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Rising Challenges from Supply Chain Issues

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Fear and sleepless nights. These are some of the symptoms clients tell us they are enduring due to supply chain issues and their rippling effect on projects both large and small. While inflation has dropped and now arguably has plateaued, supply chain issues persist. Before exploring actions and approaches that can be taken to mitigate supply chain risks, let's look at an example of how the story often unfolds.

How a link in the chain can derail a project

Take a case of a traditional design-bid-build of a school, where the funding for the project comes from a combination of state/federal funds and local taxes. The funds are tied to completion milestones, which along with an approaching school year leads to a narrowly tailored critical path.

As construction gets underway, the team learns of a delivery delay of integral, long lead time items required for the HVAC system that will have a material impact on the project's critical path.

The mechanical engineer is asked to incorporate suitable substitutions for the delayed equipment. Meanwhile, construction continues. When mechanical design bulletins are issued, however, the architect realizes that the space allocated for the originally specified air handlers is not sufficient for the substitute equipment. Construction work continues.

As the architect works on the bulletins to allow sufficient space for the replacement air handlers, it becomes evident that the structural design will need to be revised to accommodate the new space and avoid conflicts with the new mechanical equipment. Construction work continues …. and on it goes.

While some changes are expected on any project, this example is akin

to fast-track project delivery without any advanced planning and after a problem has taken hold of the project.

The Fallout

A situation like this is similar to changing a tire while the other three wheels continue to roll. Orderly, routine sequencing is thrown out the window, and project delays and cost overruns are inevitable. Claims will surely follow.

Delay claims are exceedingly difficult to evaluate and defend because of their complexity, document intensiveness and because the logic behind the schedules is usually controlled by the parties making the schedule impact claim. Further, liability amongst parties is contested regularly through expensive legal proceedings due to incompatible and/or competing contract provisions amongst the construction and design teams

Although we are not seeing rising claims just yet from this scenario, due to the typical lag between the manifestation of a systemic problem and the resulting impact, as (slightly) cynical insurance and claims professionals we can tell you how a story like this ends. The project is completed several million dollars over budget due to increased equipment and material costs, re-work, acceleration and inefficiencies, and increased overhead and general conditions. The design team spends countless uncompensated hours designing and re-designing. By the time the project is finished and the accusations start flying, the root cause of the problems is lost in the turmoil.

The Preparation is key

While design professionals, or other project participants, cannot make supply chain issues go away, there are some things that can be done to try to anticipate them and manage the impact. Some of these actions are basic to many projects, but take on added importance in the current environment.

Communication and documentation - early and often

Frank discussions from the outset about supply chain issues and the potential impact must take place. Likewise, any material disruptions should be communicated to the client as soon as they emerge. Further, “if it’s not in writing it didn’t happen” is an age-old adage for a reason. All communications must be documented, whether by email, correspondence, meeting minutes or other contemporaneous project records. Therefore, best practices dictate organized job files (including change orders, RFIs, etc.) timely sent, executed, and documented.

Your contract - consider language that addresses supply chain delays

Even if it is impracticable to get specific supply chain delay references into the final contract, the following points should be communicated and documented:

- The Owner acknowledging the risk of delay in delivery time of equipment and long lead time materials and goods due to supply chain and other issues beyond the reasonable control of the parties.

- The Owner acknowledging the delay may cause disruption of sequencing and design coordination and lead to additional design and construction costs.
- The Owner acknowledging that estimates of delivery time, cost of equipment, materials and goods are not a guarantee of actual delivery time or cost.
- The Owner acknowledging the prudence of including sufficient contingencies in the budget to account for additional costs and construction schedule extensions arising from the impact of uncontrollable market conditions.

Strong, experienced owner's representatives and consultants

Owner's representatives and other consultants such as cost estimators, expediters and schedulers can make a huge difference, particularly with less sophisticated owners. The benefits include increased communication throughout the project, helping to ensure the owner's design intent is being met at critical points, and monitoring the contractor's performance against contract requirements. This will help reduce the likelihood of missteps and consequent delays. Consider recommending these points to your clients, in writing.

Pre-Construction and progress meetings

These are critical to ensuring project participants are joined up on details such as identifying long lead time items, what items can be procured early, understanding the schedule and critical path, and planning for potential bottleneck risks and workarounds. The owner and/or its representative(s) should be part of these meetings, and the meetings must have detailed minutes. Questions should be posed as to which software, if any, the contractor will use to mitigate project delays and track material delivery estimates and material inventory. The contractor should be required to provide the native files that provide the basis for its schedule. During these meetings, the contractor should be tasked to immediately notify the project team of any anticipated substantial delays or inventory concerns.

Local sourcing and contingency planning

This may include sourcing products and materials within the local area where practical (depending on the project type, sustainability/carbon emission targets may already be part of the master contract). When local sourcing is not an option, contingency planning is critical. Look to add a second, and potentially a third, option that is pre-approved by the owner/design team specifications to help mitigate supply chain disruptions should they arise.

Integration of a materials procurement and management plan

Another strategy to reduce the risks associated with material procurement and supply chain delays is to integrate materials sourcing, installation and timing contingencies in the contract's general conditions. A coordinated set of construction documents can help as the design/construction teams all agree to the materials management plan and thus share in the risk if/when issues arise.

Additional Services

Out of sequence work and coordination will increase your costs. Make sure your contracts are clear that time spent redesigning due to supply chain-related issues is outside basic services and entitle you to additional compensation. This has the added benefit of highlighting a credible problem the owner should anticipate. Lastly, providing professional services free of charge can create the inference that the services were provided without compensation as the result of an error or omission.

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