

**American Bar Association
Forum on the Construction Industry**

**Incentives and Disincentives in Construction Contracts
*A Contractor's Perspective On Their Use in Large Contracts***

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INTRODUCTION

Lawyers negotiating construction contracts representing contractors for large projects are often called upon to negotiate project specific contractual terms and conditions with the goal of obtaining agreement to final terms and conditions that provide an overall mutually acceptable balance of risk and reward for both parties in the context of the specific project in question. One of the practitioner's chief undertakings is to assist their negotiating team in analyzing and appropriately applying various incentive and disincentives within the framework of an overall commercial deal and looking critically at the economic and other drivers that may be associated with utilizing specific incentives or disincentives for a specific contract or deal.

While understanding what may or may not qualify as an incentive or disincentive in a contractual context is imperative, and frankly, is very dependent upon which side of the table one sits on during the negotiations, practitioners and their business and management teams on both sides of a large construction contract negotiation are called upon perhaps most importantly to understand how incentives and disincentives work together to framework an overall deal.¹ With that goal in mind, this paper will examine and compare how a sample of various incentives and disincentives may work together to framework a deal in a manner that promotes achievement of what should be one of the primary goals in any major construction project – that being to ensure (as best as possible) that all parties to the transaction retain a shared mutual interest in achieving timely and successful project completion and a sound business return, with the allocation

¹ See Christof von Branconi & Christoph H. Loch, *Contracting For Major Projects: Eight Business Levers For Top Management*, 22 INT'L J. PROJECT MGMT, 119-30 (2004), available at www.insead.edu/~loch/articles/2004%20IJPM.pdf.

of specific risks to each of the parties that are best able to manage or account for such risks.

EXAMINATION OF CONTRACT STRUCTURES

There are of course many competing factors which go into the negotiating parties' determination of which form of contract is appropriate for a specific large project at hand, including, but not limited to, general market dynamics, size and scope of project, technology issues, financing issues, schedule requirements, and the like.² As the lump sum and cost reimbursable contracting approaches are typically thought of as being on opposite spectrums of possible contracting structures, we will focus on these two deal structures and examine how incentives and disincentives typically work in each of these structures.

I. The Lump Sum, Turnkey Contract Structure

The Lump Sum Turnkey or "LSTK" contracting structure provides project owners with a single point of responsibility for the engineering, procurement and construction ("EPC") of a large project. Generally speaking, the contractor assumes all major projects risks, with the exception of those risks commonly accepted to be beyond a contractor's control such as force majeure, change in law and the like, in exchange for a single, lump sum price that includes a premium for the contractor's assumption of such risks.³ This model was first utilized for power generation projects.⁴ Generally speaking, this model is

² For discussion of factors to consider in selecting contractual structures, *see, e.g.*, C.T. Harris, J. Formigli, B. Crager, S. Eggen, J. Reed, & S. Khuruna, Discussion of Commercial/Contracting Strategies for Offshore Projects at the Offshore Technology Conference (Houston, Tex., May 3-6, 2004), <http://202.120.57.205/cdbook/otc-2004/pdf/papers/otc16680.pdf>.

³ For discussion of lump sum contracting structure and other contracting structures, *see* CHRIS HENDRICKSON, PROJECT MANAGEMENT FOR CONSTRUCTION: FUNDAMENTAL CONCEPTS FOR OWNERS, ENGINEERS, ARCHITECTS AND BUILDERS, ch. 8 (Version 2.1 ed., 2003), *available at* <http://www.ce.cmu.edu/pmbook/>.

⁴ Harris, *supra* note 2.

best suited to projects that involve a very well defined scope of work with little anticipated need for change(s) (e.g. construction of a gas fired combined cycle power plant with output of certain megawatts, target heat rate, target availability, etc), mature technology, stable economic market conditions, and relatively finite project duration.⁵

A. Contractor Incentives

1. Lump Sum Pricing Includes a Built In Risk Premium Which Is Translated into Contractor Profit if the Project Is Successfully Executed

As the LSTK contractor is responsible for the performance and the timely completion of the project in question for a fixed price, the LSTK contractor must “stand in front” of or “wrap” the performance and schedule of a multitude of subcontractors, including major subcontractors and vendors who provide the manufactured goods or processes required to for the project in question. The LSTK contractor also generally takes the risks of quantities, labor availability and productivity, raw materials pricing, and the like. In certain instances, certain major components supplied for a project will have a stand alone guarantee provided by the equipment supplier which may or may not be wrapped by the LSTK contractor.

⁵ See, e.g., Daniel Atkinson, *Contract Strategies in Construction Projects*, Atkinson Law (Nov. 15, 2001, updated May 3, 2006), http://www.atkinson-law.com/cases/CasesArticles/Articles/Contract_Strategies.htm; Harris, *supra* note 2.; see also Assurance of Quality in Nuclear Construction Projects: An Examination of Selected Contractual, Organizational, and Institutional Issues, app. C, available at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1055/sr1055_appendix-c.pdf, reporting results of case study project undertaken by the Nuclear Regulatory Commission to examine contract and procurement processes at nuclear power plants under construction highlighting evolution of nuclear industry from use of fixed cost contracts in the 1950s to cost reimbursable contracts in the 1970s; *id.* at 16 (“The interviewees . . . preferred the cost-reimbursement contract because of the number of design changes typically involved in a nuclear project. Many of these changes were the result of the evolutionary nature of most projects, with design substantially incomplete at project initiation. Other changes were of the result of new regulatory requirements or guidelines Thus, it was viewed as unrealistic to expect contractors to anticipate the risks of unspecified changes by making firm price bids.”).

Given the above, the LSTK contractor's final lump sum price will include contingency dollars to deal with the "expected" difficulties many projects encounter. If, however, a project is executed as planned, unexpended contingency dollars will translate into additional profit, to be retained by contractor. In addition to contingency, the LSTK contractor will also include a fee or profit component in its final lump sum price. In exchange for offering the project owner turnkey services and the increased risks associated therewith, the LSTK contractor is often able to command a higher fee as opposed to other contracting structure.

2. Costs Saved by "Value Engineering" are 100% realized by Contractor.

While LSTK projects require detailed scope definition, once the contract is signed and the project begins execution, the LSTK contractor will likely have opportunities to "value engineer" the project and thereby reduce costs.⁶

Thus, the LSTK contractor may, for example, optimize project layout in a manner that reduces the aggregate quantities of bulk items such as piping, cables, concrete, et cetera utilized for a project or may utilize new or existing internal or proprietary design approaches that lead to greater efficiencies in the field – such as requiring equipment vendors to pre-assemble components in the factory in order to expedite to decrease field construction hours and optimize the project schedule, thereby avoiding field costs or "houseloads" estimated and included in the LSTK price. Alternatively, the LSTK contractor may be able to leverage superior buying power with its vendors to obtain

⁶ HENDRICKSON *supra* note 3, at § 3.9; *see, e.g.*, Stephen Mansfield & Philip D. Udo-Inyang, Presentation of Application of Value Engineering within the Construction Industry at ASC Proceedings of the 42nd Annual Conference (Colorado State University, Fort Collins, Col. Apr. 20 - 22, 2006), report at http://www.asceditor.usm.edu/ASC%202006%20CD/2006pro/2006/CPRT09_Udo-Inyang06_2900.htm.

project inputs for less than the amount included in the estimate used to arrive at the LSTK price.

The ability to investigate and implement the foregoing measures requires that the LSTK contractor has broad latitude, subject to compliance with the specified project scope, to plan, schedule and carry out the project in accordance with its internal work processes, with little interference from the project owner. In addition, it should be noted that owners and project lenders nevertheless do retain a significant ability to influence contractor performance via the setting out specific progress milestones upon the achievement of which the LSTK contractor is entitled to receive corresponding progress or milestone payments.

Whatever the method used, the lump sum contract by its nature provides a tremendous incentive for contractors to achieve project optimization as all construction cost savings are to the benefit of the contractor, thus, in the abstract, further improving the financial return for the LSTK contractor who can successfully implement value engineering efforts.

3. Schedule/Performance Bonuses

Typically, LSTK contractor include liquidated damages assessable if the project is delivered after an agreed to guaranteed schedule or if the project fails to satisfactorily achieve guaranteed performance parameters. As these provisions are implemented to protect owners against significant negative financial impacts from problems with project delivery and performance, the sophisticated LSTK contractor recognizes that many project owners may conversely improve their financial returns on a project if the project

is completed earlier than scheduled or demonstrates better than guaranteed performance and often successfully argues for a performance and/or schedule bonus.⁷

There are a variety of ways in which a schedule or performance bonuses are measured. Generally, a schedule bonus will be an agreed upon amount of money that a contractor would be entitled to receive for each day a project is completed prior to an agreed to completion date. Similarly, a performance bonus will be an agreed upon amount of money that a contractor would be entitled to receive with respect to each category of guaranteed performance (e.g. for a power plant project, heat rate (fuel efficiency) or power output (megawatts generated)).

However, whether the economics of a project are improved by the project coming on line earlier or having better than guaranteed performance is a function of the specific project.

For example, if the project is financed, an owner may recognize a significant savings in interest during construction if the project is delivered before its guaranteed delivery date. There may also be very discrete project specific dynamics which inform this question as well. For example a project may realize a one time tax benefits if it comes on line early. Similarly, certain projects -- such as a “peaker” gas fired power plant built to run only during times of peak demand in the summer or winter – may have an opportunity to earn unanticipated revenue that greatly improves the owner’s financial

⁷ See, e.g., Jim Montgomery, *Ten Tips for a Successful Construction Contract*, 13 TEX. LAW. 6 (Am. Law. Media L.P. Apr. 21, 1997), http://www.jamesmontgomerylaw.com/Article_TenTips.html (“Another underused contract provision is the bonus provision for early completion. An award to the contractor for completing the job early is entirely appropriate if in fact there is a penalty provision for delaying the job. Furthermore, utilizing such a bonus provision gives credence and validity to a penalty-for-delay provision.”). For suggested schedule bonus contractual language, *see also* American Institute of Architects, Guide for Supplementary Conditions, AIA document A511-99.

model and returns if it can be made available prior to any specific peak revenue earning period.

Alternatively, let us posit that a contractor delivers a power plant with power output that is five percent (5%) better than guaranteed. Theoretically, the owner should earn additional, unanticipated revenue for these megawatts over the many decades of anticipated useful life of a power plant.⁸ However, if the project owner has entered into a power purchase agreement⁹, and the purchaser or “off-taker” can not utilize this additional power output, better than guaranteed performance may be of no economic benefit to the owner and a performance bonus would not be in order.

Knowledge of the project’s economics and a properly developed incentive scheme can lead to greater alignment of interest in outcomes during the execution phase. Thus, a contractor without prompting by the Owner may elect to spend money to accelerate the project schedule if the contractor is aware that early completion is of benefit to the owner. If the same were true but Contractor was not entitled to a schedule bonus, the contractor likely would not elect to accelerate the project schedule.

⁸ For discussion of anticipated useful life of a combined cycle power plant *see e.g.* Guido Lipiak, Susanne Bussman, Christopher Steinwachs & Andreas Lüttenberg, Presentation Lifetime Extension for SIEMENS Gas Turbines at Power-Gen Europe 2006 (Cologne, Ger. May 30-June 1, 2006) (copy of paper presented on file with author); M.J. Evans & M.A. Partrick, *Power Station Refurbishment Within the CEGB*, 3 POWER ENG’G J., issue 4, 205-208 (July 1989), available at <http://ieeexplore.ieee.org/Xplore/login.jsp?url=/iel1/2224/1657/00043298.pdf?arnumber=43298> (password req’d) (Discussing results of studies undertaken to support extending useful life of coal fired power plants to forty five years).

⁹ For discussion of power purchase agreements and their history and use *see, e.g.*, Stephen L. Teichler & Ilia Levitine, *Long-Term Power Purchase Agreements in a Restructured Electricity Industry*, 40 WAKE FOREST L. REV. 677 (2005), available at <http://www.google.com/search?hl=en&q=Long-Term+Power+Purchase+Agreements+in+a+Restructured+Electricity+Industry&btnG=Google+Search>.

4. *Step Down In Limitation of Liability and Retainage/Security Requirements Prior to Full Project Completion*

The LSTK contractor will seek an aggregate limitation of liability for its responsibilities under the contract. There is of course a tension between contractors and owners on this point, with owners often seeking unlimited or extremely high (e.g. 100% of the contract price) limitation on the aggregate liability of the contractor and the contractor seeking a much lower percentage. An approach for dealing with this tension is to seek a middle ground which provides owners with a high(er) limitation of liability until an agreed upon point of project completion. For example, at the point of “Mechanical Completion”, the major construction risks have been averted or sufficiently addressed to give the owner a reasonable indication that the project has been physically installed and upon achievement of Mechanical Completion, the contract will provide for a reduction in the aggregate limitation of liability. This approach answers both parties’ interests in affording owner heightened protection in the most uncertain early stages of construction while affording a contractor with sufficient protection against concerns about maintaining heightened exposure even after the point where a contractor has successfully performed the majority of its project obligations.

Similarly, an LSTK contractor often must agree to allow the project owner to maintain a cash retainage of some portion of the contractor’s payments or to provide cash equivalent securities to provide the owner with assurances of performance. Each of the foregoing result in real costs to the contractor’s bottom line.¹⁰ The ability to alleviate or

¹⁰ See, e.g., David W. Gregory, *Retainage Reform Bill Pending in Ohio*, BROWN, HILL AND RITTER CONSTRUCTION NEWS LETTER (July 2006), <http://www.keglerbrown.com/publications/construction/2006/060706-news.asp#2retainage> (“The American Subcontractors Association (ASA) conducted a nationwide survey of almost 600 subcontractors from 39 states and determined that the average subcontractor was carrying \$620,025 in retainage

avoid these costs maintains a contractor's ability to optimize its limited financing/security resources across a portfolio of projects. Similar to the foregoing discussion on limitations of liability, the amount of contractor security should equate to risks at given point in the construction of a project – thus as completion nears, risks associated with the project completing should lessen and the owner's security requirements should allow for a step down.

5. Payment Assurances

As the sole point of responsibility for a project, in addition to the vast outlays for its own internal employee costs, the LSTK contractor undertakes significant financial exposures to third party subcontractors and vendors that are multiples of a contractor's profit return on the average project. If an owner fails to pay contractor amounts due under the contract, in most instances, the contractor's obligations to such third parties remain unchanged. This is a most disquieting proposition for contractors. Thus, payment assurance is clearly a concern of paramount importance to an LSTK contractor as agreed to project costs must be for the account of the owner.

In a project financed project, contractors typically require confirmation that the financing party has fully funded or committed all funds to pay the agreed to LSTK price prior to commencing work. As discussed in greater detail below, payment milestones help to ensure that the LSTK contractor has only limited exposure for payments due to subcontractors and third parties involved in the project construction. Thereafter, while

receivables an average of 160 days after the subcontractor successfully completed his work. As these retainage rates generally exceed profit margins, subcontractors are acting as "the bank" in financing the project.")

the LSTK contractor must progress the work to receive payments, the contractor at least has assurances that funds to pay costs in accordance with the contract are available.

However, if a project is financed with less than full funding or is self-financed by an owner using the strength of its balance sheet, a contractor needs to maintain adequate assurances that it has full recourse to an adequately financed or capitalized party and/or should the financial condition of the foregoing party change, have the ability to obtain a cash equivalent security. There are several guaranty and security mechanisms to achieve this result including a guaranty from a parent entity with a strong balance sheet or a letter of credit if the financial strength of the entities involved is not sufficient from the perspective of the LSTK contractor.

6. Broad and Well Defined Change Order Rights

As previously provided¹¹, the LSTK contracting model can only be used when the contractual scope of work, the division of responsibility and any key assumptions relating to the foregoing have been very clearly defined by the contracting parties. However, even within the bounds of a well defined LSTK scope, parties must make provision to allow the contract to recognize and compensate contractor for a change when there is a departure from the as agreed to project baseline.

Examples of conditions that traditionally give rise to a change condition in an LSTK contract include items such as force majeure events¹², governmental actions/inactions and/or changes in law, unreasonable owner interference or owner failure to perform any retained obligations.

¹¹ Atkinson, *supra* note 5.

¹² See, e.g., Wm. Cary Wright, Presentation Expecting the Unexpected: Anticipating and Managing Key Risks to Successful Projects – Force Majeure Delays at American Bar Association Forum on the

Increasingly, however, it is becoming more difficult for parties to identify an agreed to project baseline for large infrastructure projects lasting over a four to five year time horizon. For example, national and world wide economic and other dynamics have caused sharp and unanticipated price volatility for raw materials and labor unavailability.¹³ These are not the type of risks that lend themselves well to lump sum pricing as, other than charging an even more significant risk premium, a contractor has no effective way to pre-determine the impacts of large volatile dynamics on the ultimate project cost and schedule. This has increasingly led negotiating parties to agree to alternative pricing mechanisms within the overall LSTK construct. Examples of these alternate pricing mechanisms include cost-sharing components such as price escalation clauses for raw materials and other project inputs.¹⁴

The failure to pay close attention to and to anticipate these market dynamics has caused more than one previously successful contractor to go out of business.¹⁵

Construction Industry/TIPS Fidelity & Surety Law Committee (New York, NY Jan. 26, 2006), powerpoint presentation, http://www.legalist.com/newyork2006/slides/Force_Majeure_Delays.ppt.

¹³ See, e.g., Donald M. Atwater & Heather Klass, *What You Need to Know About Labor Shortages: How Will the Predicted U.S. Labor Shortage Impact Your Business?*, 10 GRAZIADIO BUS. REP., iss. 1 (2007), available at <http://gbr.pepperdine.edu/071/laborshortage.html>; see also Tim Grogan, *Inflation Is Set for a Strong Rebound – Steel and Rebar Prices Lead Resurgence in Construction Costs*, ENG’G NEWS RECORD (June 18, 2007); Thomas F. Quilling, *California: Escalation Claims and Clauses*, 11 HOLLAND AND KNIGHT CONSTRUCTION AND DESIGN, iss. 1 (Sept. 2005), available at <http://www.hklaw.com/Publications/Newsletters.asp?IssueID=607&Article=3226> (“The problem that triggered [a] new contractor crisis was the escalation of steel prices in late 2003 to early 2004 . . . [by] forty five to sixty five percent for most steel products and as much as 200 percent for some steel products due to . . . factors [such as] increases in steel consumption in China . . . Korea and the United States.”)

¹⁴ See Quilling, *supra* note 13.

¹⁵ See, e.g., Martin Rosenberg, *Havens Steel Scrambles To Survive*, ENG’G NEWS RECORD (Apr. 5, 2004), available at http://enr.ecnext.com/free-scripts/comsite2.pl?page=enr_document&article=nebiar040405a. (fee \$4.95).

B. Contractor Disincentives

1. Misaligned or Onerous Payment Terms; Payment Withholdings

The successful LSTK contractor must insist upon a payment schedule and terms that results in receipt of payments for project costs fairly contemporaneously with their expenditure. If this is not the case, then the LSTK contractor will in effect “finance” the project.

As the typical LSTK contractor already has numerous risks to manage, it is inadvisable for either a contractor or owner to agree to payment terms that would result in the contractor financing the project and postponing owner’s expenditure as long as possible. This approach is a perilous one and instead of reaping rewards for owner in avoided costs could have the unintended effect of jeopardizing successful project completion.¹⁶

A typical approach under LSTK contracts is to provide for a significant down payment at the start of a job.¹⁷ Thereafter, the contractor should receive periodic (monthly ideally) pre-agreed payments based either on overall progress or achievement of pre-agreed milestones.

An owner is typically entitled to withhold all or a portion of a payment associated with incomplete or deficient progress or failure to achieve stated milestones or conversely, drawdown securities or utilize retainage to address contractor malperformance. The ability of the owner to exercise these rights is a powerful disincentive to a contractor continuing any course of malperformance. The LSTK

¹⁶ Branconi, *supra* note 1, at 123. (discussing bankruptcy of a contractor stemming from an LSTK contractor’s agreement to receipt of a single lump sum payment of \$100 million due only upon project completion).

contractor typically is not entitled to stop work in the event of an owner withholding. In turn, as the single point of responsibility, the LSTK contractor must continue to satisfy its financial obligations to vendors, its houseload costs and the same.

In addition, the LSTK contractor is frequently required to provide security in favor of the owner for the contractor's performance. Accordingly, a drawdown of such a security or utilization of retainage is also a powerful disincentive to the contractor. However, as with payment, great care need be taken in the LSTK contract to pre-agree to the conditions under which an owner would be entitled to take such steps. Failure to do so could result in the contractor's security and retainage amounts being utilized by an owner as an additional source of financing for the project.

2. Schedule and Performance Liquidated Damages

Liquidated damages assessed against the LSTK contractor typically fall into two broad categories (i.e. delay/schedule liquidated damages and performance liquidated damages).

The LSTK contractor typically must pay schedule liquidated damages if the project fails to achieve a pre-agreed completion milestone roughly equivalent to the point in time at which the project can be put to beneficial use substantially in accordance with the owner's planned usage.¹⁸ The term "substantial completion" is used in many industries to denote this turnover milestone. Similarly, the LSTK contractor must pay performance liquidated damages if the project fails to achieve certain pre-agreed

¹⁷ Branconi, *supra* note 1, at 122. ("Contractor's mostly receive a 5-15% down payment, allowing them to start the job.")

¹⁸ See, e.g., Richard K. Allen, *The Estimation of Construction Contract Liquidated Damages*, (Gadsby Hannah LLP Jan. 1995), <http://library.findlaw.com/1995/Jan/1/129415.html>.

guaranteed performance parameters within a certain period of time after the guaranteed completion date.

Schedule liquidated damages are usually expressed as a daily amount to compensate an owner for its genuine estimate of losses or damages its will suffers as a result of each day of completion delay. Such costs typically include increased financing costs, costs that may arise under or in respect of third party agreements or obligations (such as liquidated damages under a power purchase agreement, “take or pay” obligations under a gas supply agreement, regulatory fines and the like)¹⁹. Performance liquidated damages on the other hand are expressed as a value per unit of lost performance and compensate owner for the net present value of the revenue foregone over the useful life of the project in respect of the subject performance deficiency.²⁰. In the power sector, performance liquidated damages may be calibrated to shortfalls in capacity (megawatts), heat rate (conversion efficiency of the fuel (e.g. natural gas or coal) into electricity output, and availability.

Typically, the limitations of liability on performance and schedule liquidated damages are in excess of the LSTK contractor’s projected profit on the project. Thus, in order to avoid disputes at the end of the project regarding the application of imprecise contractual language, it is of the utmost importance that the parties have a clear documented understanding of and agreement to not only the various components that will be included in their formulation, but also the various events that will trigger their assessment.

¹⁹ See, e.g., Damian McNair, Robert Milliner, & Richard Mazzochi, *Liquidated Damages - Delay and Performance*, ASIAN PROJECTS AND CONSTRUCTION UPDATE (Mallesons Stephens Jacques Oct. 12, 2002), http://www.mallesons.com/publications/Asian_Projects_and_Construction_Update/6366680W.htm.

²⁰ *Id.*

For example, with respect to schedule liquidated damages, a contractor typically has full care, custody and control of a project until substantial completion. Upon achievement of substantial completion, it is typical for schedule liquidated damages to no longer be assessable with respect to any further milestones. Once the owner has operational control of the project, the contractor's schedule will typically take a back seat to the project's operational demands. Thus, a contractor typically will only agree to schedule liquidated damages tied to a milestone at which the contractor will have maximum unimpeded rights to schedule work and other latitude to complete the necessary work.

Similarly, with respect to performance liquidated damages, great care should be taken to select performance guarantees that can in large part be achieved over relatively short periods of time as opposed to relying on extended periods where owner operational mistakes or maintenance failures may lead to failed performance results. Thus, for example, the LSTK power plant contractor typically is responsible to demonstrate performance guarantees for heat rate, output, availability and the like over a series of relatively short testing periods (several hours to thirty days as opposed to a year).

3. Broad/Extended Warranties on Completed Work

The LSTK Contractor is typically required to give a broad warranty that the project will satisfy certain prescribed warranty standards for some period after the project is turned over to the owner. This period is typically 12 to 24 months.²¹ Typically, if a warranty defect arises due to any service, workmanship or component performed or supplied by contractor or any of its contractors being non-compliant with contractual requirements, the LSTK contractor must address the warranty deficiency at its own cost.

It is typical for parties to agree to exclude certain conditions from the contractor's warranty obligations. Thus, normal wear and tear, items necessitated by normal maintenance and the like or defects arising from the owner's failure to operate the project in line with operational requirements are typically excluded from warranty coverage. Similarly, once under owner's care, custody and control, it would be a typical contractor's expectation that the owner would maintain operating insurance policies to respond to any downstream equipment damage that may be caused by a warranty equipment defect.

The LSTK contractor with broad warranty remedies will seek concomitant warranty coverage from its major equipment vendors to deal with the attendant risk. In addition, the LSTK contractor may also require that one of its employees remain at the project site during the warranty period to ensure that it is kept aware of day to day operational issues and potential warranty issues in real time.

4. Rights of Rejection

While not the norm for the majority of LSTK projects, in certain industries and markets, LSTK contracts will include a draconian right for the owner to "reject" the project if it fails to reach certain prescribed minimum performance requirements by the end of a cure period. This is then coupled with obligations for the contractor to repay all amounts received under the contract, to disassemble the project and to restore the project site back to its pre-construction condition.

From a contractor's perspective, this disincentive is viewed as potentially creating fundamental misalignment between a contractor and owner in that creates a possibility in

²¹ Branconi, *supra* note 1, at 123.

which an owner may no longer be invested in the successful completion of the project and thus would not be motivated to find solutions to problems on a project as they arise. These types of provisions effectively allow an owner to revisit its investment decision at the contractor's expense should there be an economic downturn coupled with project execution challenges.

II. The Cost Reimbursable Contract Structure

There are numerous variations on the cost reimbursable contract, such as: (i) the cost plus fixed percentage contract in which a contractor is entitled to all costs expended plus a percentage of such expenditures; or (ii) the cost plus fixed fee contract, which is much like the foregoing, except that Contractor pre-agrees to a fixed fee which would not increase due to greater than anticipated project expenditures.²² Whatever the particular model chosen, the hallmark of the cost reimbursable contract is that the contractor no longer bares sole responsibility for the project costs and any overrun thereof.

Opposite of the lump sum contract, the cost reimbursable contract is appropriate where there is perceived market instability, lack of all encompassing scope definition, new technologies, and/or owner desire to direct and oversee major decisions and day to day performance of the project construction.²³

Recent economic dynamics and market trends suggest that the cost reimbursable contract may become more prevalent in industries in which they were heretofore not the preferred model.²⁴ Large, publicly traded engineering and construction firms

²² HENDRICKSON, *supra* note 3 (discussing various cost reimbursable contracting structures).

²³ Atkinson, *supra* note 5.

²⁴ See, e.g., Marianne Lavelle, *Boom Times for Megaprojects*, U.S. NEWS & WORLD REPORT (Sept. 24, 2006), available at <http://www.usnews.com/usnews/biztech/articles/060924/2engineer.htm> ("Fixed-price engineering and construction contracts are a relic of 'the old days,' says [a chief economist of Tesoro, the No 2 refiner in the western United States]. "That was the traditional way in our business over twenty five

increasingly highlight to their shareholders that they seek to achieve a balanced portfolio of cost reimbursable projects with lump sum projects making up only a slice of that portfolio.²⁵ Other large private contractors have also recently entered into large cost reimbursable contracts.²⁶

A. Incentives

1. Owner Maintains Project Costs Overrun Risks and Rewards

The owner in a cost reimbursable contract maintains the majority of the project risk associated with pricing overruns. Thus, the contractor's pricing approach on a cost reimbursable project is going to be leaner and the owner has at least a potential of realizing unspent anticipated project costs. Thus, while it is always prudent to include contingency in any final construction budget, should that contingency not be spent, such unexpended amounts will typically be for the owner's account in a cost reimbursable project.

2. Contractor Guaranteed a Profit on the Project

As mentioned above, the contractor's profit or fee is either a fixed percentage or fixed amount agreed to as part of final contract negotiations. In addition, the contractor in a lump sum contract may many times also negotiate a discretionary fee that may be realized for better than guaranteed performance (e.g. on schedule, project costs and the like). Commensurate with the relatively lesser quantum of risk undertaken by contractor,

or thirty years’ But now, all of the big engineering firms . . . are moving to cost-plus or cost-reimbursable contracts, meaning the customer pays more if material or labor costs increase.”)

²⁵ See, e.g., Flour Corporation, Annual Report (Form 10-K) (June 30, 2007) (reporting fixed price and guaranteed maximum contracts make up approximately 26% of their existing US\$22 billion backlog of projects); Washington Group International, Annual Report (Form 10-K) (June 30, 2007) (reporting a 10% drop in the fixed price portion of their back log between the end of fiscal year 2005 and 2006).

²⁶ See Peabody Energy Corporation, Entry Into a Definitive Material Agreement, Creation of a Direct Financial Obligation (Form 8-K) (June 19, 2007) (reporting the entry by Peabody Corporation and Bechtel

this fee component is typically a lesser percentage of the total project costs than it would be were the project to be performed on a lump sum basis. However, with a fixed fee, the contractor has an a priori guarantee that it will make at least some profit on a cost reimbursable (albeit reduced as when compared to a lump sum job).

3. **No “Wrap” Responsibility/Liability and Limited Responsibility for Rework**

The contractor in a cost reimbursable project does not typically offer one stop liability coverage for all construction risks. Owners typically enter directly into agreements with major third party vendors and specialty subcontractors directly. In addition, the reduced cost reimbursable pricing does not allow the contractor any effective tool to cover malperformance by other third party service or equipment providers.

Similarly, for the same reasons as above, it is atypical for a cost reimbursable contract to include liquidated damages. Moreover, the contractor’s responsibility or liability for defective work is also typically much more circumscribed. The cost reimbursable contract often times requires an owner to pay for the performance and reperformance of all defective project work until the beginning of a warranty period, at which time the contractor typically would undertake circumscribed warranty liability. For example, the cost reimbursable contractor may agree to reperform its own services but would not be responsible or would have extremely limited liability for costs associated with any field rework or equipment repair or replacement arising due to a subcontractor’s warranty defect.

Power Corporation of a cost reimbursable engineering, procurement and construction agreement on June 19, 2007 valued at \$2.9 billion).

It should be noted however that the cost reimbursable contracting model however is a flexible model and if provision of some level of “wrap” responsibility is an important feature to an owner, there are methods through which inventive negotiating teams can devise terms which mimic (albeit on a limited basis) ‘wrap’ responsibility for the overall project results. For example, a contractor may place at risk some portion of its fee or may have ability to earn a discretionary fee or bonus if the project achieves on time or advanced delivery or better than guaranteed performance.

4 Expedited Payment Terms

As the owner maintains all or the majority of pricing risks associated with the project, and does not have the benefit of any payment of contingency to deal with potential non-payments, the cost reimbursable contractor will often require payment terms which are expedited when compared to the lump sum contract. Thus, in the cost reimbursable contract achieving payment terms that result in the owner’s payment of project costs in real time or even in advance of such costs being incurred is of critical importance. Expedited contractor rights to suspend or terminate work in the event of non-payment are often coupled with cost reimbursable payment provisions.

B. Disincentives

1. Guaranteed Maximum Pricing

The guaranteed maximum price contract structure works as a hybrid between a cost reimbursable contract and a lump sum contract. Under a guaranteed maximum price contract, a contractor is compensated on a reimbursable basis until the project costs reach

a pre-agreed ceiling. After that point, all costs in excess of that ceiling are to the contractor's account.

In many ways, for a contractor this is the worst of all worlds. The contractor effectively takes the residual cost overrun risk while not enjoying the benefit of any costs saved by value engineering efforts, all of which would typically be for the owner's account, while receiving the lower financial returns typically associated with a cost reimbursable project.

This structure sets up a misaligned or uneven sharing of risks and rewards as an owner receives benefits – either in the form of avoided costs saved if the guaranteed maximum ceiling is not reached or in the form of shifting responsibility for all costs to contractor once the ceiling is reached.

A far better approach to ensuring that a contractor remains committed and focused on managing the costs in a cost reimbursable contract is the use of a target price cost reimbursable contract. The target cost approach requires that the parties agree to a lump sum target against which both parties will seek to manage overall project costs. If final project costs are less than the agreed to target, the parties would share on a pre-agreed basis the benefit of any savings. Conversely, if the final project costs are in excess of the target, then the parties would share responsibility for cost overruns also on a pre-agreed pro rata basis.

2. Limited or No Change Rights

Many cost reimbursable contracts contain no or extremely limited change rights due to the mistaken belief that pre-agreement to change conditions is unnecessary as the Owner is responsible for reimbursing all project costs.

However, sophisticated contractors are interested in completing the cost reimbursable project on time and under budget. If the contract is set up correctly, this result will improve the contractor's profit return on the project. In addition, the large contractor has significant reputational concerns that almost inevitably lead to such contractors managing the cost reimbursable contract in much the same manner as the lump sum contract. Thus, setting a project baseline and pre-agreeing to conditions which are a change to that agreed-to project baseline is just as important on a cost reimbursable project as it is on a lump sum project as the parties need to maintain a common understanding of the baseline from which project success or failure should be measured.

Conclusion

The selection of contract structure in and of itself prescribes the incentives and disincentives that will drive the parties' interests, behaviors and concerns in large business deal. Careful attention needs to be paid to ensure that these incentives and disincentives are fashioned in a way that motivates the parties on each side to continue to work for successful project completion.