

Ghost Schedules – What, Why & What's the Risk



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Introduction



- Ghost Schedules used **“behind the scenes”** for various purposes
- Contractors
 - ✓ Record as-bid schedules
 - ✓ When owners refuse to approve early completion schedules
 - ✓ When owners fail to grant appropriate time extensions
 - ✓ To manage subcontractors & suppliers to early dates

Introduction



- Federal Courts ruled
 - ✓ Contractors “...not required to advise owner of planned early completion”
- Owners use Ghost Schedules when contractor schedules perceived to be “unusable” or “unreliable”
- **Beware:** Both pros and cons with use of Ghost Schedules

What is a Ghost Schedule?



- A schedule *other* than project schedule
 - ✓ Kept secretly due to need for “**more reliable schedule**” than project schedule
- Contractor’s Ghost Schedule not maintained *in lieu* of submitting updates
 - ✓ Used to reflect real plan for job
- Owner’s Ghost Schedule not a tool to compare & contrast with project schedule
 - ✓ Typically thought to be more “**accurate**” than contractor’s updates

Why are Ghost Schedules Created?



➤ Contractors use Ghost Schedules

- ✓ Maintain planned early completion schedule
- ✓ As production, target schedule to manage subs & suppliers
- ✓ Maintain own plan when owner no longer accepts schedule

➤ Owner/Owner Rep/Construction Manager use Ghost Schedules

- ✓ Record their interpretation of “**actual**” project status
- ✓ Monitor project, analyze schedule trends

Why are Ghost Schedules Created?



- Contractor, owner both use for own decision making
- **Goal** – Presentation will show how Ghost Schedules can be used for better project control, decision-making & faster claim resolution
- Both parties may openly use as partnering tool.

How are Ghost Schedules Used?



- **Reminder:** Project & Ghost schedules *different*
- Project schedule is official project schedule accepted or approved by owner
- Ghost Schedule not project schedule
 - ✓ Not defined, recognized by contract or known to other party
 - ✓ Kept apart from project schedule by party using it

How are Ghost Schedules Used?



- **Like project schedule Ghost Schedule must be**
 - ✓ Updated, analyzed, discussed & revised as needed by user
- **Unlike project schedule Ghost Schedules**
 - ✓ Not shared with project parties
 - ✓ Hence nicknames – Secret, Shadow, Hidden, Concurrent or Ghost schedule

Use by Contractors



- Contractor may use Ghost Schedule if owner refuses to approve early completion schedule
- If Ghost Schedule used contractor must still submit & update project schedule & maintain Ghost Schedule
 - ✓ Must plan & execute work using Ghost Schedule
 - ✓ Use to prove owner delayed early completion
 - Owner likely assert early completion = project float
 - If early completion delayed Ghost Schedule helps prove compensable delay
 - Without Ghost Schedule contractor cannot prove early completion delay

Use by Contractors



- **If owner & contractor disagree over updates**
 - ✓ Owner may insist schedule updated as they see progress
 - ✓ Contractor may use project schedule & Ghost Schedule
- **Ghost Schedule employed when contractor attempting to finish early but not inform owner**
 - ✓ Unrevealed early completion date sets schedule contingency
 - ✓ If early completion schedule accepted, owner may change completion date
 - ✓ Contractor uses Ghost Schedule to push subs & suppliers to meet early dates

Use by Contractors



- **Ghost Schedule may also be used as production or target schedule**
 - ✓ **Include durations & required rates (quantity/day or MH/quantity) for subcontractors to achieve**
 - ✓ **May be used as contingency against contract schedule with high Liquidated Damages**

Use by Subcontractors



- **More common for subs to maintain own schedules**
 - ✓ **Not share Ghost Schedules with contractors or owners**
 - ✓ **Since many subs on project, multiple Ghost Schedules possible**
 - ✓ **Prime's electronic project schedule typically not shared with subs**
- **Subs use Ghost Schedules for own early completion or manpower leveling & identification & submittal of delay or impact claim**
- **Ghost Schedules record & become subs' As Built schedule**

Use by Owners



- Most common reason for owner Ghost Schedules
 - ✓ When owner or CM's convinced contractor updates inaccurate & unusable
 - ✓ Create & maintain a “**more accurate**” Ghost Schedule
 - ✓ Based on project schedule with “**proper adjustments**” documented by field staff
 - ✓ Perceived to more accurately reflect project status & projections
 - ✓ Relies on Ghost Schedule to make time related decisions

Use by Owners



- Some owners have Ghost Schedule from outset even if contractor updates accurate.
 - ✓ Track & analyze project status independently
 - ✓ Since design often not complete at NTP owner use Ghost Schedule to
 - Determine impact of potential changes *before* issuing changes
 - Determine benefit or detriment of expediting OFCI equipment
 - Test variety of “**what ifs**” without disrupting project

Are Ghost Schedules Legal?



- Minimal case law dealing with Ghost Schedules.
- *Jackson Construction, Inc. v United States*
 - ✓ *“The contractor is not required to notify the Government of its intent to finish early as ‘it would seem to make little difference whether or not the parties contemplated an early completion’ ...”*
- Court added important qualifier.
 - ✓ *“The record, however, must contain concrete evidence of the contractor’s intent, such as a bid, estimate, or any other contemporaneous documentation of its planned early completion”*

Are Ghost Schedules Legal?



➤ Court also commented on notice of early completion as element of proof in delayed early completion claim situation.

✓ *“Notice to the Government, while not required, may be sufficient evidence of intent”*

Are Ghost Schedules Legal?



➤ Other cases discussing Ghost Schedules & related issues include:

✓ Appeal of Blackhawk Heating & Plumbing

- *"...the plaintiff urges that its recovery should be difference between the months it estimated project would take and the actual time consumed ... There is a serious conflict in the evidence as to exactly what the plaintiff's pre-bid estimate was"*

- Court did not believe pre-bid estimate matched Ghost Schedule

✓ E.C. Ernst, Inc. v. Koppers Company, Inc.

- Trial judge indicated delay hours overstated because based on flawed estimate of planned hours had no delay occurred

Are Ghost Schedules Legal?



✓ *Titan Pacific Construction Corp v. United States*

- Court's comments on reliability of Titan's schedule used to prove Government delay lead to belief Court considered Titan's schedule to be Ghost Schedule

➤ CPM in Construction Management (O'Brien & Plotnick) also refers to Ghost Schedules.

Are Ghost Schedules Legal?



➤ Other potential legal issues:

- ✓ Partnering Agreements: Do Ghost Schedules not shared among all parties violate spirit of agreement?
- ✓ Assumptions in Early Completion Schedule: If contractor's early completion schedule included reasonable assumptions about owner responsibilities, deliveries not explicitly in contract, is early completion claim compromised?

Are Ghost Schedules Legal?



- ✓ **Contract Schedule v. Early Completion Schedule:**
Critical paths may be different & delayed by different events.
 - During project execution, contractor can only negotiate time extensions based on project schedule
 - But Early completion schedule could be delayed by different events than project schedule
 - If contractor pursues early completion claim, what schedule governs & do separate analyses need to be reconciled?
- ✓ **Incentive Clauses:** How is early completion schedule reconciled with incentive clauses for earlier completion than contract dates?

How are Ghost Schedules Implemented?



- *Jackson* states contractors do not have to advise owners of intended early completion
 - ✓ Raises the question of disclosure – yes or no?
 - ✓ Authors' opinion: contractors can protect themselves & their plans better if they advise owner of intent
 - Owners have already realized benefit of lower bid due to lower overhead costs
 - Most owners glad to receive project earlier

How are Ghost Schedules Implemented?



- If contractor intends to complete early will need cooperation & assistance of owner
- May not occur if owner unaware of intent to complete early
 - ✓ If contractor appears to be substantially “ahead of schedule” owner staff may
 - Not respond timely to submittals or RFIs
 - Be slow in issuing change orders
 - All to detriment of contractor’s early completion plan

Implementation by Contractors



- **If owner formally rejects early completion schedule**
 - ✓ Contractor required to submit schedule that meets contract dates
 - Compared to early completion schedule project schedule likely includes different activity durations to meet contract period
 - ✓ Project schedules typically include most likely means & methods to complete project within contract duration
 - Logic, delivery of contractor supplied materials, etc. will be different from more aggressive & risky early completion schedule

Implementation by Contractors



- ✓ When multiple schedules used, incremental gains/losses in updates may vary between project schedule & early completion schedule
- ✓ Ghost schedule representing early completion likely will report delay internally while project schedule still **“on time”**
- ✓ If owner delays early completion schedule contractor will use Ghost Schedule to prove delay & delay damages instead of absorbing cost
- ✓ Without Ghost Schedule contractor may not be able to prove delay to early completion as project schedule not show delay until all project float exhausted.

Implementation by Subcontractors



- **Situations where subs may use Ghost Schedule**
 - ✓ Subs may use to drive its sub-subcontractors, suppliers & materialmen to complete work or deliveries by Ghost Schedule's early or complete no later than dates
 - ✓ Subs may use Ghost Schedule to support delay claim to prime contractor
 - Most subcontracts bind the subs to contractor's schedule & often have No Damage for Delay clause
 - Clauses may defeat use of sub's Ghost Schedule.

Implementation by Owners



- Owners typically use Ghost Schedule when contractor's updates inaccurate, unreliable & unusable.
 - ✓ Owner may not realize contractor's updates incorrect until large number of updates available for review
 - ✓ Schedule specifications should require:
 - Corrected logic that reflects actual & planned events
 - Identification of revised logic
 - Accurate start and finish dates

Implementation by Owners



- ✓ Schedule updates failing to meet criteria may be deemed useless in subsequent legal proceedings
- ✓ Owners must maintain accurate schedule
 - Once project schedule cannot be used for project history, risk of contractor creating false project history increases
- ✓ If owner uses its Ghost Schedule to prove Liquidated Damages owner must prepare claim in same manner as contractors prepare delay claims to owner

Implementation of Common Use



- Some projects have or are using a second or side schedule to benefit project
- Project parties could share common side schedule
 - ✓ No longer a Ghost Schedule
 - ✓ Perform studies to mitigate forecasted delays
 - ✓ Jointly reschedule work after delay incurred
 - ✓ Level manpower to alleviate schedule density problems
 - ✓ Resolve other challenges that arise on complex projects

Implementation of Common Use



- **Project parties use side schedule openly to perform & create real time solutions to incorporate into project schedule.**
 - ✓ **Since all parties participate in revision could lead to change order where parties compensated, minimize later claims & expedite contract closeout**
 - ✓ **Contract & Partnering Agreement must address use of side schedule**

Pros & Cons of Ghost Schedules



- Many advantages of Ghost Schedules, but also much risk
 - ✓ Biggest unknown in construction is risk.
 - ✓ Authors believe use of a Ghost Schedule is a “**known unknown**”
 - Risk managers recognize Ghost Schedules have risk, but potential impact of that risk is unknown
 - ✓ Risk can be managed
 - But use of Ghost Schedules may introduce more risk to project that must be weighed against potential benefits
- Users must fully evaluate pros & cons before employing Ghost Schedule

Benefits to Contractors



- Evidence of intent, ability & plan to finish early
 - ✓ Documentation contractor followed early completion plan until point where owner actions made it impossible
 - ✓ Documentation of delays, disruption & impact as incurred to show early completion delayed through no fault of contractor
- Deliberate buy in from subs, suppliers & other partners.
- Creation of schedule contingency to reduce risk of Liquidated Damages

Benefits to Contractors



- Ability to perform “**what if**” scenarios concerning changes, impacts & other disruptions to early completion schedule
- Ability to make overall company business decisions on early completion basis for project

Risks to Contractors



- Underlying problem of maintaining multiple schedules
 - ✓ **“Which one is your real schedule?”**
 - ✓ Project, production & early completion schedules (submitted or not) are all on project
 - ✓ Contractor subject to False Claim allegation if project executed & reviewed against on project schedule but claim based on Ghost Schedule?
- Was contractor lying then (patent contract schedule) or is contractor lying now (latent Ghost Schedule)?

Risks to Contractors



- **Contractor takes risks with Ghost Schedule assumptions**
 - ✓ Assumptions reasonable at time Ghost Schedule prepared could be compromised by project conditions or turn out to be wrong
 - ✓ When contractor does not submit its early completion schedule (as in *Jackson*) & not advise owner of early completion assumptions contractor may have increased own risk

Risks to Contractors



➤ Negative aspects of Ghost Schedules

- ✓ Open communication about past, current & future status of schedule & project progress may be suppressed.
- ✓ One or more parties may be posturing for a claim & will withhold information so as not to “**tip its hand**”
- ✓ Authors have observed this when contractor or sub has underbid &/or mismanaged job or owner may do so when its design not as complete as advertised in bid documents

Risks to Contractors



➤ **Another risk of maintaining Ghost Schedule is added cost**

- ✓ **With multiple schedules**
- ✓ **Contractor doing monthly reconciliations of both project & Ghost Schedule**
- ✓ **Create confusion among management & field supervision about short & long term goals**

Benefits to Subcontractors



- **Subs often maintain own schedules particularly on larger, more complex projects**
 - ✓ Such schedules are generally hidden from contractor or CM@Risk.
 - ✓ Subs schedule is its record of project schedule & can be used for claims or defense of claims
- **Subs schedule also allows it to manage resources & criticality of its activities**
- **Ghost Schedules used on all projects helps sub understand its total commitments & restraints when it plans to bid new projects**

Risks to Subcontractors



- **Subs' risk using Ghost Schedules mainly arises when Ghost Schedule differs from project schedule used by contractor or CM@Risk.**
 - ✓ **Ghost Schedule likely to be used for claims**
- **Subs' Ghost Schedule must be aligned with project schedule**
 - ✓ **With differences noted & recorded monthly by sub should a reconciliation or explanation later be required while negotiating impact or delay claim with contractor**

Benefits to Owners



➤ **Benefits of Ghost Schedule to owner**

- ✓ **Accurate database of actual start/finish dates by activity**
- ✓ **Record of actual logic of construction**
- ✓ **Ability to determine whether various events actually caused contemporaneous delay**
- ✓ **Elimination of need to recreate As Built schedule after project completion**
- ✓ **Ability to make & implement project decisions timely**
- ✓ **Ability to make & implement stakeholder &/or company decisions timely**

Risks to Owners



- **Cost of maintaining two schedules**
 - ✓ Staffing to track progress, logic & actual dates
 - ✓ “**What if**” studies on both schedules
 - ✓ On high risk projects benefits may outweigh cost
- **Once owner determines contractor schedule inaccurate dilemma is how much data is shared?**
 - ✓ Owner review of updates points out errors, questions status, critical path, logic & technical issues
 - ✓ If owner does not share contemporaneous data does that mean “**superior knowledge**” prevents them from using data if claims arise?
 - ✓ As contract mandates project schedule & updates be used what schedule owner use for delay analysis?

Risks to Owners



- During “**what if**” analyses owner must ensure its schedule reconciled with contractor schedule
- Modification to its schedule may yield different results than contractor schedule
- May lead to dispute over impact of owner changes
 - ✓ Owner must perform due diligence to ensure projected outcome based on all known facts
 - ✓ If owner issues change based on its Ghost Schedule owner must accept risk if assumption wrong

Risks to Owners



➤ Risk of Ghost Schedules clear

- ✓ Communication stifled when parties use them
- ✓ Don't mean to imply that Ghost Schedules prevent normal collaboration on project schedule, *but ...*
- ✓ Communication suffers, at least somewhat, when either party employs a Ghost Schedule

Recommendations



- All parties must understand & comply with contract terms
- As with use of project schedule & other project management tools
 - ✓ Use of Ghost Schedules must be done without violating terms of contract & good faith dealings with other parties
- All parties must recognize & accept risks of Ghost Schedules

Recommendations for Contractors



- To document case for early completion contractor must maintain working files similar to how it should maintain files for project schedule
 - ✓ Assumptions, basis of logic, sequencing & execution
 - ✓ Production & productivity analyses to prove durations
 - ✓ Bid estimate that comports with early completion
 - ✓ Sub & supplier confirmation of early completion
 - ✓ Dated archived version of early completion schedule
 - ✓ Reconciliation & documentation of deviations from early completion schedule

Recommendations for Contractors



- **Recommended documentation for updates of early completion**
 - ✓ For activity start/complete dates set of daily reports &/or subcontractor daily reports
 - ✓ Dated photographic evidence/daily webcam
 - ✓ Logs to track submittals, deliveries, inspections & tests

- **Recommended documentation for update dispute between contractor and Owner**
 - ✓ Project records to demonstrate why contractor's version differs from what owner required contractor to report

Recommendations for Contractors



- **Recommended documentation for when contractor pursues claim vs. sub/supplier.**
 - ✓ **Written confirmation of original/revised commitments (bids, quotes, proposals, correspondence)**
 - ✓ **Subcontracts, purchase orders & modifications**
 - ✓ **Logs to track submittals, deliveries, inspections & tests**
 - ✓ **Contemporaneous correspondence**
 - ✓ **As-built construction dates, manpower logs, progress reports & payment records**
 - ✓ **Delivery dates, submittal & shop drawing logs**
 - ✓ **Archived versions of schedules & updates**

Recommendations for Subcontractors



- **To prepare claims against contractor or defend against claims, subs also need to keep detailed records**
 - ✓ **For activity start/complete dates, set of daily reports &/or contractor's daily reports to support dates**
 - ✓ **Dated photographic evidence**
 - ✓ **Logs to define submittal histories, delivery dates, inspection dates, test dates & other key dates**

Recommendations for Owners



- **Documentation required for accurate schedule**
 - ✓ For activity start/complete dates, set of daily reports &/or contractor daily reports
 - ✓ Dated photographic evidence/daily webcam
 - ✓ Logs of submittals, deliveries, inspections, tests, etc.
- **Documentation when in dispute over update**
 - ✓ Contemporaneous documentation of position for rebuttal
- **If owner uses Ghost Schedule to assess Liquidated Damages prepare claim in same manner as contractors prepare delay claims**

Recommendations for Owners



- **Vigilant review of meeting minutes for correction to record**
- **Correspondence to contractor to advise of errors in schedule & other concerns.**
- **Recognition of contractors as experts in construction execution**
- **Owners must accept risk of its decisions based on Ghost Schedule**

Conclusion



- **What does all this talk of Ghost Schedules mean?**
 - ✓ **Will use increase or decrease?**
 - ✓ **Will new uses be found for them?**
 - ✓ **Answer lies with industry & practitioners**
- **Ghost Schedules already been used by owners & contractors for different reasons**
- **Most important recent development is *Jackson* case**

Conclusion



- **The negative aspect of Ghost Schedules**
 - ✓ They harm open communication
 - ✓ By their very nature, are disingenuous
- **Ghost schedules must be used properly to protect party's interest but not intentionally harm other parties**
- **All parties must be vigilant about use & benefit of project schedules *and* watchful of how Ghost Schedules used**

Conclusion



➤ Common Use of side schedules has potential

- ✓ If contractors & owners agree to use side schedules for what if analyses, negotiation of change impacts, etc. may resolve issues on site without disputes
- ✓ Know contract will have to address side schedule
- ✓ Not yet certain what other ramifications concept may lead to nor what protections need to be put in place
- ✓ Looking for input on idea which may lead to future more detailed recommendations

Questions?



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