ASSET BASED PERFORMANCE CONTRACTS

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ABSTRACT

"Asset Based Performance Contracts" is an examination of contractual arrangements in the field of maintenance in order to deliver better value in asset maintenance.

It will look at the way maintenance arrangements have developed, perceptions of maintenance and reasons for outsourcing and why contracts can perform poorly. The issues raised are typical of those addressed by the author in his work in the field of asset management.

The paper proposes that the key reason for poor performance is the focus in maintenance contracts for measuring service and response, and not understanding the impact the maintainer has on asset performance.

This requires a shift in thinking to focussing on assets rather than service, and will identify the key drivers in Asset Based Performance Contracts. These include objective setting, performance measures, form of contract, contractual relationship, risk and reward, operating costs and capital investment.

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1. INTRODUCTION

The activity called “maintenance” is in turmoil.

Core or non-core?
In-house or outsourced?
Integral with production/operations or a service function?
Reactive or planned?
Cost or value added?

The questions are endless and yet what may prove to be the right answers one day are not appropriate to the next day’s circumstances.

Since the early 1990’s the drivers for outsourcing maintenance have grown and there has been a perceptible shift to maintenance being a non-core activity, yet there is a general dissatisfaction across many market sectors with the way outsourced maintenance has turned out. What initially looked like an appealing way forward has not delivered the real benefits that were anticipated; yet the trend seems irreversible and the successful contracting organisations of the future will have to be prepared to take on risk to ensure the client gets best value from his maintenance service. The question is, with an activity which plans both long and short-term issues, operational expenditure and capital investment costs, and a complex range of skill requirements to meet varying types of asset, how can contracts best be developed to meet both client and supplier needs?

1.1 Background

The significant growth of the UK service sector coupled with a shrinking manufacturing sector has led to an explosion of facilities management companies providing maintenance services across a range of relatively standard equipment. This has set the trend for the maintenance activity being predominantly found on the supply side compared with the tradition in the manufacturing sector of maintenance being a client managed and delivered activity. The result of this fundamental shift has been a supply side driven effort to take maintenance out of the core activities of more traditional industries. This has been particularly noticeable in the utilities sector and is happening more and more on non-productive assets in the manufacturing sector.

1.2 Resourcing

The age profile of skilled maintenance craftsmen has increased in the last decade, with a corresponding reduction in availability, resulting in organisations having difficulty in recruiting the appropriate personnel, and looking to Facilities Management (FM) companies to provide the necessary levels of skill. There are no signs as yet of a change in this trend, and with the growth in the service sector which requiring lesser skilled personnel, other market sectors are finding highly skilled expertise a shrinking resource; a resource being snapped up by the FM companies to sell back on to the more lucrative "high tech" end of the maintenance market.

1.3 <u>Outsourcing – A Continuing Trend</u>

So why do companies who already have the necessary skills for maintaining their facilities look to the marketplace for potential outsourcing. In a world where productivity is king then the perception of the maintenance function is invariably that they are a cost and overhead, adding little value to the production or operational processes. Moreover, the perceived "maintenance culture" of engineers doing what they want to do without regard to production/operational needs, or involving other key stakeholders has proved difficult to break, creating the illusion that an external provider is bound to perform better than an in-house maintenance department. "If only the maintenance 'problem' could be outsourced then we can get on and deal with our core business" is the cry of many organisations.

There will always be "quick wins" through any outsourcing activity, but with the drive to establish procurement processes through contracting and benchmarking being inexorable, then the maintenance activities gets swallowed up in this whirlpool of efficiency and cost saving. Time and again organisations grasp the short-term benefit of outsourcing to find very quickly that asset performance and availability is reducing, failures are increasing and yet the supplier is meeting all his contractual obligations. But once the outsourcing decision is made there is invariably no going back. There will never be an admission that the outsourcing decision was flawed, so if things aren't working out then it must be the fault of the supplier. The solution? Try to get the supplier to perform, and if this fails, re-tender and get the right supplier next time. Yet the reality is that nothing really changes.

2. MAINTENANCE ARRANGEMENTS

What sort of contractual arrangements exist today in the arena of maintenance? The following five approaches are typical of maintenance arrangements in the marketplace.

2.1 The "Body Shop"

This approach is predominantly found in the manufacturing sector where all the engineering knowledge and key skills are maintained in-house, but additional resources required for peak maintenance activities such as shutdowns, down-days and planned servicing work are externally provided by companies employing a range of skilled tradesmen supplied to the client on an hourly rate basis.

Management and control of work activities lie with the client, with quality of work carried out and performance in delivering the work being the client's responsibility.

2.2 The Framework Agreement/Call Off Contract

Again the control of delivery of the maintenance work rests with the client but the supplier provides fixed prices for defining types of specialised work. For example, fixed prices for overhauls against specific items of plant coupled with a back-up repair service provided on a schedule of rates basis. This form of contract is often supplied by the original equipment supplier, but is only appropriate for the specific equipment supplied, and not the inter-related processes that impact on its performance.

2.3 The Managed Contract

Here the client defines precisely all preventative maintenance work to be carried out on a schedule basis, and is generally bid on a competitive basis backed up with a schedule of rates should repair work be necessary. This arrangement applies where organisations determine that the engineering expertise must remain in-house but work delivery is best supplied in the marketplace, and in some cases have been developed by the supplier (with client agreement) into franchised arrangements for work delivery, where the supplier ensures the required work is delivery in a timely way using franchised labour in order to reduce direct costs.

2.4 The Service Level Agreement/Budget Reduction Contract

This form of contract is increasing in popularity, where the maintenance activity as a whole is seen as non-core and can be managed effectively through appropriate contracts. Its key objective is as a cost saving measure with control of costs lying with the supplier and incentives to achieving cost saving targets. Performance measures are based on meeting service levels and typically measure:

timely delivery of planned maintenance programmes,
response time to failure,
failure turn round time.

Cost reductions of the order of 5% year on year over a 5-year period are not untypical, with the client benefiting from predictable cost reductions and the supplier from the continuity of a 5-year contract.

2.5 The Output Performance Contract

Applied in recent years in the North Sea oil and gas industries, these contracts aim at ensuring that the maintenance supplier is incentivised to achieve production targets and shares the benefits with the operator, where keeping the assets operational is key to maximising production.

In all these cases the focus of the maintenance provider's efforts does not reflect the key element of what he should be there to do, namely to ensure that the assets operate to their optimum throughout their predicted life.

3. ORGANISATIONAL PERCEPTIONS ABOUT THE MAINTENANCE ACTIVITY

The following are typical of some of the reasons given by both client and supplier for looking to establish contractual arrangements for maintenance.

3.1 Client

- Other organisations are outsourcing maintenance; therefore it must be right for me.
- Managing maintenance by contract is a mechanism for controlling the activity.
- The supplier will always respond to client requests, but maintenance departments don't.
- Maintenance follows the 80:20 rule and usually 20% or less of operational costs should be treated as a supplied service.
- Maintenance is not our core business.
- We can control and reduce cost through competitive tendering.
- Outsourcing can yield immediate financial benefits – we can deal with the long-term later.
- With procurement specialists and tightly defined contracts we can make the supplier perform; the more we specify the more control we have.
- We can give the supplier our maintenance budget and he will reduce the cost if the contract says he must.
- We will be able to control capital maintenance expenditure better if there's no maintenance department to spend it.
- A maintenance supplier will provide cost effective solutions to failures because that's what we want.

3.2 Supplier

- Our overheads are always lower so maintenance will cost less if outsourced.
- Maintenance is a problem best looked after by experts.

- We are better equipped to ensure people work productively.

- Our negotiated arrangements for spares supply mean we can effect repairs much more quickly.

- Discount deals with spares suppliers can be passed on to the client, saving considerable cost.

- We will supply information about every job we carry out.

- We have the range of skills and expertise to deal with any eventuality.

3.3 And Some Unwritten Realities

- Asset performance is invariably the client's responsibility and therefore failures carry no risk to the supplier.

- All maintenance contracts are financially risk free from the supplier's perspective with the financial risk sitting with the client even where there is a budget reduction contract. (In this situation the supplier will ensure that he makes a reasonable return, meets his contractual obligations and hits the financial target.)

- Contracts carry no quality or work effectiveness measures resulting in no incentive for the supplier to adopt a "right first time" approach.

- Contracts invariably require some form of policing to satisfy the client that the supplier is performing.

- Where preventative maintenance schedules are competitively bid on a fixed price, there is little incentive for the supplier to execute the work effectively as his greatest return comes from responding to failures. Increased failures results in greater turnover and hence more profit for the supplier.

- The supplier's focus is on the contractual service measures and his own volumes and returns. He has little interest in asset performance.

4. DECISION MAKING ON THE GROUND

The simplest way to understand the difference between in-house maintenance and maintenance provided by a supplier on a contract basis is to understand the decision making process that a tradesman go through when faced with a problem in the field. In approaching the resolution of the issue his first thoughts are to determine how best to carry out the work in his own interests before considering what his employer's expectations are.

Typically his thought processes would include:

4.1 For himself

- How quickly do I want the job done?
- Is there a financial benefit to me (eg overtime)?
- Is it convenient for me to deliver the right solution now?
- Do I really want to do this job?

4.2 For the employer

- What are the operational circumstances and how should I execute the job to meet them, ie quick fix or final solution?
- Are there other alternatives that will provide a more effective long-term answer to the problem?
- Is the repair best done in the field or is it more effective to be carried out in the workshop environment?

However, in a contractual relationship a tradesman employs a third stage of questioning. Instead of being directly employed he now works for the maintenance supplier and would ask questions for the benefit of himself, exactly the same as if he was directly employed, but the questions he covers for his employer (the maintenance supplier) change to:

4.3 For the employer

- Have I met the contractual measures with respect to the performance indicators in the contract?
- Is there an opportunity for further work in resolving this problem?
- What solution will maximise the benefit to the supplier?

His thought processes, that were previously the employer's key questions, now form the third phase of thinking where he directs his attention to the client's requirements. The failure of many organisations to grasp the changing emphasis of decision-making is invariably the reason for dissatisfaction with outsourced maintenance arrangements.

Although in-house maintenance departments may appear to be a law unto themselves, they do understand production/operational needs and invariably make the right decision in the best interests of the **assets**. Outsourced maintenance organisations make decisions to meet their **contractual obligations** first.

5. THE APPROACH TO OUTSOURCING MAINTENANCE

Given the problems and issues faced by treating maintenance as a non-core activity and establishing contracts for delivery, how can contractual arrangements improve to ensure assets both perform better and are maintained more effectively?

5.1 Medium/Long-Term Effect Of Outsourcing Maintenance Through Traditional Forms Of Contract

The UK industry has successfully developed over the past 15 years a multi-billion pound facilities management market, predominantly to supply the service sector, which has seen maintenance outsourced to it with no long-term financial justification other than the political judgement that maintenance is a non-core activity. It seems strange that a key long-term activity such as maintenance, which has a direct bearing on investment costs, can be outsourced to relatively low risk suppliers on a short-term basis.

With the average life of a mechanical/electrical asset anticipated to be in the order of 20 years or more then there is little interest on the supply side for ensuring an asset effectively meets its predicted life through effective maintenance. Is it little wonder that we see the same mistakes repeated through competitive tendering for maintenance work when a supplier fails to perform? Yet failure to perform is a subjective judgement as a result of the client seeing reductions in productivity and asset availability coupled with increased internal overheads for managing the supplier, increasing capital investment, difficulty with tracking costs, a blame culture relationship and an increase in catastrophic failures, leading to the assumption that the fault lies with the supplier.

How many organisations truly model their proposed maintenance contract arrangements in-house before venturing into the marketplace? How many firmly test roles and responsibilities in the client/supplier relationship before developing a contract? How many link service level agreements to asset performance ensuring the supplier takes on an element of risk for the work he does? The reality is few if any move to outsourcing maintenance without examining these key issues which are critical for determining the medium/long-term effect of outsourcing.

5.2 The "Risk" Issue

There must be a fundamental shift in client thinking from treating maintenance just as a service, but also incorporating the value it adds to operational performance when done **effectively**. But how do you measure effectiveness? Why should the supplier be truly effective with maintenance work when this will reduce his potential turnover and hence profit?

The only way to incentivise a supplier to perform effectively is to reward him for achieving predicted asset performance based on the level of risk he carries. The greater the risk, the higher the reward (and similarly, risk carries penalties for failure) and the reward must provide sufficient incentive to outweigh reduced profitability through a reduction in turnover, as a result of the supplier being effective in maintaining the assets.

I can hear the cries of anguish from certain quarters at the notion of “giving money away” for doing “what they should do anyway”. Yet these comments invariably come from the “screw the supplier for best value” brigade. One senior executive from a major (and struggling) infrastructure company stated that “We only want successful and profitable companies working for us – provided they don’t make a profit at our expense”. This comment was made quite openly at a conference of their infrastructure suppliers. What do you think the suppliers made of their client’s attitude?

The approach to outsourcing maintenance must necessarily look at both service and asset performance, and be driven by risk evaluation and the capability of the marketplace to service that risk. A methodical approach to outsourcing must be taken which does not treat maintenance either as a function or just a service provision.

5.3 Risk Based Asset Grouping

For most organisations the maintenance activity falls into three distinct areas.

1. Maintenance of operational assets forming the production process
2. Maintenance of service assets that supply into the production process, eg steam services, supply of heating and power, treated water supplies and waste water treatment
3. Non-productive assets, eg office facilities, buildings and structures, grounds, etc

Each of these groups of activities should be looked at separately as the marketplace is not geared up to provide all. Where relatively low skilled and low risk maintenance is required on the non-productive assets there is an abundance of facilities management companies that can provide these services cost effectively. In this case service type contracts are appropriate where prospective companies can supply their proposed maintenance routines and response to failures.

In the case of service assets that supply the production process, maintenance can be targeted at the specialist companies who have specific expertise in operating and maintaining that sort of facility. The client requires arrangements that ensure quality, volume and reliability of output from the plant to ensure production processes operate continuously. These contracts involve the supplier taking on all the risks for asset performance and operating and maintaining the plant to meet production process targets. The client/supplier contractual relationship is one of the asset owner working with the supplier on an “operate and maintain” basis, where the supplier is rewarded for meeting the quality, volume and reliability targets.

Clarity and understanding of the client/supplier risk relationship is paramount in maintenance of the operational assets. Determining the level of outsourcing and the appropriate form of contract for maintenance of productive assets is directly related to where the level of risk lies with asset performance. If the significant risk effort lies with the operator, in other words operational performance is a direct result of operator effectiveness, then risk cannot be transferred to the maintenance supplier and any form of contract should be limited to either resource supply or service only contracts. Where asset performance is truly a 50:50 relationship between the operator and the maintenance supplier then it is appropriate for the managed type of contract to be adopted with incentives and rewards geared to directly measurable maintenance criteria such as repetitive failures and turnaround time for repair.

There are many circumstances where operational input to asset performance is relatively low and that the majority of the risk for asset performance lies with the maintenance supplier. In this situation where the key criteria is asset availability then asset based performance contracts come into their own.

6. ASSET BASED PERFORMANCE CONTRACTS

What do we mean by asset based performance contracts? The objective for successfully moving outsourced maintenance on to a new risk based platform is to shift the focus of the contract from measuring the supplier's service to measuring how the assets perform. Inherently these contracts must be long-term for the supplier to have a stake in the long-term performance of the asset. These forms of contract are best applied on new facilities, which have been commissioned and are fully meeting the operational demands. In the brownfield situation they would start by measuring current asset performance position with a view to improving in the long-term.

6.1 Objectives and Performance Measures

In order to establish the framework of the contractual arrangements it must be clearly understood how the assets will perform and what will be the asset condition on completion of the contract. Within this overall framework you must:

- Identify the asset condition parameters to be used and apply them to:
  (a) the current situation
  and (b) the expected condition on contract completion.

- Establish the asset operational performance criteria in order to determine the Key Performance Indicators (KPI's) that will be applied in the contract. These criteria cover such areas as outputs, volumes and availability.

- In establishing KPI's ensure that they truly reflect asset performance, and incorporate service measures such as response times if required.

- It is inappropriate to establish large numbers of KPI's, as the focus on asset performance will be lost. However, aim to set a maximum of four KPI's, which truly meet the operational performance criteria.

6.2 Form of Contract

In order to ensure that confidence can be built in the working arrangements with both the client and supplier, particularly where the supplier is expected to take on risk, then these arrangements can only work successfully using an open book form of contract. It is therefore necessary to:

- Use less adversarial forms of contract for these working arrangements, such as the Engineering and Construction Contract (ECC).

- Adopt an actual cost with fee approach against a schedule of rates, but couple this with an annual target cost for each year of the contract to ensure that incentives are applied, and use a gainshare/painshare mechanism appropriate to the relevant degree of risk.

Gainshare/painshare mechanisms reward/penalise both the client and supplier dependant on their achieving savings/overspends against the target cost. The percentage sharing of savings/overspends is usually directly related to the risk each party takes. For example, fully shared risk means that savings are split 50:50 between the client and the supplier as is any overspend.

- The fee element applied to the schedule of rates should separate out indirect overheads and declared profit, in order to ensure that the suppliers proposed profit for the work he executes is a reasonable return for his efforts. Traditional contracts where the supplier's profits are not visible often raise suspicions on the client's side that the supplier will compromise performance to maximise profit. Declared profits remove this suspicion as it is clear to all parties what the value of a target cost contract is in profit terms to the supplier.
  It is critical that the opportunity for the supplier to make gainshare in the target cost arrangement must significantly outweigh the return on any declared profit for it to act as a true incentive in reducing failures.

6.3 Contractual Relationship

With maintenance being a complex subject, then absolute clarity in the working relationship between client and supplier must be understood up front before embarking on any asset based performance contract. It is important therefore that:

- The mechanism for exclusions against the agreed target cost is understood in advance of contract commencement. The reality of maintenance is that you can only plan for the known circumstances and unpredictable eventualities must be catered for outside the target cost scenario.

- To build confidence in the relationship there must be regular, objective and performance based meetings between the client and supplier. Openness and honest communications is a prerequisite.

- The target cost must be agreed annually based on the supplier's management plan for that year, ensuring resource requirements are matched to the performance targets. The target cost, in order to be realistic, must be built up jointly between the client and the supplier. There is usually a significant difference between the client and supplier's expectations when it comes to annual costs, which can be difficult to bridge through negotiation.

- In dealing with issue resolution and performance monitoring it must be done on a face-to-face basis. If parties resort to communicating in writing then trust in the relationship will be lost.

6.4 Risk and Reward

It is human nature to expect others to take on risk and yet be reticent with rewarding success against that risk. If you are not willing to pay for performance over and above that expected then you cannot move to risk based management contracts. In order to ensure that both client and supplier are confident in the risk/reward process then you must:

- Reward success absolutely. This means that performance measures must be met for target cost savings to be rewarded. The supplier must be clear that asset performance and cost savings cannot be traded or asset performance will be compromised.

- Limit the "painshare" element of potential supplier losses to the value of his declared profit. If losses start to eat into his actual costs and overhead then the supplier will no longer perform effectively but will instigate cost cutting measures potentially affecting asset performance – which is not in the client's best interests.

- Have in place a contract review process triggered by either:
  (a) Failure to meet KPI's
  or (b) Target cost overspend above the value of declared profit.
  The earlier the potential failure is identified and resolved the better for both parties. Any contract review process could well lead to contract termination if recovery mechanisms cannot be agreed.

6.5 Operating Costs (OPEX) and Capital Investment (CAPEX)

This is perhaps the most difficult area for resolution in risk/reward arrangements. Many organisations use capital maintenance as a back-up fund to the maintenance budget for "one off" failures. You cannot agree a target cost for OPEX without understanding how CAPEX will be managed. If the supplier has no input to the CAPEX management process then he will make his own assumption about large failures and demand that they are funded outside the target cost mechanism. It is vital therefore that:

- There is a firm definition of what constitutes OPEX and what is not covered in the contractual arrangements and will be funded through CAPEX.

- The authorisation mechanisms for CAPEX are clearly understood together with how investment priorities are determined. It should always be the objective of the contractual arrangement that the drive for establishing those priorities should be with the supplier if he is truly to maintain his focus on asset performance.

- The client must understand that he cannot opt not to spend money on improvement and yet expect the supplier to meet performance and financial targets where assets are clearly failing.

For asset based performance contracts to work effectively then the onus for asset improvement is should lie with the supplier. At the end of the day the supplier has the technical expertise and is delivering the day-to-day work to be best placed to make those investment decisions. The client must recognise, however, that there is a linkage between investment that improves asset performance, necessitating an adjustment of KPI and financial targets, hence reducing the supplier's volume of work. Cost effective capital investment under the supplier's control should be able to trigger gainshare benefits reflecting the reduced return the supplier gets from his declared profit as a result of volume reduction.

7. SUMMARY

Organisations continue to regard maintenance as a marginal activity and see it as non-core within many market sectors. It is perceived as predominantly reactive and difficult to control; a cost burden to the operation bringing little added value.

The trend to outsourcing maintenance continues apace, but service contracts have not always delivered maintenance in an effective way, resulting in the client organisation needing to police the supplier's activities, as there is a belief that the supplier cannot be trusted to work effectively.

The maintenance supplier's perception is that maintenance contracts are low risk and the client is generally more interested in cost reduction and timely response. Client organisations invariably set up contracts that reflect how they would want a maintenance organisation to respond, yet fail to question why it has not happened as an in-house activity in the past.

Recent high profile cases of catastrophic asset failure have demonstrated how the contractual focus has been on cost and response and not on asset performance, with a lack of understanding of accountability and ownership of risk.

If there is to be a significant change in the client/supplier relationship for outsourced maintenance activities in the future, then there must be a fundamental shift of contractual focus from a service philosophy to asset performance, bringing with it a level of accountability on the supplier's behalf for the assets.

If the client expects the supplier to both take on risk and reduce cost, then he must also reward the supplier when he brings innovative solutions to problems in order to reduce costs and manage the risk on the client's behalf.

The successful maintenance contracts of the future will link supplier reward to asset performance through use of asset based performance contracts.