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Apportioning Responsibility for Delays on Complex Projects

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In this article, we explore some factors and considerations, resulting from the growing size and complexity of construction projects, which can blur the parties' understanding and/or interpretation of their roles, responsibilities and risks. We then reflect on how this ambiguity can affect the analysis of responsibility for delays.

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Introduction

Over the past decade, the size of both public and private projects has been growing exponentially, such that billion-dollar projects are now the norm. Project delivery methods and construction contracts have also been changing significantly.

At the same time, the parties involved in these large construction projects have been undergoing changes. Construction companies, as well as engineering firms, have increasingly been consolidating or forming joint ventures to meet the new market demands. Larger projects, coupled with new project delivery methods, require bigger and at times integrated project teams with a wider range of expertise, as well as larger balance sheets with greater capacity to assume the risks associated with carrying a portfolio of large projects.

This has been leading to the globalization of the construction industry in general, where it has become more common to see project teams made up of international firms.

Collectively, these recent developments in the construction industry have been creating an environment where the roles, responsibilities and risks of the different parties are no longer clearly defined and can be increasingly difficult to untangle with precision. Such a project environment introduces an additional layer of complexity in analyzing delays when they occur.

Analysis of Delays

In simple terms, the analysis of delays consists of two main steps: the quantification of delays and attributing responsibility for those delays.

The first step in the analysis of delays involves the study of the project schedule, identification of delayed activities and quantification of delays in terms of number of days, weeks or months.

The next step, and perhaps a more important one, involves the factual analysis of the project records with a view to understanding the details of the causes of delay in order to appropriately attribute and apportion responsibility between the parties.

As projects become larger and more complex, the difficulty in performing both steps of the analysis of delays may become compounded.

The key factors which may contribute to this difficulty in the context of delay quantification and attributing responsibility for delays, are discussed below.

Quantification of Delays

As a consequence of the growing size of projects, project schedules have grown in size and complexity. Schedules have gone from including a few hundred activities with relatively easy-to-follow sequences of work, to including tens of thousands of activities with complicated logic relationships.

The sheer number of activities in a schedule (activities which often incorporate design and approvals, procurement, construction and commissioning), as well as the complicated logic relationships (such as leads and lags or constraints), can render the quantification of delays on complex projects more difficult.

That said, while there are more activities, parties and relationships to take into consideration, the fundamental approach to quantifying delays on complex projects remains similar to any other project, that is applying conventional or industry accepted analysis methods. Therefore, this difficulty in quantifying delays on complex projects can be dealt with by skilled practitioners.

Apportioning Responsibility for Delays

The factual analysis of the project records required to understand the details of the causes of delay, and ultimately to appropriately attribute and apportion responsibility between the parties, tends to be more elaborate and exhaustive on complex projects.

This primarily stems from the previously mentioned changes that the construction industry is undergoing and the resulting grey areas in the division of roles, responsibilities and risks between the parties. In contrast to the quantification of delays, the apportionment of delays often requires a more nuanced approach.

Many factors collectively and simultaneously contribute to blurring the division of roles, responsibilities and risks. These factors include: 1. the unique nature of complex projects; 2. the lack of standard forms of contracts; 3. the evolution of project delivery methods; 4. the involvement of players from different parts of the world; and 5. the use of emerging technologies.

These factors generate ambiguity that can obscure established practices or ways of doing business, potentially paving the way for multiple different understandings or interpretations of the roles, responsibilities and risks of the parties.

1. Project uniqueness

One-of-a-kind construction projects can present a challenge in attributing responsibility for delays. These projects are inherently "one-off" and as such, they often present bespoke design and construction methods. This can leave project teams with little to no benchmark or conventional wisdom as to the division of roles, responsibilities and risks, as well as on how certain issues or interfaces, technical, organizational, contractual, or otherwise, should be treated.

Are the risks being transferred clearly and appropriately for issues that may arise when bringing a brand new, untested design to life? Is the risk profile being properly understood by the contractor and the owner?

2. Non-standard forms of contracts

Rather than employing standard forms of contracts, large and complex projects generally use atypical, project-specific contracts. The

division of responsibilities and scopes of work between the different parties as outlined in the contract may differ from one project to another.

For example, responsibility for the procurement of rolling stock for a rail transit project could fall to the owner or to the civil contractor, depending on the project. Similarly, on a hydroelectric project, responsibility for the design, procurement and performance testing of power generation equipment may be retained by the owner or assigned to the civil contractor. Such responsibilities can vary even in cases where two projects have very similar scopes of work or may even be for the same owner.

The lack of standard forms of contracts among these complex projects can complicate not only the management of the construction project itself, since all members of the project teams may not be familiar with the division of responsibilities and project-specific performance requirements, but also the treatment and attribution of responsibility for delays when issues arise. Again, there may be no consistent benchmark on which all members of the project teams can rely for reference.

The lack of standard contracts places greater onus on the parties, both the owner and the contractor, to effectively communicate the terms of the contracts and the particularities contained therein to the members of their respective project teams.

Training and raising awareness about the specifics of the contract terms may go a long way in aligning the members of the project teams in order to prevent them from reverting to their usual *modus operandi* stemming from their own understanding of their roles, responsibilities and risks, perhaps based on their experiences on past projects.

3. Project delivery methods

To accommodate the growing size and expertise requirements of project teams, project delivery methods have been rapidly evolving, further introducing grey areas in the parties' understanding of the division of roles, responsibilities and risks.

For example, on design-bid-build projects, the owner and its consultants are responsible for the design. Therefore, determining responsibility for delays when design-related issues occur is relatively straightforward.

However, on projects such as design-build, EPC or P3, design responsibility lies with the contractor joint venture. For their part, the owner and its consultants are generally only responsible for reviewing the submitted design for compliance with the contract requirements and formally accepting it when they have assessed it as such. If there are delays during the design review process, questions can arise as to whether the owner's comments are imposing a preferential design, rather than being restricted to identification of non-compliance with the contract requirements.

Again, training the project teams, including the design teams, and raising their awareness on the specifics of the contract terms may be instrumental in the efficient execution of the project.

In any event, attributing responsibility for delays requires a thorough analysis of the design review process, in terms of its technical and contractual requirements.

4. Globalization of the construction industry

As mentioned previously, the construction industry is becoming more global and therefore, project teams are often made up of engineering or construction firms from different parts of the world. While this provides a great opportunity for collaboration, as well as the sharing of technical knowledge, it may also bring to surface the differences in the business cultures and customs from diverse parts of the world.

Parties with different backgrounds often bring with them different, and sometimes conflicting ways of doing business. Their understanding of their roles, responsibilities and risks, not to mention the application of design standards and

accepted best practices may be very different, based on their background and experience.

This may also apply to local subcontractors, who may not necessarily be familiar with the approaches and business practices of large international contractor joint ventures.

Is it possible for construction contracts to take these intangible factors in the project environment into consideration?

5. Emerging technologies

Emerging technologies, including design collaboration software, are being used more and more frequently, particularly on large and complex projects. There is no doubt that these technologies, if applied and managed properly, assist in visualizing and optimizing design. However, the standard practices for design using new technologies (such as BIM) are not yet sufficiently developed, and best practices on which parties can base expectations for their roles, responsibilities and associated risks are not yet fully established.

For example, can a contractor rely on a 3D BIM model prepared by the owner's consultants, or would they need to create their own model? Which party is then responsible for the spatial coordination of the design or the overall design of the project?

Final Thoughts

As construction projects continue to grow in size and complexity, additional challenges are being introduced and new considerations need to be taken into account in the analysis of delays.

While the complexity in the quantification of delays can be overcome by applying conventional approaches, the apportionment of said delays often requires a more nuanced approach, primarily stemming from the changes that the construction industry is undergoing and the resulting grey areas in the division of roles, responsibilities and risks between the parties.

As the industry attempts to navigate the challenges presented by complex projects, close collaboration between claims consultants or forensic schedule analysts, technical subject matter experts and legal teams is important in order to unravel the causes of delay and appropriately attribute responsibility for the delays.

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