Contractual Risks in Fast-Track Projects

M. MOAZZAMI\textsuperscript{1a}, R. DEHGHAN\textsuperscript{1b}, and J. Y. RUWANPURA\textsuperscript{1}

\textsuperscript{1}Department of Civil Engineering, the University of Calgary, Canada

Abstract

Fast-tracking strategies are used to achieve a shorter project duration; however, these strategies may negatively impact project performance by imposing additional risks, uncertainties, and costs. Rework, change orders and site modifications are almost inevitable in fast-tracked projects. Although these problems are not specific to fast-tracking, their frequency is relatively higher in this approach. Contracts should deal with these extra risks and the responsibilities associated with them, and assign them reasonably among project stakeholders as well. Currently, no contractual framework specific to fast-track projects is available; therefore, risks may not be allocated equitably to stakeholders. The usual consequence of the inequitable risk allocation is additional contingencies and premiums added by designers and contractors to their bid price which will end with greater overall project cost. In this paper, particular legal risks and challenges in fast-track projects are identified through a literature review. In addition, contractual aspects of fast-tracking are briefly reviewed at three levels: contract language; contract type; and project delivery method. The study shows that inaccurate cost estimating and cost overrun risk liability, liability for design errors and omissions, delay damages, change orders, construction rework and modifications, as well as risk liability for overlooked work are among the most common reasons for disputes in fast-tracking. The main purpose of this paper is to provide a better understanding of the contractual risks in fast-track projects and help to develop contract strategies and minimize the associated legal problems.

© 2011 Published by Elsevier Ltd.

Keywords: Fast-tracking; contractual risks; legal problems; project delivery method.

1. INTRODUCTION

In fast-tracking, the time between the project’s activities vanishes. As a consequence, the required time to recognize and correct mistakes is reduced and late changes lead to undesirable rework in later activities and phases. At present, fast-track projects suffer from inadequate specific provisions and clauses in
published contract forms that equitable allocate risks between contracting parties. The main source of legal problems is inequitable risk apportionment between contracting parties due to ineffective contract clauses and inappropriate contract types. In fact, few studies in the literature have addressed the contractual problems associated with fast-tracking approach. This paper investigates the contractual shortfalls of fast-track projects that result in disputes, claims, and legal issues. The results of this investigation will help to develop effective contract documents and strategies fit for fast-tracking.

2. LEGAL CHALLENGES IN FAST-TRACKING

Fast tracking is generally defined as the compression of the design and/or construction schedule through overlapping of activities or reduction in activity durations (Cho et al. 2010). Change orders and rework are more frequent in fast-track projects than normal projects. Claim for delay damage, a result of schedule acceleration, is a common legal issue in fast-tracking. A technical report from the U.S. Federal Facilities Council (2007) shows that 33 percent of fast-track projects have claims as compared to 7 percent of conservatively scheduled projects; therefore, fast-track projects have significantly more claims than conservatively scheduled projects.

In fast-track projects, inadequate contractual framework and inappropriate risk apportionment between contracting parties result in particular legal problems. Significant risks in fast-tracking mostly result from incomplete scope of work and design package in bidding stage. The most significant risks according to the literature are 1) Cost overrun and inaccurate cost estimating, 2) Design errors and omissions, 3) Delay damages, 4) Numerous change orders 5) Construction rework and modifications, and 6) Overlooked work (assigned to no party).

2.1 Liability for inaccurate cost estimating and cost overrun risks

Incomplete plans and specifications in the design phase of a project result in inaccurate cost estimating and increase the risk of cost overrun. According to Fisher Jr. (1990), the principal issue associated with fast-tracking is which party will bear the risk of cost overruns or, perhaps better stated, the risk of not being able to estimate cost accurately because of the absence of sufficiently completed plans and specifications. The incompleteness of the data and information at the time of project estimating should be considered in the contract and the risk of inaccurate cost estimation must be fairly assigned to the contracting parties.

2.2 Liability for design errors and omissions

Design deficiencies liability is another legal challenge in fast-tracking. When activities are carried out rapidly and the project team has to focus on bidding and early construction at the same time, it is hard to sustain reliability in design. Regardless of the real complexity and uncertainties inherent in this approach, owners usually expect a perfect design with minimum effects on the project construction phase. “Most design-build/fast-track firms attempt to limit their design liability by excluding the liability for consequential damages. They also try to negotiate a guaranteed maximum price high enough that the cost of redesigning and repairing most design deficiencies is borne by the owner” (Bynum 1983). However, the contract document should align stakeholders’ expectations with the real complexity and uncertainties inherent in this approach to prevent inequitable risk allocation.

2.3 Delay damages

Another issue fast-track projects frequently encounter is scheduling problems resulting in claims for delay damages (Fisher Jr., 1990). According to Squires and Murphy (1983), as the plans and specifications for a fast-track project are completed and/or revised, scheduling problems are more
probable to happen due to more changes in activity durations. Therefore, the claims for delay damage are more likely to happen. Usually the contractor is responsible for completing the project on schedule and is liable for the sequential damages. However, as stated by Bynum (1983), there are ways contractors may avoid liabilities due to lack of information or facilities that should be provided by the owner to start a particular phase or activity of the project. For instance, when an owner cannot provide the required site geotechnical data on time or delays the approval process, the contractor will be entitled to reasonable adjustments. An effective delay analysis procedure should be agreed to in the contract to distinguish excusable and non-excusable delays by contracting parties in the project life cycle.

2.4 Numerous change orders

Design changes are inevitable when project activities are overlapped and as a result, fast-track projects have a higher number of change orders. “The dilemma of many design-build/fast track projects has been that the changes are so numerous in comparison to the original project trade work that the trade contract's calculation provisions in no way account for the incurred impact and loss-of-efficiency costs” (Tieder & Cox, 1983). Since design and scope changes have been identified as the major sources of claims and disputes, more change orders increase the likelihood of claims and litigation in fast-tracking. More contingency should be considered in the project budget and contract provisions should specify the contingency to compensate for the extra costs of numerous design and construction changes.

2.5 Construction rework and modifications

Typically in fast tracking, the construction phase of projects starts prior to the design completion (Dehghan et al. 2010). Incomplete drawings and specifications in bid packages submitted to subcontractors or trade contractors cause unavoidable rework and modifications in the next phases of projects. Inadequate procedures to deal with extra work are major source of disputes and conflicts in fast track projects. Suitable provisions should be considered in the contract to compensate for the extra work and modifications resulted by overlapping strategy.

2.6 Risk liability of overlooked work (assigned to no party)

If the plans and specifications for several subcontractors, whose scopes of work interface or overlap at various points, are incomplete, it is likely that the important elements of the project are delegated to no one (Squires & Murphy, 1983). Confusing risk responsibilities for these neglected tasks is another legal problem between contracting parties in fast-track projects. Appropriate contracting arrangements with open communication and strong coordination will minimize the risk of overlooking work elements.

3. CONTRACTUAL REVIEW

In order to give an insight to appropriate strategy to deal with legal problems in fast-tracking, contractual aspects of this technique are reviewed in this section at three levels, namely contract provisions, types, and delivery methods.

3.1 Contract provisions

Contract documents consist of written clauses and provisions which specify the interests and obligations of contracting parties and assign the risk of contracting between them. Standard forms of agreement published by American Institute of Architects (AIA), the Associated General Contractors of America (AGC) and FIDIC (International Federation of Consulting Engineers) are widely used between contracting parties for different project delivery methods. However, there are no specific provisions in
these documents to deal with the particular risks of fast-tracking. There are some chronological statements in the literature that confirm the lack of adapted provisions in standard contract forms for fast-track projects. In 1983, Bynum stated, “The author is unaware of any AGC or AIA forms specifically tailored for use in fast-track situations”. According to Fisher Jr. (1990), no provisions in the AIA forms deal with fast track or are even remotely related to the special problems raised by fast track. Although most fast-track projects are performed in a design-build delivery system and are governed under its contract documents, design-build contract documents do not quite fit for fast-tracking. Saltz (2007) supports the argument, “It is not unusual for design-build contracts to be used in fast-track situation but the forms do not really contemplate the fast-track construction and must be modified to accommodate that situation”.

3.2 Contract type

According to the Project Management Body of Knowledge (PMBOK) Guide-Fourth Edition (2008), contracts generally fall into one of the three following types:

- Fixed-Price or Lump-Sum contracts
- Cost-reimbursable contracts
- Time and Material (T&M) contracts

Inappropriate contract selection significantly increases the associated risks and cost of fast-track projects. Pedwell et al., (1998) discovered the effects of fast-tracking on total project cost for various contract types and contractual arrangement. Their research was conducted in the oil and gas industry and if more than 20 trades and/or 15 subcontractors were involved, the project was considered complex. Figures 1 and 2 show the results of their study.

![Figure 1: Adopted from Project Capital Cost Risks and Contracting Strategy (Pedwell et al., 1998)](image1)

The results envisage that usually fixed price contracts are not suitable for fast-tracking, either for complex or noncomplex projects.

3.3 Project delivery method

The four main categories of project delivery methods are:

- Design-Bid-Build (D-B-B)
Cho et al., (2010) stated that the fast-track approach is being applied to design-build projects to achieve the optimum schedule duration. Construction Management (CM) is another project delivery method that might be an appropriate arrangement in fast-track projects. In this arrangement, part of the responsibilities of the designer and the contractor will be assigned to an entity known as the construction manager. Fisher (1990) suggested using the construction management arrangement to minimize the coordinating problem associated with fast-tracking by coordinating the design and construction phases that overlap in the project.

However, some researchers believe that relational arrangements are more flexible to deal with the complexity of the fast-track projects and provide required collaborative atmosphere in this approach. They suggest relational contracting methods such as Alliancing, Partnering and Integrated Project Delivery method (IPD) for use in fast-track situation. Cho et al., (2010) conducted a survey to show the relationship between the fast-tracking and partnering. The research results emphasized that the key success factors of two approaches are related and therefore, fast-track projects could be more successful if they are combined with the partnering.

4. CONCLUSION

Fast-tracking may negatively impact project objectives as it generates additional risks in the project. Some of these risks will end in significant legal problems. In this paper, particular legal risks and challenges in fast-track projects have been identified through a literature review. The identified legal risk were inaccurate cost estimating and cost overrun risk liability, liability for design errors and omissions, delay damages, change orders, construction rework and modifications, as well as risk liability for overlooked work. In addition, the contractual aspects of the fast-track projects have been reviewed at three levels: contract language; contract type; and project delivery method. The results show that fast-track projects suffer from a lack of a specific contractual framework adapted for fast tracking. Although standard forms of agreement published by American Institute of Architects (AIA), the Associated General Contractors of America (AGC) and FIDIC (International Federation of Consulting Engineers) are widely used between contracting parties for different project delivery methods, no specific provisions exist in
these documents to deal with the specific risks of fast-tracking. Such a pitfall causes each contracting party to inequitably transfer the project risks to the other parties by applying exculpatory clauses in the contract wording. The inequitable risk transfer may lead to legal disputes. However, legal issues can be minimized by aligning the contract type with fast-tracking characteristics. This requires a systematic and scientific effort by the researchers and contractual experts.

In addition, the appropriate delivery method helps to reduce the legal risks. The Construction Management arrangement can minimize coordination problems when design and construction phases are overlapped. Furthermore, fast-track projects can be more successful when relational approaches such as integrated or partnering project delivery methods are used, because relational arrangements are more flexible to deal with the complexity of the fast-track projects and provide required collaborative atmosphere in this approach. Also, usually fixed price contracts are not suitable for fast-track projects as they increase project costs comparing to unit price and cost reimbursable contracts.

5. ACKNOWLEDGMENTS

Special thanks to Dr. Francis Hartman and Dr. George Jergeas, professors of project management at the University of Calgary, for their advice, help and supports.

References

[1] Bynum SD (1983). Construction Management and Design-Build/Fast Track Construction from the Perspective of a General Contractor. Law and Contemporary Problems, Vol. 46, No. 1.
[2] Cho KM, Hyun CT, Koo K, and Hong TH (2010). Partnering Process Model for Public-Sector Fast-Track Design-Build Projects in Korea. Journal of Management in Engineering, Vol. 26, No. 1, January 1, 2010.
[3] Dehghan R, Ruwanpura JY and Khoramshahi F (2010) “Optimization of Activity Overlapping in Construction Projects”, ASCE Construction Research Congress (CRC 2010), May 8-11, 2010, Banff, AB, Canada.
[4] Federal Facilities Council Technical Report No. 149 (2007). Reducing Construction Costs: Uses of Best Dispute Resolution Practices by Owners, Proceeding Report.
[5] Fisher, Morton P. Jr (1990). Fast Track Construction-A Legal Quandary, 4 Prob. & Prob., March/April 28-33 1990.
[6] Guide to the Project Management Body of Knowledge (PMBOK® Guide), Fourth Edition by Project Management Institute © 2008.
[7] Pedwell K, Hartman FT, and Jergeas GF (1998). Project capital cost risks and contracting strategies. Journal of Cost Engineering, Vol. 40 (1), pp. 37-41.
[8] Saltz SG (2007). The New AIA Design-Build Contract from the Design-Builder’s Perspective. Probate & Property. July/August 2007.
[9] Semple C, Hartman FT, Jergeas GF (1994). Construction Claims and Disputes: Causes and Cost/Time Overruns. Journal of Construction. Engineering Management. Volume 120, Issue 4, pp. 785-795 (November/December 1994)
[10] Squires WR and Murphy MJ (1983). The Impact of Fast Track Construction and Construction Management on Subcontractors. Law and Contemporary Problems, Vol. 46, No 1.
[11] Tieder JB and Cox RB (1983). Construction Management and the Specialty Trade (Prime) Contractors. Law and Contemporary Problems, Vol. 46, No. 1.