>support schedule updates.</u>

Document retention and organization

- In turn, the **owner** should also collect and maintain its **own set of records**.
- Depending on the contract terms,
  1. The owner may have **access to all documents** that the contractor generates on the project, or
  2. The owner may have very **little documentation** other than progress reports and schedule updates.

- It is important that the owner document the project over time via <u>photographs</u> and <u>videography</u>, and

  ensure that **meetings with the contractor** are frequent and documented.

Document retention and organization

- In anticipation of change negotiations,

  whether for a COR or a claim,

  a <u>well-organized change management document control system</u> will

  facilitate quick access to information that either

  supports or

  refutes changes or claims under consideration.

Change Order Request or Claim Submission

Change order request or claim submission

- It is important that the COR or claim is written in as concise and cogent manner as possible.
- **Graphics** are always helpful in communicating points that would oth**erwise require multiple paragraphs** to describe.
- **Claim visuals** can play important roles in simplification and proper presentation of a claim, especially in **complex cases**,

  because they are used to organize records, findings, and analyses in the most **efficient and visually attractive** ways using illustration techniques.

Change order request or claim submission

- The use of these techniques along with **other elements** of a claim such as

  claim narratives and

  other supporting documents

  improves readability and makes the arguments **more compelling**.

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Change order request or claim submission

- Whether a COR or claim, it should be submitted using the **following guidelines**:

1. The **submission** should present a complete package, with **all necessary supporting data**, so that it be utilized…as the basis for proving the claim with little extra work.
2. The **presentation** should offer a complete, accurate, and truthful **narrative** about the conditions encountered on the project.
3. The **presentation** should admit and take into account **problems** that are the…**claimant's…own responsibility** and that had a significant effect on the project.

   (The alternative to this can be a **disaster** when the…**claimant's…credibility** is shattered at a hearing or trial.)
4. Finally, the **submission** should reflect **pricing** that is not grounded in the **"twilight zone."**

Change order request or claim submission

- The contractor's COR or claims submission should be based on **facts** and **avoid attempting** to rely on opinions or other information that is **not fact-based**.

Change order request or claim submission

- Lastly, the COR or claim <u>preparation</u> and <u>settlement</u> process can be **prolonged** by
  1. The procedures of the owner's organization (bureaucracy/red-tape),
  2. The scope of the changes, and
  3. The number of the contractor's first-tier subcontractors, vendors, and suppliers that are involved with the changed/claimed scope of work.

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Pricing Construction Claims and Change Orders

(Introduction)

Introduction

Stages in analysis – Damage analysis

- **Pricing of claims** falls into two categories:
  1. **Forward pricing**
     where the **price and time** are **negotiated before** the **work is done.**
  2. **Post pricing**,
     where **pricing and time adjustments** are made **during or after performance of the work**.

- In applying either type, the pricing elements of the claim itself are the same and include
  1. Direct cost of performing the changed work,
  2. Impact and/or delayed performance costs (impacts on direct costs),
  3. Project overhead costs,
  4. Markups for overhead and profit.

Introduction

- **Many different methodologies** have been used to successfully price claims.

- What is important is that the pricing elements are carefully **calculated** and **substantiated**.

Forward pricing

- Forward pricing establishes a **price** before the work is done.
- The owner and contractor (or contractor and subcontractor) **agree on**
  1. The **work** to be performed,
  2. The amount of **costs** to be incurred,
  3. The **time** required to perform the changed work, and
  4. The **amount** to be paid.
- This is a **practical approach** and offers **great advantages** to both parties.
- The owner or contractor can negotiate a **fair and reasonable** price and time to perform the work **before directing** the work to be performed.

Forward pricing

- The owner or contractor **also knows** the **additional cost** to be incurred because it has **been fixed** by the agreed-upon change.
- The contractor can
  1. Logically integrate the changed work into the schedule,
  2. Procure the required materials, and
  3. Perform the work.

*Unfortunately, the **pace** of construction projects **often prevents** changes from being **forward priced** and agreement being reached prior to performing work.*

Post pricing

- **Post pricing** is used to establish the price for changed and added work after performance of the work.

- Common post pricing methods are force account, or time and material, in which payment is based on **records of actual** work hours, materials, and equipment used.

- This method is **most commonly used** when an owner directs a contractor to make discrete changes during performance where the **changed work** can be segregated from the base contract work.

Post pricing

- Often, **directly capturing** the added cost is **not possible**, such as when the owner directs a *pipe size to be increased from 6 in. to 10 in. in diameter*, affecting multiple areas and trades throughout the project.
- **Directly capturing** the impact costs or labor inefficiency costs on **unchanged but affected** base contract work and the **changed work** is often difficult.
- These are the circumstances **where disputes** over the cost and time to perform changed work most often arise.
- **One benefit** to post pricing changes is that the **actual increase in cost is known** rather than estimated.

Pricing Construction Claims and Change Orders

(Forward Pricing)

Introduction

Stages in analysis – Damage analysis: Forward pricing

- Furthermore, ***AIA-A201 § 7.3.2*** goes on to state,

> "A Construction Change Directive shall be used in the **absence of total agreement** on the terms of a Change Order."

Introduction

- In the Modification Impact Evaluation Guide (although withdrawn by the Corps, the statements about forward pricing remain relevant),
  - the U.S. Army Corps of Engineers emphasizes the **importance of agreeing** on price and time terms
    - **before allowing** the contractor to proceed with modified or changed work.

*The guide states, "The **attitude** that the **urgency** for reaching a settlement no longer exists once the NTP [notice to proceed] has been issued is **self-defeating**.*

Introduction

- **For many reasons**, it is **advantageous** to the **contractor to delay final settlement** of all modifications until the work is finished.”

Why the contractor believes this?

Introduction

- The guide gives the **following reasons** a **contractor would find** delaying settlement of modified work until all of the work has been completed **advantageous**:
  - The contractor can be **less cost-conscious** in doing the work.
  - **Some of the risks** contractually assigned to the contractor are **shifted to the Corps of Engineers.**
  - The contractor will have **actual cost data** with which to confront the Corps of Engineers.
    - ✓ (Actual cost data under this circumstance does **not necessarily represent reasonable cost**.)

What is the challenge here?

Challenges in forward pricing

- When a construction **change directive** is issued,
  the **contractor must perform** the work;
  the **cost** of that work will be determined at a **later date**.

- The **contractor assumes** that any and **all costs** it incurs will be **compensable**,
  while the owner will argue that **not all costs** were necessary or reasonable and/or some costs were excessive,
  thereby resulting in a **dispute**.

Advantages of forward pricing

- The guide notes **advantages of forward pricing** but goes on to say that

  "[a] major benefit of settling modifications before performance is that it encourages prompt revision of the progress schedule, thus maintaining accurate knowledge of the sequencing of

  1. *The remaining work,*
  2. *The final contract price, and*
  3. *The final completion date.*

  - *The schedule then remains a **realistic tool** for determining the **impact of changes** on the contractor's operations.*
  - *An up-to-date **CPM schedule is a prerequisite** to forecasting the presence and extent of impact."*

Advantages of forward pricing

- An **updated current schedule** also allows for independent **analysis of future changes**.

  Thus, the **impact** to the project of each change can be **determined**.

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Advantages of forward pricing

- However, **although** forward pricing has certain **advantages**,

  most changes are <u>not settled in time</u> to avoid impacts to the follow-on work.

  - As a result, many **forward-pricing proposals** are <u>withdrawn then resubmitted</u> with **actual costs**

    because **owners fail to approve** the change **in time** to take advantage of the risk allocation inherent in the forward-pricing method.

Does owner accept contingency in price proposal?

Risk in forward pricing

- **Owners** **rarely** **accept** contingencies in price proposals.
  - Sometimes, the **owners/engineers** do **not fully inform** the contractors of **all cost implications** a change order might have on the project.
    - ✓ *For instance, an owner may change equipment furnished, but fail to inform the contractor of a* ***longer lead time*** *to* ***obtain the new equipment.***
      - *Thus, the contractor is left to develop the full scope of required services to cover all unanticipated potential costs of the changed work*

Risk in forward pricing

- A change order price proposal should **include everything**, within reason, that the **change** could affect directly or indirectly.
  - This includes schedule impacts and the effect on base contract work **not directly changed** but nevertheless made more **difficult or costly to perform**.
    - ✓ The **standard changes clause** for government contracts and in many standard form contracts recognizes **claims** for impact on **"unchanged" work.**

Risk in forward pricing

- In **estimating a new job**,

  ideal conditions, worst conditions, or conditions somewhere in between can be assumed when **preparing the bid**.

- In forward pricing, **more is known** about the conditions in which the work will be performed;

  therefore, the **cost proposal** should include costs based on the **actual conditions** encountered or expected.

- These **conditions** should be **documented** as part of the **cost proposal**.

What to do with risks then?

Risk in forward pricing

- The **contractor's estimate** should define all probable risks and problems and **base its pricing** on those problems and risks that are more substantial and probable.

- Where **substantial risks** are identifiable, but **unlikely and/or difficult to quantify**, they should be **explicitly excluded** from the **change proposal**.

What if change order seems likely to affect unchanged work ?

Risk in forward pricing

- In the event a change order seems **likely to affect unchanged work** but **cannot** be
  - (1) discerned,
  - (2) accurately estimated, or
  - (3) negotiated,

  the contractor should **expressly exclude** those risks from its **proposal** and **reserve the right to claim** such cost and time extensions at a **later date.**

Risk in forward pricing

- This can be **accomplished with language** that **allows the contractor** to revisit those risks along with the associated pricing

  once the **risk becomes known and/or easier to quantify** based on additional knowledge gained as the project proceeds.

Use of standard formats

- A **standard format** for preparing proposals **reduces** the chances of duplications, omissions, and calculation errors.
- It also allows for **adjustments to be easily made** when computing alternate proposal methods.
- A standardized format also **facilitates** recalculation of proposal totals as adjustments are made.

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Use of standard formats

- Knowing how **adjustments** of specific negotiated items are **going to affect** the total price is an important **element of negotiations**, and the quicker the owner and contractor can say yes or no to an adjustment, the quicker a **settlement can be reached**.

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Use of standard formats

- **Pricing of proposals** is an art similar to **estimating contracts**, and one becomes more adept at pricing proposals with **experience**.

- **Each change order** may contain numerous unique variables,

  which means no single standard format or procedure exists for all changes because every project is unique.

- **Standardized formats** assist in maintaining consistency and integrity in data that is **evident to both** the contractor and the owner.

Use of standard formats

- **Many contracts dictate** the use of specified formats for change orders, and adherence to the specifications is advisable.
- **Failure to abide** by the terms of the contract and specifications can result in **rejection** of the **entire proposal**.
- AIA contracts specify not only documents for change orders but also specify forms to use when change orders are presented to the owner and/or architect.
- Contracts also contain very **specific time requirements** when submitting changes and/or claims.

Use of standard formats

- The **contractor** must include in the claim all pertinent data and calculations, then process the change within the contractually **stipulated time limits.**

- However, **not clearly defining** material, labor, or equipment costs in the standard format

  can **lead to serious cost misunderstandings** between the contractor and owner,

  thereby **extending the overall time** required to **settle the claim**.

Material quantities and prices

- **Additional work** is the **most common reason** to require additional material.
- A **detailed material takeoff** should support the quantity of additional material, and **invoice or quote backup** should support any increased costs.
- **Buying small amounts** of additional material may result in higher unit costs for the additional materials.
- **Increased costs** also result from **improperly specified materials** (or defective specifications).

Material quantities and prices

- A **contractor** would then **submit material** in compliance with the **corrected specifications.**

- The contractor should be **able to recover** the increased cost of the substituted material.

Material quantities and prices

- A contractor should **weigh the same considerations** as in the **original bid** regarding material **takeoff and pricing** when estimating material costs for change orders.

- Changes often involve **small material quantity purchases** with increased handling; as such, more attention should be paid to pricing to **ensure all applicable costs** are considered.
  - Sources for material prices include quotations, published price lists, records, handbooks, and published indices.

What factors when pricing materials?

Material quantities and prices

- Factors to account for when pricing materials include
  - Purchasing practice—higher prices of a reliable supplier,
  - Salvage value of job material and excess purchases,
  - Greater cost of odd lot sizes,
  - Quantity discounts not applicable or not able to be taken,
  - Cash discounts not applicable or not able to be taken,
  - Transportation and handling costs (special deliveries),
  - Inspection and testing costs,
  - Taxes and duties,
  - Escalation, and
  - Storage.

Material quantities and prices

- The **labor cost** to perform the changed work and material installation **depends upon the project-specific parameters**.
- Pricing varies with the estimator's experience, judgment, and use of **differing general** guidelines and estimating programs.
- These are the reasons that the **pricing of changed or additional work** that is <u>similar to other work</u> generally has **higher unit costs**.
- The contractor must be **prepared** to **justify** **higher unit costs** for similar work to the owner.

More…

See claim management course…

Pricing Construction Claims and Change Orders

(Post Pricing)

Cost analysis

- The contractor always has the **burden of proving** both the entitlement to and the amount of requested additional costs.
- Because of the nature of construction, **precise measures** of costs attributable to specific causes are **often not possible**.
  - However, the **inability to discretely calculate** the amount being sought does **not necessarily preclude recovery**.
    - ✓ This is not to say that having once established entitlement, recovery of damages will automatically result **without precise costs**.

Cost analysis

- The contractor is **obligated** to provide
  1. The <u>best evidence</u> of damages possible under the circumstances, and
  2. Good, <u>detailed presentation</u> of damages

  can frequently result in a <u>greater recovery</u> of the costs incurred.

- Conversely, the **owner can produce** a detailed **rebuttal analysis** of damages, which frequently results in a <u>dramatic reduction</u> in damages awarded.

Cost analysis

- Damages claimed should be realistic and address all parameters of **changed work** and any **unchanged work**.
- It is possible that while the **changed work resulted in** schedule impacts, adjustments to the base contract or unchanged work compensated the contractor for the schedule impacts, **ultimately resulting in little or no impact** to the project schedule.
- **Cost analysis** can be used to estimate what the work should have cost, absent impacts.

  This analysis includes using **actual costs** and estimates of **reasonable costs**.
- Merely incurring costs is **not an automatic precursor** to recovery of those costs.
- *The burden is on the contractor to provide accurate, concise, and contemporaneous records that show it was entitled to the costs and that the costs incurred were necessary and realistic.*

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Actual costs

- **Courts** have shown a **strong preference** for the actual cost method of calculating damages.
  - *The U.S. Court of Claims stated in Bruce Construction Corp. v. United States, "As we have said above, there is a presumption that actual costs paid are reasonable. That presumption must be overcome by which every party alleges its unreasonableness."*
    - ✓ *In this method, the actual cost records of the contractor are used to "itemize and total the cost of each piece of equipment or material and each manhour necessitated by the [breach]."*

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Actual costs

- This method is **also referred** to as the **“segregated” or “discrete”** cost method.
- If the **existence of the claim is known** prior to completion of the job,

  arranging the **contractor’s cost-accounting system** to allow for the **immediate identification** of damages may be possible.

  - **Every effort** should be made to **segregate the damages** by issuing separate cost-accounting codes to **track** the labor and material for the changed work.
    - ✓ However, this is often not possible

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Actual costs

- For example, when work is **both added and deleted** by a change,

  no actual cost record will exist for the **deleted work**.

- When **separate cost codes** are not established,

  the changed work labor and material are **comingled with the base work** labor and material,

  making the **separation** of costs **difficult** without signed time tickets, invoices, or some methodology to identify the changed work discretely.

  ✓ If

  1. The changed work was **highly inefficient**, and
  2. **No separate cost codes** or tickets were produced,

     an accurate accounting of the work hours **cannot be determined.**

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Actual costs

- The **change** may **not affect an item** of work completely from **beginning to end** by the change.
  - The **actual unit prices** for the work **before or after an impact period** can be analyzed to identify what the contractor will experience to complete the operation.
    - ✓ The process of identifying a period of unaffected work to serve as a baseline is known as the **“measured mile”** approach.

Reasonable costs developed from existing job data

- However, **most** construction project **documentation** will include **some or all** of the following **categories of documents**:
  - **Original estimate:**
    - ✓ The **contractor** will generally have prepared an original estimate or budget **prior to submitting** a bid or proposal for the project.
    - ✓ These **estimates** are typically broken down into **various accounts or cost codes** that reflect the work to be performed.
    - ✓ Within the various accounts, **numerous subaccounts** can be included, depending on the **level of detail the contractor desires**.

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