



*Contract Change Clause*

*The Change Order Process*

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*Presented by the  
Claims Avoidance & Resolution Committee*

# *Presenters*

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# *Changes are a Natural Part of construction*

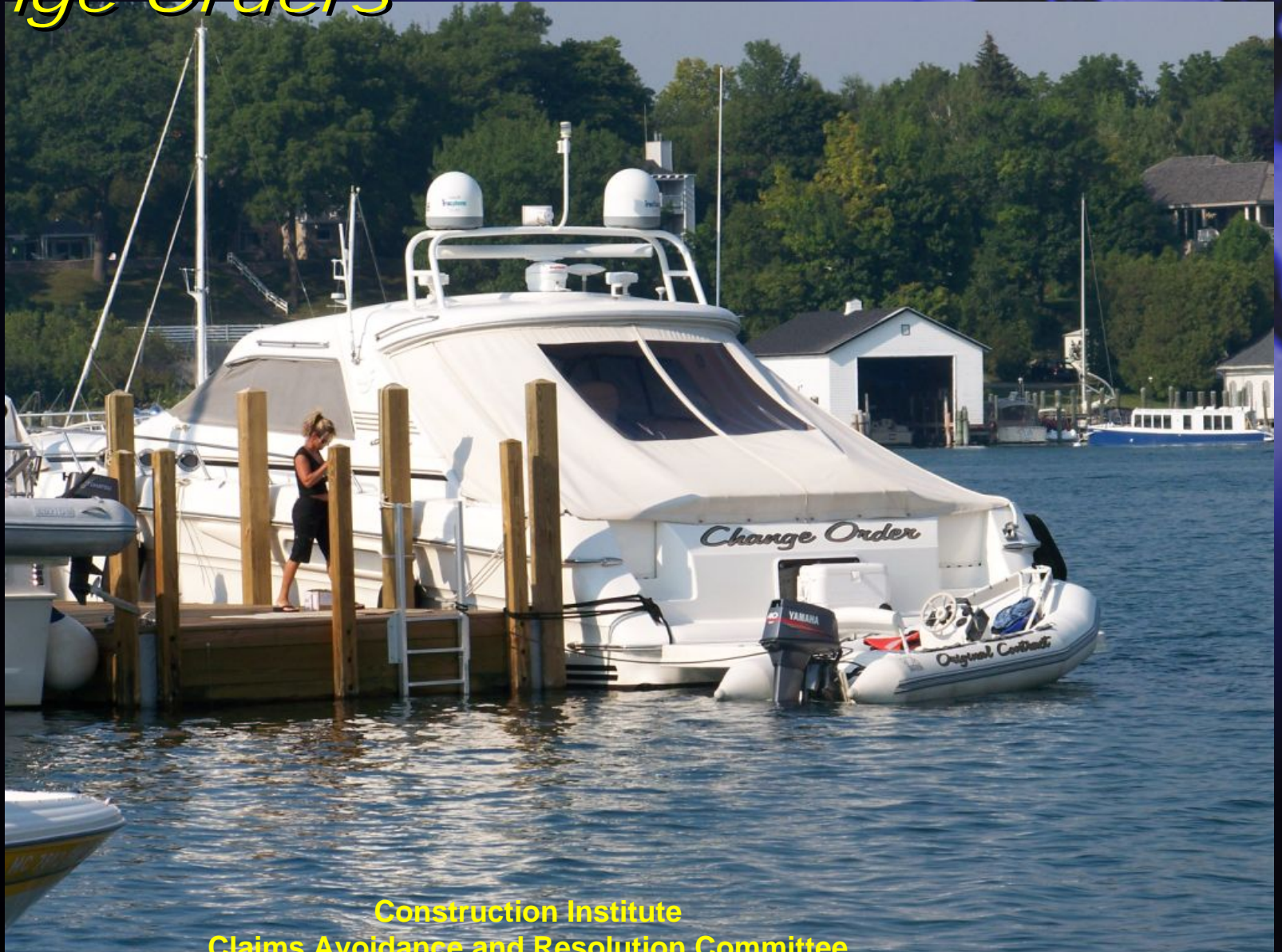
- Changes may have both cost and schedule impacts.
- Dealing with changes promptly will have the least amount of impact on the budget and schedule.
- Delaying resolution will increase costs, jobsite friction, and delay the completion of the project.



# *Reasons for Changes*

- Differing site conditions.
- Regulatory changes
- Owner/stakeholders change their mind.
  - Scope added/deleted during construction.
- Information missing from the contract documents
- Project Delays
- Adverse Weather

# *Owner's Perceptions of Change Orders*



**Construction Institute  
Claims Avoidance and Resolution Committee**

# *Contract Changes Presentation Goals*

- Define the change order process.
- Provide recommended practices for use on your contracts.

# *Change Process Elements*

- Define the Process
- Change Proposal Submittal
  - Scope
  - Timing
  - Pricing the Change Order Request
  - Time and Materials Work
  - Schedule Impacts

# *EJCDC*

- Many of the terms and processes included in this presentation are based on the Engineers Joint Contract Documents Committee Standard (EJCDC) General Conditions.
- Issued and Published by:
  - American Society of Civil Engineers
  - American Council of Engineering Companies
  - National Society of Professional Engineers

**Disclaimer: Terms used here may vary depending on the Owner, process, and/or contract used.**

# *Change Order Clauses*

- Most construction contracts state “... the Owner has the right to issue changes without invalidating the Contract.”
- EJCDC – Article 10.01 (Work Change Directive or Change Order)
- AIA A201 – Section 7.3.1 (Construction Change Directive)
- FAR Contracts – Section 52.243

# *Defining the Elements*

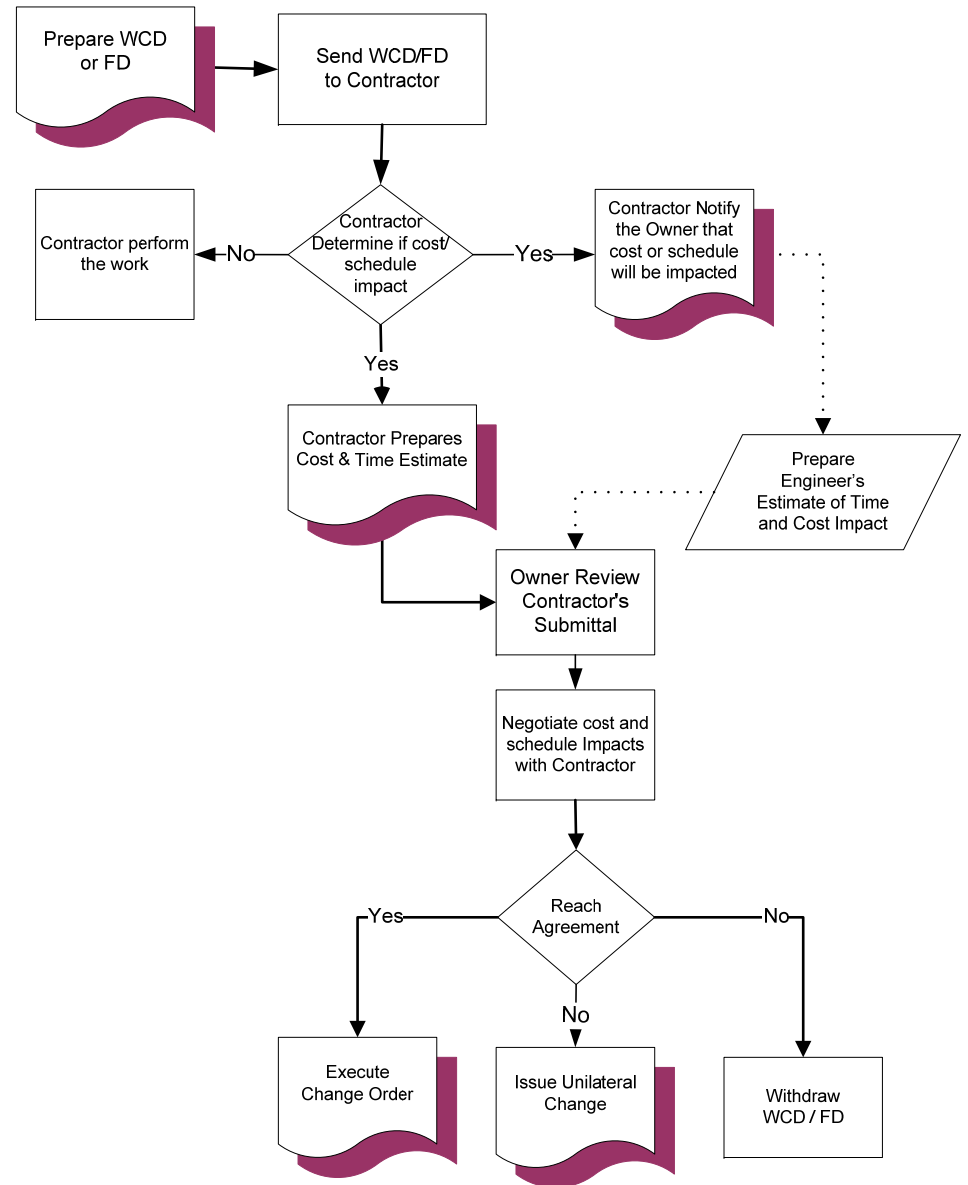
- Work Change Directive (WCD) – A statement to the Contractor from the Owner (design team, Owner's Rep, CM, etc.) requesting an addition, deletion, or change to the work.
- Field Directive (FD) – Written directive from the Owner directing a minor change to the work that will not impact the contract price or time.
  - If the Contractor feels the FD impacts the budget or schedule, it is required to notify the Owner.
- Change Request (CR) – Notification from the Contractor to the Owner of a change to the Contract time and/or schedule

# *Defining the Elements*

- Change Order (CO) – Document that incorporates changes to the scope, price and/or time into the Agreement/Contract.
  - Bilateral Change Order – Change Order whereby both the Owner and Contractor agree to adjustment to the price and time.
  - Unilateral Change Order – Change Order issued by the Owner when the Owner and Contractor cannot come to an agreement on the price and time.
- Claims – A demand or assertion by the Contractor (or Owner) for an adjustment to the contract time or price.

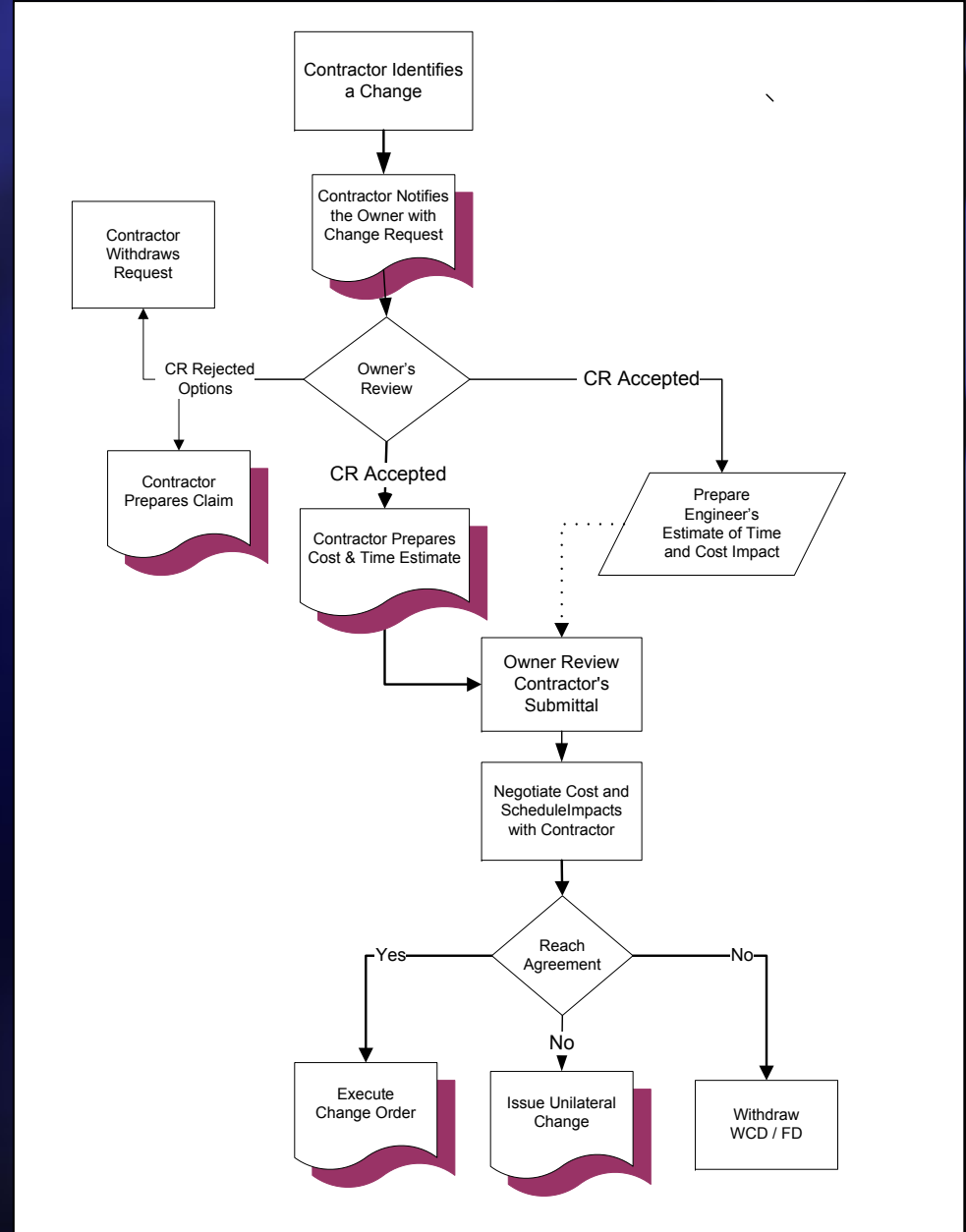
# Owner Directed Change Process

The General Conditions of the Contract define the process to follow.



# Contractor Change Request Process

- Most Contracts do not spell out a “Contractor Change Request” process.
- If the Contractor wants to submit a change request it needs to follow the “claims” process defined in the contract to request a change.



# *Notification Requirements*

- EJCDC Contract states that the Contractor must notify the Owner within 30 days of notification of the change by way of the Claims clause. (Section 10)
- The AIA document has no requirement for submittal of Change Proposal.
- FAR General Conditions state that the contractor must assert its rights for added costs and/or time within 30 days of notice of change. (Section 53-243-4)

# *Recommended Practice*

- Include in the Contract's General or Special Conditions or Division 1 a statement like

“The Contractor has 10 days to provide the Owner with their cost and schedule impacts resulting from this Work Change Directive.”

- If the Contractor is “allowed” to extend the submittal date; don't let the proposal submittal extend indefinitely.

- Benefits:

- Receive the information early enough to make a decision on whether to move forward with this change or an alternative.
- Resolve issue while fresh in everyone's mind.
- Reduces ability to claim at the end of construction.

# Sample Change Form

Include a proposal return date

**Change Request**

Title: \_\_\_\_\_ No.: \_\_\_\_\_  
Request Date: \_\_\_\_\_

Project: \_\_\_\_\_  
Contractor: \_\_\_\_\_  
Contract No.: \_\_\_\_\_ WO Contract No.: \_\_\_\_\_

Initiated by:  
 Owner  Engineer  Contractor  CM  Other: \_\_\_\_\_

**Change Request**  
The following change is proposed for the project. Please provide us with your proposed cost and schedule changes for this request as described below (use additional pages if necessary):

This work shall be constructed in accordance with the terms and conditions of the Contract Documents.  
The Contractor shall provide it's proposal for this work by \_\_\_\_\_.

**Contractors Proposal:**  
 Increase  Decrease \$ \_\_\_\_\_  
 Increase  Decrease \_\_\_\_\_ Days

**Recommendation:** Amount \$ \_\_\_\_\_

Comments

Accept  Reject  Accept  Reject

\_\_\_\_\_  
HDR Engineering, Inc. Date \_\_\_\_\_ Otak Date \_\_\_\_\_

**Local Programs:**  
 Accepted  Rejected By: \_\_\_\_\_ Date: \_\_\_\_\_

**Utility Provider:** (if required) \_\_\_\_\_  
 Accepted  Rejected By: \_\_\_\_\_ Date: \_\_\_\_\_

**City:**  
 Accepted  Rejected By: \_\_\_\_\_ Date: \_\_\_\_\_

# *Work Change Directive Proposal Submittal Requirements*

- Pricing Changes
  - Forward pricing changes
  - Time and Material pricing
  - Define the basis for costs
    - Labor rates
    - Equipment
    - Materials
  - Define mark-ups
  - Define mark-up distribution

# *Forward Pricing Changes*

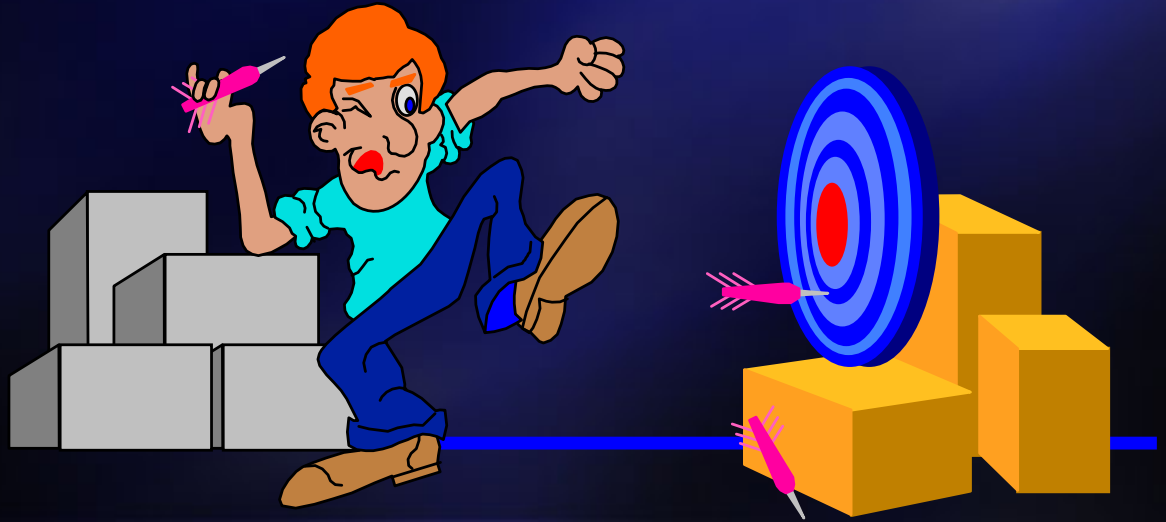
- Agree on the change order price before the Contractor begins the added work.
- Risk shifts from Owner to Contractor

# *Advantages of Forward Pricing Changes*

- Owner – Certainty of the cost and schedule impacts before changed work starts.
- Contractor – Payment for the changed work when changed work is performed.

# *Disadvantages of Forward Pricing Changes*

- Owner – They may feel they are paying more than the change is worth.
- Contractor – Changed work may cost more and/or take longer to complete than the agreed amount.



# *Forward Pricing Changes Using Unit Prices (UP)*

- Use Contract Unit Rates for changed quantities
- Many UP Contracts allow for re-negotiating Unit Rates when quantities
  - < 75% of bid quantities
  - > 125% of bid quantities
  - Use process for lump sum contracts to negotiate UP rate changes

# *Final Thoughts on Forward Pricing Changes*

- Lump Sum Proposal supported with cost breakdown.
- Some contracts define how changes should be priced in the changes clause. (AIA Section 7.3.6, NYC Contract Article 26)
- Others default to other clauses such as force account or accounting clauses. (EJCDC directs to Section 11.01, Section 15.4 of the FAR)

# *Recommended Practice for Forward Pricing Changes in Your Contract*

- Define how the Contractor should price labor, materials, equipment, construction equipment and tools in the Contract.

If you cannot include this in the contract, then...

- Agree on how you plan to price labor, materials and equipment at the start of the project, before the first change is issued.

# *Defining Basis for Costs*

- Determine how labor productivity will be defined; using actual, projected, or industry defined production rates.
- Labor wage rates; Based on:
  - Davis Bacon
  - Prevailing Wage Rates
  - Contractor's actual payroll
- Actual labor costs or blended rates.

# *Forward Pricing Changes*

- Material prices based on:
  - Invoices
  - Quotes
  - Audited costs
- Construction Equipment prices based on:
  - Invoices
  - Quotes
  - Contractor's accounting records
  - AGC/Blue Book

# *Change Order Mark-ups*

- Some contracts define mark-ups.
- Typical mark-ups:
  - Labor 10% to 30%
  - Materials 10% to 20%
  - Equipment 10% to 20%
  - Subcontractor work 5% to 20%

# *EJCDC Mark-ups*

- EJCDC Contract Mark-ups.
  - Labor 15%
  - Materials & Equipment 15%
  - Construction Equipment 15%
  - Subcontractor work 5%

# *AIA Document Addresses Mark-ups*

- “...cost plus a reasonable sum for Overhead and Profit.”

# *NYC Contract Mark-ups*

- NYC Contract Mark-ups.
  - Overhead
    - Labor 10%
    - Materials & Equipment 10%
    - Construction Equipment 10%
  - Profit 10%

## *MTACC (New York City)*

- Overhead & Profit  $\leq 21\%$

# *ConsensusDOCS*

- “...costs calculated on a basis agreed upon by the Owner and Contractor plus \_\_\_\_% Overhead and \_\_\_\_% profit; or  
...  
■ “...if there is a net increase in the Contract Price, the Contractor’s Overhead and profit shall be adjusted accordingly.”
- In case of a net decrease in the Contract Price, the Contractor’s Overhead and profit shall not be adjusted unless ten percent (10%) or more of the Project is deleted.

# *Time & Materials/Force Account*

- When Owner and Contractor cannot Agree on the costs, Owner issues the change directive to be performed on a time and materials basis.
- Risk is on Owner vs Contractor
- Payment based on actual costs plus agreed on mark-ups.
- Daily T&M sheets are completed and signed by the Contractor and Owner.
- Payment is made after incorporated into the Contract by Change Order.
- The contract should state what support activities and costs will be included in a time and materials change.

# *Advantages/Disadvantages to T&M*

- Advantages
  - Owner – Work starts on change when directed; reduces potential for schedule impacts
  - Contractor – Certainty of costs after the work is completed
- Disadvantages
  - Owner – Uncertainty of costs when the change work begins
  - Contractor – Loses ability to make more money on efficiencies

# *Recommended Practice*

## *Change Order Mark-ups*

- Define mark-ups in the Contract.
- Mark-ups should be reasonable and consistent with area practices.
- If you can't put them in the Contract, then negotiate the rates at the start of the project as a first order of business.

# *Recommended Practice*

## *Time & Materials Work*

- Issue a Not-to-Exceed amount for the changed work.
- Mark-ups (profit) for Time & Materials should be reduced due to reduced risk.
- If you can't put them in the Contract, then negotiate the rates at the start of the project.

# *Recommended Practice*

## *Identify what the mark-ups cover.*

- Field office – Identify facilities, office equipment, etc.
- Field staff – Project Manager, Superintendent, Field Engineers, administrative support, etc.
- Home office – Office expenses, officers, legal, accounting, etc.
- Insurance
- Bonds
- Profit/Fee
- State whether OH included in the mark-ups is applied to any contract time extensions

# *Recommended Practice Proposal Submittal Requirements*

- Schedule Impacts
  - Include schedule impacts in all changes to avoid schedule impact claims at the end of the project.
  - Require a preliminary Time Impact Analysis (TIA) with any schedule extension request and a TIA 30 days after the event is complete.
  - Negotiate extended overhead and/or acceleration issue NOW
  - Agree on new project end date.

# *Cost of Extended Overhead*

- Agree to extended overhead amount when you agree to the new contract completion date.
- Costs for extended overhead based on:
  - “Modified” *Eichleay*
  - Negotiated Amount/Rate
  - Time related overhead

**NOTE: Some States have regulations prohibiting  
“No damages for delay clauses.”**

# *Time Related Overhead (TRO)*

- California Department of Transportation (Caltrans) uses TRO on some Unit Price contracts
  - Bid Item either:
    - Lump sum (divided by the number of contract days)
    - Daily Rate
  - Contract states that the rate will be used for any schedule extension up to 180 days beyond original contract completion date.

# *Calculating Time-Related-Overhead*

Lump Sum Overhead Amount	\$1,534,500.00
Contract Days (working days)	620
Daily Rate	\$ 2,475.00/day
Days Added by Change Order	12 days
Extended Overhead Amount to be included in Change Order	\$ 29,700.00

# *Recommended Practice*

- Identify how you calculate extended overhead in the contract.
- Define what is included in the extended overhead:
  - Construction support equipment (cranes, forklifts, etc.)
  - Field office – Identify facilities, office equipment, etc.
  - Field staff - Project Manager, Superintendent, Field Engineers, administrative support, etc.
  - Home office – Office expenses, officers, legal, accounting, etc.

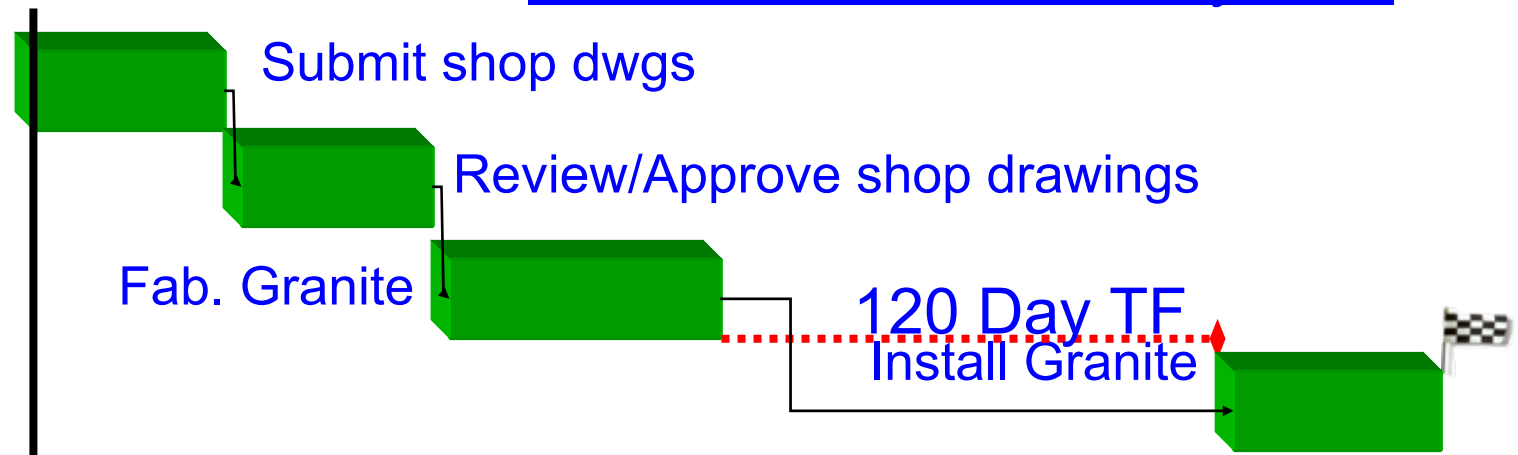


*Questions?*

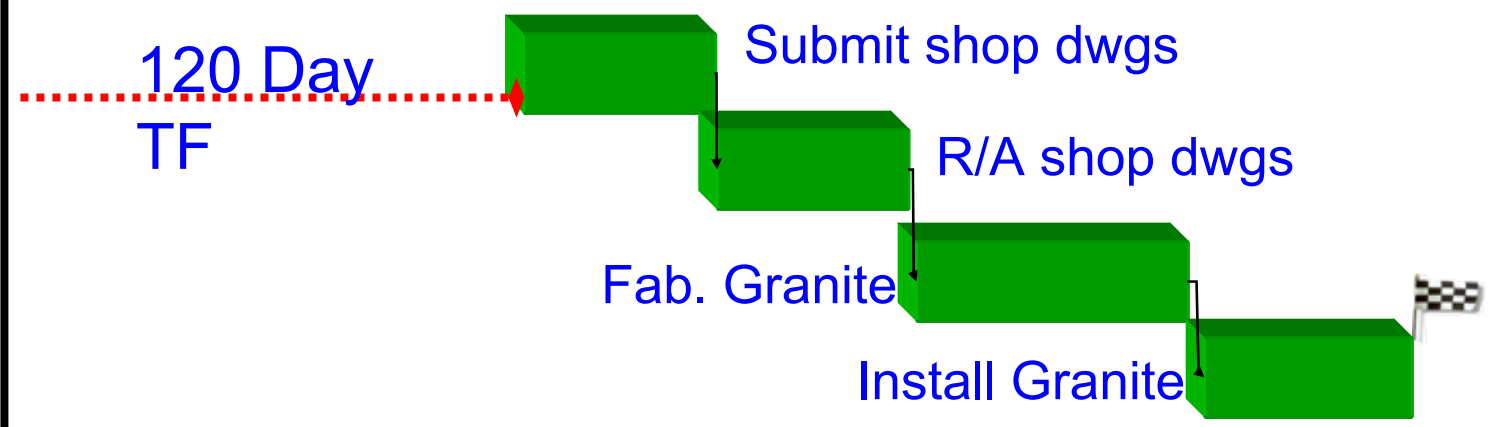
# Time Impact Analysis

NTP

## Baseline Schedule: Early Start



## Baseline Schedule: Late Start

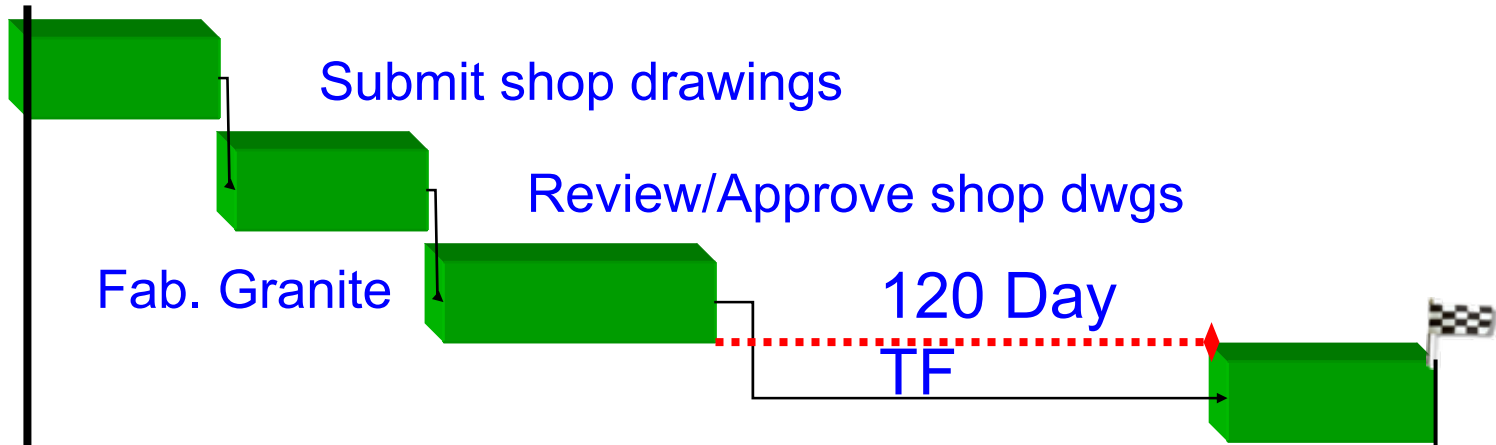


Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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# Time Impact Analysis

NTP

## Baseline Schedule



## As-Built Schedule

