Innovative Claims Avoidance: Early Recognition and Mitigation

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McMillen Jacobs Associates

McMillen Jacobs Associates (MJA)
- Jacobs Associates established in California in 1956
- Worked on design and claims from beginning
- Seattle Office: Brightwater, ST, Major Projects in water conveyance and transportation and underground work
- Merged with Design/Build firm McMillen in 2015
- MJA has a staff of 380 in 19 cities across the US

Henry J Spieker

- Over 28 years of experience in claims
  - 25 appearances as an expert witness
  - Delay, cost impact, productivity analysis . . .
  - Involved with hundreds of projects with issues
- Help clients recognize, prepare for and resolve potential claims
- Apply claims expertise to mitigate and avoid disputes during the project
Ken Sparks, PSP

- Over 20 years of scheduling/claims/project controls experience
- Worked for Contractors, Owners, and Consultants
  - Background in heavy civil including wastewater treatment, process piping, road/bridge, heavy rail, light rail, tunneling, and commercial development
- Worked in Seattle for over 11 years and have been with MJA for seven years
- Member of AACEi and holds Planning and Scheduling Professional certification since 2009
- Member of Project Management College of Scheduling
  - Organization focused on setting and maintaining standards for scheduling professionals

Claims Avoidance and Mitigation

- Topics
  - Identify risks, potential problems and the warning signs that could lead to claims
    - Illustrated with examples from case-studies
  - Discuss how schedule, change and cost management in project controls can lead to successful projects
  - Prepare contract language and contingencies to avoid and mitigate project risks
Claims Avoidance and Mitigation

• Which Party has risk in the Project?
  – Owner’s Risks
  – Contractor’s Risks

• Some examples to follow

Owner’s Risk

• Risks of Time (Schedule)
  – Project completed late
  – Permitting issues
  – External constraints affecting time
  – Sequence of construction
    • Fish windows, HPA, agency deadlines, “stakeholder” and “partner commitments”
Owner’s Risk

• Risks of Cost
  – Project budget not met due to unforeseen issues
    • Differing site conditions
    • Unforeseen quantities of unit price work
    • Additional personnel needed to manage work

• Risks of Scope
  – Scope increases exceed cost and time budgets
    • Stakeholder demands
    • Permitting requirements
    • Work required increases for renovation work
Contractor’s Risk

• Contractor has the same risk “types” as the owner
• Plus: Contract language was prepared by the Owner in most public works projects . . .
• Understanding the contractor’s risk provides important insight

Contractor’s Risk

• Time and schedule risks
  – Late Starts
  – Late completion
    • Changes
    • Questions
    • Subs
    • Coordination
    • Rework
  – Actual Example:
Contractor’s Risk

• Risk of Cost
  – Cost Overruns
    • Changes in scope
    • Disruption
    • Delay
    • Lower than planned productivity
    • Insufficient budget

• Risk of Scope
  – Gaps in subcontractors’ scopes
  – Specification language “covering” scope issues
  – Scope and contract increases are disproportionate to cost
    • Contract markups
Problems and Warning Signs

• What are some of the warning signs?
  – Some less obvious
  – Some are very obvious

• Suggested steps to take

Potential Problems and Warning Signs

• Time
  – 1. Baseline CPM
    • Lack of an accepted baseline CPM schedule
    • Unreasonably short duration activities
    • Schedules that lack input from major subcontractors
    • Early-completion baseline schedules
    • Excessive number of activities either critical or near critical
    • **Steps: Perform a detailed review of the CPM (native file) and document concerns to the Contractor**
    • **Steps: Prepare a strong schedule specification**
    • **Steps: Administer the Contract**
**Project Periods to be Modeled**

1. **Constraints for North Site**
   - A. Be responsible for the Privasive site and building on the effective date of the NTP or the date that the Project Representative allows access, whichever is later.
   - B. Power relocation activities as shown on the Drawings will be completed by Seattle City Light no earlier than March 1, 2015.
   - C. The permanent pole supplying permanent power to the Odor Control Facility as shown on the Drawings will be completed no earlier than March 1, 2015.
   - D. The following constraints apply to portions of the work north of the LWSC.

<table>
<thead>
<tr>
<th>Construction Item</th>
<th>Construction Activity</th>
<th>Allowable Work Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interceptor Chamber</td>
<td>Demolition of the existing Fomby and construction of the Interceptor Chamber in NW Canal Street</td>
<td>See Section 02100</td>
</tr>
<tr>
<td>Interceptor Chamber and 106-in Line</td>
<td>Demolition and construction</td>
<td>See Section 02100</td>
</tr>
<tr>
<td>COS CSO Outfall</td>
<td>Construction of new and decommissioning of existing outfall (land and in-water work)</td>
<td>June 1 through September 30 of any calendar year</td>
</tr>
<tr>
<td>COS CSO Outfall (in-water work)</td>
<td>Work to occur</td>
<td></td>
</tr>
</tbody>
</table>

1. **Constraints for Interceptor Chamber**
   - A. The following constraints apply to construction of the Interceptor Chamber.
   - B. At all times, the CSO CSO boxes shall be restricted.
   - C. Work site or that impacts the existing CSO Allowable Work Window.

<table>
<thead>
<tr>
<th>Construction Item</th>
<th>Construction Activity</th>
<th>Allowable Work Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Forebay and Interceptor Chamber</td>
<td>Closure of 2nd Ave NW and NW Canal Street</td>
<td>June 1 through October 1 of a single calendar year, multiple years not allowed</td>
</tr>
<tr>
<td>Interceptor Chamber</td>
<td>Closure of 2nd and Canal Intersection</td>
<td>July 1 through October 1 of any calendar year</td>
</tr>
<tr>
<td>106-in pipe</td>
<td>Construction within pipeline</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Complete restoration of street pavement shall be included by the end of the timeframe of the constraint specified.

**Non Work Periods Using Constraints**

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A110</td>
<td>01-Jan-15</td>
<td>31-Mar-15</td>
</tr>
<tr>
<td>A110</td>
<td>01-Apr-15</td>
<td>30-Jun-15</td>
</tr>
<tr>
<td>A110</td>
<td>01-Jul-15</td>
<td>30-Sep-15</td>
</tr>
<tr>
<td>A110</td>
<td>01-Oct-15</td>
<td>31-Dec-15</td>
</tr>
<tr>
<td>A110</td>
<td>01-Jan-16</td>
<td>31-Mar-16</td>
</tr>
<tr>
<td>A110</td>
<td>01-Apr-16</td>
<td>30-Jun-16</td>
</tr>
<tr>
<td>A110</td>
<td>01-Jul-16</td>
<td>30-Sep-16</td>
</tr>
<tr>
<td>A110</td>
<td>01-Oct-16</td>
<td>31-Dec-16</td>
</tr>
<tr>
<td>A110</td>
<td>01-Jan-17</td>
<td>31-Mar-17</td>
</tr>
<tr>
<td>A110</td>
<td>01-Apr-17</td>
<td>30-Jun-17</td>
</tr>
<tr>
<td>A110</td>
<td>01-Jul-17</td>
<td>30-Sep-17</td>
</tr>
<tr>
<td>A110</td>
<td>01-Oct-17</td>
<td>31-Dec-17</td>
</tr>
<tr>
<td>A110</td>
<td>01-Jan-18</td>
<td>31-Mar-18</td>
</tr>
<tr>
<td>A110</td>
<td>01-Apr-18</td>
<td>30-Jun-18</td>
</tr>
<tr>
<td>A110</td>
<td>01-Jul-18</td>
<td>30-Sep-18</td>
</tr>
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<td>31-Dec-19</td>
</tr>
</tbody>
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Potential Problems and Warning Signs

- **Time**
  - 2. CPM Updates
    - Updates provided late, or incomplete, or not at all
    - Updates that do not match the actual project conditions
      - Inaccurate start/finish dates and percent completes
    - Updates used to “Build a Story” instead of represent the work to date and the plan to finish
    - No explanation of missed start/finish dates
    - **Steps:** Require a written narrative; perform a detailed review of the schedule and document the results; meet with the Contractor to review and resolve the issues.
  - Actual example follows:

Potential Problems and Warning Signs

- **In this example several c/p activities were incorrect**
- **Steps:** Compare Schedule Update to actual progress
- **Steps:** Use inspector reports and photos; walk the site
- **Steps:** Confirm status of work reported in schedule update

<table>
<thead>
<tr>
<th>Activity ID:</th>
<th>10425</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Description:</td>
<td></td>
</tr>
<tr>
<td>Activity Start (7/16/15):</td>
<td>8/16/2015</td>
</tr>
<tr>
<td>Activity Finish (7/16/15):</td>
<td>7/16/2015</td>
</tr>
<tr>
<td>Remaining Duration (7/16/15):</td>
<td>7 days</td>
</tr>
<tr>
<td>Activity Start (7/30/15):</td>
<td>8/18/2015</td>
</tr>
<tr>
<td>Activity Finish (7/30/15):</td>
<td>8/20/2015</td>
</tr>
<tr>
<td>Remaining Duration (7/30/15):</td>
<td>7 days</td>
</tr>
</tbody>
</table>

*Note: Actual schedule update shows that the activity is not scheduled to begin until 8/18/15. However, the photos show that this activity has actually already started.*

8/8/15, Photos:
Potential Problems and Warning Signs

1. Actual Project Example:
   - Update said work not complete, field inspection proved CPM was incorrect.

2. Numerous examples!

3. Why would the update be incorrect??

4. Delay and constructive acceleration claim pending so the schedule said the project was going to be delayed.

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**Time**

- 3. CPM Updates
  - Unexplained changes in duration and logic
  - Missed and late dates but the completion remains unaffected
    - Potential Schedule compression claim
    - Potential Delay / Impact claims
Potential Problems and Warning Signs

• **Time**
  – 4. CPM Updates
    • Update narratives suggest time extensions are due, but no notice or time extension requests are provide
      – Generally required by the Contract
    • Missed and late dates but the completion remains unaffected
      – Potential Schedule compression and delay issues
    • The updates often provide clues that a delay / disruption claim might be on your horizon
      – Actual example follows:

Potential Problems and Warning Signs

• **Actual Example:**
  • Delays in first portion of project (no claims); some time extensions
  • Plan for completing remainder of project
Potential Problems and Warning Signs

**Schedule Compression**
- During project, contractor shorted duration of remaining work to make up for 90 days of period one unexcused delay.

**Contractor used revised plan to quantify delay claims in period two**

**Prior 90 days of delay migrated into claim period**

**Resulted in higher claim $**

**Steps:** Thoroughly understand and track all of the updates and changes therein.
Potential Problems and Warning Signs

• Time
  – 5. CPM Updates
    • Slipping completion dates without justification or a supporting time extension request
    • The contract admin activities are routinely showing up on the critical path
      – ASIs
      – RFIs
      – RCOs
    • **Steps:** Compare current update to previous update to understand changes in status and logic and see impact of added activities.
    • **Steps:** Document changes and ensure that contractor provides justification

Potential Problems and Warning Signs

• Time
  – 6. “Program” Constraints
    • School Year
      – Has to be done by September 1st
    • Seasonal Work
      – Fish Window, In-Water Work, Tourist Season
    • Funding
      – Taxing or Grant limits
Potential Problems and Warning Signs

• Cost and Scope
  – Routine Changes become "Unresolved Change Orders"
  – Reservation of Rights language appears on Change Orders
  – Contractor unable to price or estimate time impact of change
Potential Problems and Warning Signs

- Cost and Scope
  - Owner staff changes from being “proactive” in managing changes to “reactive” because pricing and negotiations are bogged down
    - Each side becomes entrenched and communications become about establishing positions rather than solving problems
Successful Projects

• Changes and conflict cannot always be avoided.
• But through contract administration involving schedule, change and cost management (Project Controls) the impact of changes and conflict on a project can be mitigated or minimized.

Successful Projects

• Owner’s Schedule Management Tips
  – Thorough review of schedule updates
    • Are the schedules accurate? If not, then potentially the reported critical path and the projected completion dates are not reliable.
    • Engage and participate in the schedule review and updating process to be aware of changes and how/when these changes affect the critical path.
Successful Projects

• Owner’s Schedule Management Tips
  – Thorough review of schedule updates
    • Understand where the float is, and where it isn’t. Understand the factors that drive the float changes.
      – How is it consumed?
      – How is it created?

• Float should be the calculated by the relationships built into the schedule
• It should not be manipulated
  – Hidden (sequestered)
  – Increased (lack of proper logic)
Successful Projects

• Owner’s Schedule Management Tips
  – Closely Monitor the Progress
    • Start dates, finish data (as-built data)
    • Number of crews and location of sub work
      – Is the contractor progressing the work as described in the latest schedule update?
    • Measure the progress based on work quantities to verify that the required progress is being made to meet Contract dates.
Successful Projects

• Owner’s Change and Cost Management Tips
  – If a change can be identified and compensated for early in the project, the impact to the overall project budget can be minimized
Successful Projects

• Owner’s Change and Cost Management Tips
  – Consider the context in which the change is being requested
    • Understand the time required to price and enact a change is not immediate
    • Understand that changes can/might affect the contractor’s schedule

Successful Projects

• Understand the initial plan

• Track the progress of the project against the initial plan

• This can be done with schedule and cost monitoring
Successful Projects

• Owner’s Change and Cost Management Tips
  – Consider the context in which the change is being requested
    • Understand that changes can/might affect the contractor’s efficiency
    • Understand the Owner’s obligation to pay for the work and the actual delays and impacts which result from the change
    • Reasonable attempts to resolve and compensate Contractor for changes

• If contractor is unable or unwilling to provide accurate as-built information, keep it yourself
• The critical path of multiple phase projects is difficult to determine without good records
Success Begins During Design

- Prepare Contract language and Contingencies to manage and mitigate project risks
  - Why are the scheduling specifications important?
    - Owner’s best, and first, opportunity to get the information they need
    - Prompts the contractor to maintain accurate records

Success Begins in Design

- Contract Language
  - Require (encourage) the contractor to collect and use data to help itself and owner

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D. Incorporate accurate actual progress, start dates, completion dates, resources and costs so that the Monthly Stated CPM Schedule will act as the Project’s As-Built schedule.

1. If requested provide documentation to substantiate as-built information.
2. No actual start or finish dates shall be changes or corrected without a narrative explaining the reason for the change and Sound Transit approval.

E. If in the opinion of the Resident Engineer the information contained in the Monthly Stated CPM Schedule is inaccurate and the Contractor cannot substantiate otherwise, the Contractor shall revise the schedule accordingly and resubmit within 7 Days.

F. Payment shall not be made without a current approved Monthly Stated CPM Schedule.
Success Begins in Design

• Contract Language
  – On larger project require the use of price “cost” loading

• Build and maintain a Risk Register

• Use it to determine risks and establish mitigation measures

• Helps to set contingency and allowances
Conclusion

• Identified warning signs and step to take to avoid potential problems and claims
• Explained the need to track and understand schedule, change and cost management in project controls during the project
• Prepare contract language and contingencies to avoid and mitigate project risks

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