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A Schedule-Centric View of Contract Administration

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A Schedule-Centric View of Contract Administration

- Contracts
- Contract requirements
- Scheduling requirements
- Contract management

- **Dennis Sobota**
  - 40+ years in claims avoidance contract administration
  - Primarily Owner representative
  - Several years working for Contractors
- **Chris Carson**
  - 38+ years in construction management, focusing on project controls
  - Primarily Contractor representative
  - 12 years working as consultant for Owners

A Schedule-Centric View of Contract Administration

- Contract administration & construction management
  - Seem simple
  - Review the Contractor's work timely and accurately
  - Project is successful

- However
  - Without a good understanding of time related issues
  - Without administering the contract from a schedule perspective

- Projects fail
  - Late completion
  - Blown budgets
  - Disputes resulting in costly legal resolution

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A Schedule-Centric View of Contract Administration

- Construction management & administration
  - Unique of all types of projects
  - One design, one location, one new set of stakeholders
  - End user is facility management, different needs
- Construction management is different from administration
  - May be a professional CM on project
  - May be administered by A/E
    - May or may not have any depth of CM background
    - Professionals, certified by state, for technical knowledge
  - CM not generally part of the A/E certification
    - State of Virginia now has CM as one of P.E. disciplines

A Schedule-Centric View of Contract Administration

- Although there are more bells & whistles, CM has not changed significantly through the years
  - Some components are evolving
    - Computer based project management
    - LEED certification
    - Increased ramifications of change management
  - Many components have not changed
    - Means and methods still essentially the same
    - Few major changes in construction techniques
  - Good news is lessons learned can be used over and over

A Schedule-Centric View of Contract Administration

- Do you want to be the most important person involved with the construction project?
- READ the contract
  - Not just the technical sections
  - Read the General Conditions
  - Read the bid form
  - Read the Division One requirements
- Because most people don't!
  - AACEi session several years ago yielded survey
    - More than half project controls professionals did not even read the scheduling specification
- How many professionals never read the contract?

A Schedule-Centric View of Contract Administration

- Dennis wrote a article for the National Society of Professional Engineers' magazine (NSPE)
  - In 93% of all claims against A/Es in 2009, non-technical issues were present
    - Schedule control
    - Project team capabilities
    - Construction-phase services
  - A/Es often concentrate on design goals, technical sections, coordination among design disciplines
- However, these areas are rarely the only or primary source of disputes

A Schedule-Centric View of Contract Administration

- **General Conditions of the Contract**
  - Contains all basic contractual & admin details for project
  - For Virginia construction
    - 50 sections
    - 50 pages long
    - Still much shorter than the government's Federal Acquisition Regulations (FAR)
  - GCs contain many potentially critical items
    - Notification requirements
    - Submission requirements
    - Change management process
    - Dispute resolution process

A Schedule-Centric View of Contract Administration

- **For example**
  - In Virginia General Conditions Section 47, Contractual Disputes
    - A claim must be filed "at time of occurrence"
    - "the filing of a timely notice is a prerequisite to recovery under this Section"
    - Documentation supplied with the claim is vital to negotiated settlements
      - "all claims shall be submitted with all practically available supporting evidence and documentation"

A Schedule-Centric View of Contract Administration

- How are GCs altered in the contract?
    - By add Supplemental General Conditions

- Precedence among the contract documents
    - Contract agreement between Owner and Contractor
    - Supplemental General Conditions
    - General Conditions

- Must read these sections!

A Schedule-Centric View of Contract Administration

- **Starts with Bid Form**
  - May establish cost/pricing issues
  - May establish time constraints
  - May dictate phasing requirements
- **Next, Division One of the Specifications**
  - Why should contractors bother to read?
    - Contains specific work restrictions at site
    - Includes project management and coordination requirements
  - Why should A/E be concerned?
    - Contractor is relying on A/E to act as contract administration
    - Contractor is relying on A/E's understanding of project
    - GCs define roles of all stakeholders
    - Defines assignment of risk

A Schedule-Centric View of Contract Administration

- Continues with the Scheduling Specification, Section 19 in Virginia's standard specs, Section ~01300 in other specs
  - Schedule review is not typically an expertise found in-house at the A/E
  - Complex projects need expert help in review and claims avoidance
- Always treat time like money
- RFIs are an example
  - If handled timely
    - Surveys show that relationships are improved when mistakes are corrected, unless not done timely and accurately
    - Slow response will spark delays and claims

A Schedule-Centric View of Contract Administration

- **First and last rule – Document, Document, Document**
  - If it isn't written, it didn't happen
  - In litigation, the one with the most paper wins
    - This means relevant paper
    - Contemporaneous project documentation is highest of all "proofs" required in litigation
- **Primary goal should be to avoid disputes**
  - Produce accurate and timely meeting minutes
  - Summarize points of agreement from meetings
  - Ensure full and complete daily reports
  - Use statistics rather than vague terms "many", "a number"
  - Use "reasonable standard of care"

- Think of documentation as building a case
  – Even if no one is claims oriented
  – No one plans to litigate, but too many projects fail
- Lessons learned from dispute resolution process
  – Memories are inconsistent and misleading
  – Emotions rule when contemporaneous documents are not available
  – Many claims cannot be proven due to the lack of support documentation
  – Many claims chase weak or incorrect issues, and ignore legitimate delays or disruption
  – Costs of entering into formal dispute resolution are 5 to 10 times as much as negotiating the issues without attorneys

- **Scheduling oriented process**
  - All contracts have some level of requirements for schedule control
  - First rule: manage the project from the schedule
    - Require schedules as specified
    - Perform technical schedule reviews
    - Discuss ramifications of time at every meeting
    - If the Contractor appears weak in scheduling, take extra care
    - Recognize that all technical engineering components of the project have time components
      - RFIs have response needs
      - Shop drawings dictate sequence of installation
      - Quality control failure has time ramifications

Success Factors for Projects

- From "*Scheduling Practice & Project Success*" by Dr. Andrew Griffith

- Study identifying characteristics of schedules that correlated with better project performance (success)
  - Integration of all project phases into a single schedule
  - Application of Critical Path Method (CPM) scheduling
  - Resource-loading of project schedule
  - Detailed review of schedule by project team

Success Factors for Projects

- **Integration of all project phases into a single schedule**
  - Includes full scope of work
  - Allows for planning for interfaces between project phases (pre-design, design, procurement, construction, post-construction)
  - Limited use of constraints
  - Better cost performance & less schedule slip

Success Factors for Projects

- Application of Critical Path Method (CPM) scheduling
  - Forces team to break down project into discrete activities, estimate durations, identify & review sequencing
  - Network is permitted to calculate accurately, providing better tool with reasonable Critical Path and float values
  - Unrelated to project size
  - Better cost performance & less schedule slip

Success Factors for Projects

- Resource-loading of project schedule
  - Helps to ensure alignment between cost & schedule
  - Allows evaluation of peak labor
  - Focuses the team on critical resources
  - Better cost performance & less schedule slip

Success Factors for Projects

- **Detailed review of schedule by project team**
  - Provides a check on accuracy
  - Allows functional leaders to verify that means & methods are represented in the schedule
  - Supports buy-in by project team
  - Demonstrated less cost growth

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Success Factors for Projects

- **Lessons Learned**
  - Benchmark schedule development
  - Schedule definition developed early in project when ability to influence outcome is greatest
  - Allocate resources to develop & use an integrated project schedule
  - Proper planning and scheduling are worth the investment since they contribute to project success

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Developing a Schedule-Centric Culture

- Project management requires
  - Planning and management skills
  - Nimble response to daily occurrences on a project
  - Hundreds of quick decisions
  - Problem solving

- PM often evolves into a pattern of crisis project management.

- Major step to eliminating systematic crisis management:
  - <u>Development of a scheduling program</u> – place the company on a schedule-driven project management program

Developing a Schedule-Centric Culture

- If a program has symptoms that include
  - Late completion of projects
  - Just-in-time completion of projects
  - Consistent two-minute warning completions
  - Budget-busting completions
- The company needs to put a schedule-driven program in place.

- Implementing the program consists of:
  - Senior Management buy-in for:
    - Planning and scheduling
    - Dedicated schedule development and maintenance
    - Elimination of crisis management
    - Good analytical software use
  - A process of mandated schedule development, updating and analysis, with consistent monitoring

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Developing a Schedule-Centric Culture

- Senior management
  - Little recognition of the problems behind visible symptoms
  - Uses management "club" to treat those symptoms, including for project managers
- Senior management must be convinced
  - Stop focusing on the project managers "failings"
  - Support dedicating time to planning the projects
- Project managers have so many responsibilities that they cannot control
  - Invoicing, cost control, budgeting
  - Problem resolution, client communications
  - Resource management
  - Communications & paperwork demands
- Scheduling will not be consistently managed
- Senior management must mandate a schedule-driven program.

Developing a Schedule-Centric Culture

- Development of effective and simple reports
  - Senior level management reports
    - At-a-glance style for all projects
    - Clear, meaningful metrics
  - Project level management reports
    - Predictive information
    - Focus on Critical Path work
    - Clear, meaningful metrics
- Training the entire PM team in scheduling philosophy, with technical training for scheduler
- Implementation of the process, with scheduling taking a prominent role in PM meetings
- Follow through to ensure the process is adopted
- Assessment of results

Developing a Schedule-Centric Culture

- The scheduling program:
  - Must be written down & explained step by step
- Every project (no matter how small):
  - Develop a detailed schedule
  - Project management team has buy-in to the plan by participating in development
  - Project managed by the schedule
  - Schedule updated & analyzed frequently
  - Schedule progress reported regularly
  - Schedule prominent in meeting agenda.
- Running meetings by the schedule is the best way to show dedicated schedule planning
- Once schedule is updated, analyzed, reported, if slippage shown, must involve resolution.

Developing a Schedule-Centric Culture

- Developing senior management reports is crucial
  - Frequent updates promote use of schedule for management
  - Frequency depends on project performance

Developing a Schedule-Centric Culture

- Senior management should take report when they drive by sites. This provides visual overview of progress compared against plan.

- Project manager gets a copy of report, so he knows what information is reported.

- Project manager level reports
  - Most important report - Critical & Near-Critical Path
  - PM walks the job with the report in hand
  - PM verifies that Critical & Near Critical Path is being worked
  - PM also verifies that other "mass volume" work is progressing and not eroding Total Float (or Free Float)

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Developing a Schedule-Centric Culture

- Field visit forms to capture schedule information

Mitigation Schedule Analysis

- Triple constraints
  - Time
  - Cost
  - Scope/quality
  - Fourth constraint often added; risk
- Most programs are driven by one of the constraints
  - When one constraint must be fixed, others will vary
  - In this case, time was the fixed constraint
  - This requires a focus on mitigation of delays
- A structured effort is essential

Developing a Schedule-Centric Culture

- Scheduler should take field visit report to walk project
  - Meet with superintendent or project manager
  - Fill out field data sheet
- The process forces attention onto the schedule
  - Triple constraints
    - Time
    - Cost
    - Scope/quality
    - Fourth constraint often added; risk
  - Most programs are driven by one of the constraints
    - When one constraint must be fixed, others will vary
- Schedule is the one constraint that monitors all others

Developing a Schedule-Centric Culture

- Meeting agenda for schedule-centric contract admin
- Current Project Status:
  - CCD
  - Time extension requests
    - Need to analyze
    - Submitted, waiting on negotiation/approval
  - Change order requests
  - Outstanding issues

Developing a Schedule-Centric Culture

- Meeting agenda for schedule-centric contract admin
- Owner responsibility issues
- Third party responsibility issues
- Baseline approval
  - Status of buy-outs
- Update
  - Approved?
  - TIAs?
  - Changed conditions?
  - Production issues?

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Developing a Schedule-Centric Culture

- Meeting agenda for schedule-centric contract admin
- Short interim look-ahead schedule
  - Subcontractors
    - Scheduled
    - Shared with other projects
    - Problem subs
      - Start problems
      - Production problems
      - Finish problems

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Developing a Schedule-Centric Culture

- Meeting agenda for schedule-centric contract admin
- Long lead time issues
- Submittals/Approvals
  - Status of scheduled shop drawings
  - Status of scheduled submittals
  - Status of approvals
- RFIs
  - Missing/needed RFIs/answers
  - Outstanding RFIs

Developing a Schedule-Centric Culture

- Meeting agenda for schedule-centric contract admin
- Change orders
  - Owner
  - Subcontractors
- Quality control issues
- Schedule revisions
  - Missing scope of work in schedule?
  - Changes to logic due to work plan changes
  - Changes due to additional work
- Out of sequence work

Was the message clear?

- Construction management implementation changes according to phases in the project lifecycle
- Need to understand contracts and project delivery systems because they affect management of projects
- Success in construction projects is driven primarily by the project controls effort
- The better and more comprehensive the project controls system, the higher likelihood of project success

Thank You
For Attending!

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