The buck stops where?

Since the privatisation of UK utilities in the 1980s and early 1990s, utility companies have outsourced two specific areas of their activities – the delivery of capital projects, and the repair and maintenance of infrastructure networks. **Mike Levery**, Managing Director, MCL Consultancy, reports on risk and accountability in network contracts.

Capital project contracting initially followed a traditional competitive bid process. Then came the Latham Report[1] in the mid-1990s, which drew attention to the wastefulness of traditional adversarial client-contractor relationships. In place of these traditional contracting relationships, Latham recommended the adoption of the New Engineering Contract (NEC). Contracts following the NEC incentivise the parties to work together for their mutual benefit.

Since Latham, the development of partnering and alliancing has led to the award of fixed-term contracts for consultants and construction companies in the delivery of capital programmes. Major gains have been achieved on projects such as the Channel Tunnel Rail Link, and the delivery of London's Olympic facilities for 2012, both of which adopted the NEC as the contractual delivery vehicle.

By contrast, many utility companies have continued to deal with contracts for infrastructure maintenance by traditional adversarial methods. As I shall demonstrate, the consequences have been just as wasteful as they were in capital projects before the NEC was adopted.

Footnotes

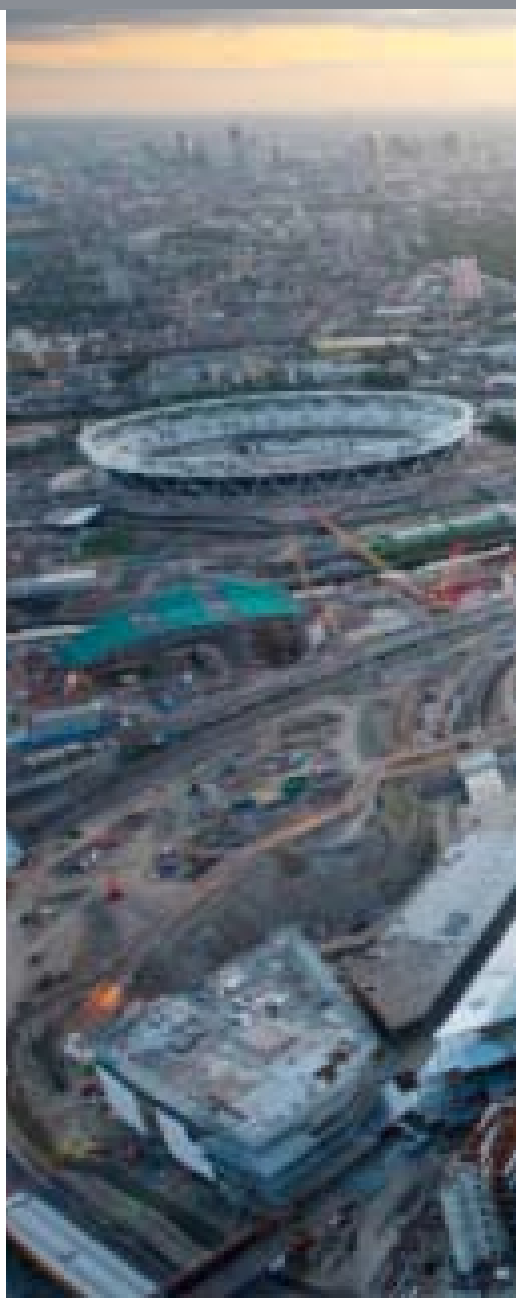
1 – Latham, Michael: *Constructing the team: final report*: joint review of procurement and contractual arrangements in the United Kingdom construction industry, July 1994.

Generally, utility companies have taken the view that the skills required to carry out repairs to underground assets involving highway excavation and reinstatement are best carried out by contractors. So far, so good. The error, near-fatal as it turns out, has arisen in the form of the contracts usually adopted: in general, contracts have been awarded on a fixed-term schedule of rates basis.

A schedule of rates basis means that utility companies use competitive bidding to achieve the lowest unit rates for a contract period. In other words, contractors are invited to bid the lowest rates for each type of repair or maintenance job. That sounds like common sense until we look at the evidence: despite this method of competitive tendering, utility companies have found it increasingly difficult to deliver efficiency savings on repairs and maintenance and so have failed repeatedly to achieve their budgetary targets.

Why should this common-sense approach to contracting have failed so persistently and, in many cases, so spectacularly? The answer lies in the failure of top management to understand that it created a guaranteed route to failure: by setting contradictory goals for the procurement function on the one hand and for operations on the other.

The goal for procurement? Get the lowest rates for all types of job. But what about operations? Operational functions are focused on day-to-day issues. They need to get things



fixed and so order work on an ongoing basis from the contractors. As the financial year progresses, what happens? Budgetary pressures inevitably lead to a moratorium on the contractor's work in the final quarter of the

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Case in point: London's Olympic facilities for 2012

financial year. So an apparently "competitive" contract has led to overspend. Just as important as the direct financial implications is the high risk to the client of regulatory failure due to repairs and maintenance not carried out. And regulatory failure can carry its own financial penalties.

Some utility companies have tried to deal with this issue by introducing an agreed basket of work, based on historical volumes by activity. They then build up a target cost from the schedule of rates in an attempt to manage work volumes and gain ownership by the contractors of the utility companies' budgetary targets. In general, this approach hasn't worked as the contractors cannot improve their return on the contract because their volume of work has been capped.

This article argues the case for a totally different approach to managing repair and maintenance contracts on underground assets.

Schedule-of-rates contracts

When schedule of rates contracts are tendered, the procurement function invites contractors to price the cost of a repair on a variety of different assets and asset sizes. The list of prices generally runs into hundreds and, in some cases, thousands of items. It is a straightforward means of comparing prices for the purpose of awarding a contract.

However, its application in ordering work from a contractor on a day-to-day basis is fraught with problems. Put simply, how do you determine the nature of the repair required when the asset is underground? Furthermore, how do you know that the repair executed and the price paid reflect the work actually done? The reality is, you don't, without physically visiting site when the failure is exposed, and agreeing with the contractor the appropriate rate for execution of the repair. This is an expensive and time-consuming process; in effect, the client is monitoring the contractor's every move.

Contracting companies are well versed in the dark arts of competitively bidding schedule-of-rates contracts to win the work,

then looking at the most effective way of maximising their return during the contract through:

- Seeking to increase the annual rates, citing inflationary pressures, external agency demands and health and safety requirements
- Encouraging operational functions to order more work, so increasing the volume of work and their financial returns
- Cherry-picking the better rates to describe jobs – in the full knowledge that the operational function cannot police the many thousands of jobs executed in the contract.

In these ways, schedule-of-rates contracts actively incentivise the contractor to undermine the client's interests. Any ideas about improvement or creativity in the pursuit of greater efficiency are out the window. Of course, the client's employees reckon they know what is really going on. This perception feeds a climate of suspicion and distrust that further undermines efficiency and effectiveness.

The procurement function will argue that the competitive process has delivered the lowest rates for delivery of the work. Operations will argue that the contracts do not meet the operational need. There is an impasse.

We can expect continued regulatory pressure to reduce charges to customers across the utility sector. In this climate, achieving financial targets while improving standards of service becomes the major driver; utility companies must cut costs and provide a better service. If competitive bidding through a schedule of rates delivers neither budgetary nor regulatory targets, there has to be a fundamental change to contract philosophy in order to achieve utility companies' goals.

Contract structure and philosophy: an alternative approach

Successful repair and maintenance contracts need to meet the expectations of both the client and the contractor.

In the case of utility network contracts, the expectations for the client are:

- Deliver all work within budget
- Respond at the required time to work demands and issue resolution
- Achieve regulatory targets for the assets being repaired or maintained
- Provide accurate feedback of work done.

And for the contractor:

NEC success: the Channel Tunnel Rail Link

- Ensure continuity and predictability of work
- Allocate risk appropriately
- Achieve a reasonable return which reflects the level of risk within the contract
- Gain further reward for delivering an enhanced service.

To achieve all the above, the contract must:

- Focus on resource requirements and productivity
- Generate a volume of work by activity, based on historical demands
- Identify those risks that are exceptional and unpredictable in any one year
- Provide incentives for both parties to work together to continuously improve both productivity and outputs
- Remove volume generation as a driver and reward a 'right first time' and quality approach.

NEC term service contract or equivalent

In recent years, some companies have applied the principles of the NEC construction contract to term service contracts in order to provide a contract platform for repair and maintenance. NEC applies good management principles to contractual relationships. It clearly identifies risk and accountability, provides for early warning of any circumstance that will materially impact on contract performance, and ensures high-quality, appropriate information to enable joint decision making.

The NEC Term Service Contract (TSC) provides the ideal platform for any partnering

or alliancing arrangement on repair and maintenance contracts. The principles of good contract management promoted by NEC can also be applied to certain other contract forms that offer target cost options.

Target cost, compensation events and risk register

Target cost contracts usually operate with a gain/painshare agreement, which allocates financial risk between the client and the contractor should the target be under- or over-spent. The financial risk share is usually 50:50, although there is a tendency to push more of the painshare in the contractor's direction. This is fine provided the contractor is in control of the drivers that create the financial risk.

Many utility companies use capital monies (Capex) to bail out operational expenditure (Opex) should budgetary targets come under pressure. In TSCs, Capex is used only to fund the exceptional and unexpected failures. This principle must be applied to target cost contracts. These failures are called compensation events under a TSC because the cost of such events will lead to an adjustment of the target cost to compensate.

Compensation events must be tightly specified, with an indicative minimum financial value. These events can be the result of a high repair cost due to size, location or scope, or the result of collateral damage resulting from the initial failure. The general rule of thumb for a repair and maintenance contract is that the number of compensation events in any one year should be no more than the fingers on one hand.

Once the target cost has been established for a financial year, there may be changes of circumstance. These may be driven by legislation, regulation or other key stakeholders, such as the Highways Agency, which could have a material effect on the delivery of the contract. These changes need to be identified in a risk register and the financial implications calculated. This provides a focus for both client and contractor to look at ways of mitigating the identified risks and minimising any financial impact on the contract. In some cases, these risks can be reduced and even removed; but once all avenues have been explored and the impact of the risk minimised, the target cost must be adjusted to take the risk into account.

Measuring activity and work volumes

In a contract that now focuses on resource requirements and productivity, the need to identify hundreds or even thousands of activity and asset types disappears. It does not matter whether the repair to a slightly larger asset costs more and how much that should be. What matters is the level of resource and overhead required, together with supporting costs to deliver the key activities in the contract. With the shift in focus comes the need to count work by activity type accurately to ensure predictability of outturn volumes.

Further, some activities are influenced by seasonal variations, particularly when, for example, cold or inclement weather can lead to asset failures. For these activities, typical annual profiles need to be developed in order to monitor actual work volume against predicted work volume. When these trend profiles are applied against the target cost, there should be a significant underspend after the summer period to take account of the expected increase in volumes due to asset failures throughout the winter.

This shift in focus leads to much more proactive contract management and, in particular, enables the client to determine whether funding should be moved between activities to counteract a potential overspend, or whether additional financial resources should be secured.

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Constructing the target cost

When bidding for a schedule-of-rates contract, tenderers are invited to supply their rates by activity. Tenderers develop and cost a resource and financial plan to support the predicted workload in the contract before applying insurances, on-costs and profit to calculate the rates. This methodology is usually not visible to the client in the procurement process.

The contract process using NEC reverses the traditional approach of a schedule-of-rates contract. Repair and maintenance contracts are resource-driven, generally accounting for as much as 75% of contract costs. Resources are made up of gangs and supervision, together with technical, administrative and management support. What matters in the contract is how the resource plan is put together and the productivity assumptions that underpin this plan. Add to that the additional workload costs of sub-contracting and overtime, together with materials, depots, plant and equipment (the financial plan), and applying corporate overhead and profit (the fee), and you have the basis of your target cost in any one year.

Resource plan

The resource plan sets out the numbers of gangs, supervisory and support resources needed to deliver each of the identified range of key activities; an example of a key activity is the repair of a supply service within a specified time. Any changes to resources within the financial year should be flagged and identified on the resource plan.

Financial plan

The financial plan costs up the resource plan by key activity and gives budgetary values by activity for all other budget heads that contribute towards delivery of the service.

Application of rates by activity

Once the total costs for each activity have been identified, then the activity costs can be divided by the work volumes to determine a unit rate for each activity. When the contractor introduces initiatives such as resource, overtime and sub-contracting reductions, the actual cost fed back will be lower than the unit rate thus achieving a lower cost against target and so delivering gainshare.

Change of philosophy

Utility companies have operated schedule-of-rates contracts on their infrastructure assets for many years. In today's regulated environment, reducing operational cost together with ever-improving standards of service is the order of the day. These objectives are not achievable within a schedule-of-rates contract. It is time for procurement to change fundamentally the contract philosophy and structure to meet these demands, and so help their operational colleagues achieve their goals.

A case study on the application of this new contract philosophy to Water Supply Networks is available on www.mclconsultancy.co.uk