

# Scheduling Issues

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## PURPOSE OF SCHEDULES

1. Force Contractor to plan project.
2. Allow Owner to monitor progress.
3. Define common terms and future plans.
4. Means to predict project completion.
5. Define current critical path.
6. Document work status and report on earned progress.
7. Document and calculate the results of delays.

## CONTRACT SETUP

1. Only the specifications listed at bid time define requirements.
2. Inclusion of "Time is of the essence" clause.
3. Joint ownership of float.
4. Limit constraints to contract-mandated events.
5. Limit maximum activity durations (except for equipment deliveries.)
6. Maximum/Minimum number of activities.
7. Require Subcontractors to sign-off on Baseline Schedule.
8. Define length of Start-up, Testing, Training, and Punchlist Activities.
9. Mobilization payment/No work for Baseline Schedule.
10. Progress payments based on schedule Earned Value.
11. Minimum Owner/Engineer review time.
12. Resubmittals to require the same review time as original submittal.
13. Incorporate submittals, review, fabrication, delivery activities for major equipment.
14. Include Owner-supplied equipment delivery dates on schedule.
15. Include a Submittal Schedule.
16. Include an Equipment procurement schedule for major items.
17. 90-Day (weekly) close-out schedule in addition to monthly schedule.
18. Expressly define the term "Substantial Completion."
19. One option: Pay for Change Order Schedule Analysis.
20. Require approved As-built Schedule for retainage release.

## BASELINE SCHEDULE

1. Getting an approved Baseline Schedule is the most important schedule matter!
2. Confirm that it meets all specifications or risk losing that requirement.
3. Partnering can be used to explicitly overlook a missing requirement.
4. Dealing with Early Completion Schedules.
5. Look for illogical relations intended to reduce float.
6. Look fo preferential sequencing of concurrent activities.
7. Look for artificial activity durations.
8. Look for missing critical activities.

## SCHEDULE UPDATES

1. High-level management focus on schedules.
2. Review the schedule with Contractor and use it regularly.
3. Respond quickly and thoroughly to update in writing.
4. Verify accuracy of status (dates & progress.)
5. Compare against earlier updates.
6. Incorporate Change Orders into schedule.
7. Defend the contract by enforcing the specifications.
8. "Accept" schedule submittals, not "Approve" them.

# CONSTRUCTION DELAY ANALYSIS

## DELAY ANALYSIS PROCEDURE

1. Identify the delay. (QUALIFY)
2. Define the duration and logical dependencies. (QUANTIFY)
3. Assess changes to Milestones or project completion. (MEASURE)
4. Assign responsibility for delay. (JUDICATE)

## CAUSES OF DELAYS

1. Prior work by others is defective
2. Differing Site Conditions
3. Defective plans/specs
4. Interference
5. Delay in owner-furnished materials
6. Changes in the scope of work
7. Weather related delays

## RESULTS OF RESPONSIBILITY FOR DELAY

1. Contractor caused: non-excusable & non-compensable
2. 3<sup>rd</sup> Party/Nature: excusable & non-compensable
3. Owner caused: excusable & compensable

## DAMAGE ELEMENTS IN A CLAIM

1. Direct Costs
2. Productivity Costs
3. Job Site Indirect Costs
4. Home Office Overhead Costs
5. Lost Profit
6. Consequential Business Losses
7. Escalation Costs
8. Interest Cost On Capital

## COMPENSABLE DAMAGES

1. Delays
2. Disruption
3. Interference
4. Acceleration - Voluntary, Affirmative, and Constructive