

# Productivity after a change

Damian James MRICS MCI Arb MCI OB MCI InstCES FCABE, Mediator Consultant, Diales



**Damian James looks at change, lack of productivity and what causes the loss with labour levels**

**P**RODUCTIVITY claims arise after a change. They are usually complex and become difficult and time-consuming to prove. The claimant has a number of recognised options with which to submit its claim including the measured mile approach, industry study or total cost method.

The responding party will be left with a large number of documents to work through, in which it will endeavour to address the complexities of the lost productivity which followed the event and ultimately give entitlement to the claimant for full reimbursement of its costs. The responding party will be clearly entitled to question why it is liable for the full cost of lost productivity if it can counter argue and prove that part of these costs are the liability or, in the very least, the responsibility of the claimant.

The tender process allows the contractor to insert outputs for work activities based on its planned sequence of work and its approach to the project duration. The submitted programme can be questioned by the employer and it is entitled to interrogate activity durations and outputs included for any given element of work. Ultimately, the responsibility to perform to the programme is that of the contractor and it is for it to produce a programme that ensures completion, this should be borne out of the general good principles of planning and a hierarchical decision strategy which includes:

- How to control work processes.
- How to manage the control.
- How to manage design.
- The most appropriate construction methods.
- The procurement process and decision making criteria for the appointment of subcontractors.
- The coordination of multiple elements within the programme.
- Ensuring management of time and cost — without affecting quality.

The purpose of the contractor's programme is to manage the build process and meet completion on time, but in the event of change it becomes a baseline to measure the planned resource levels against the actual.

The programme provides valuable information on the timing and sequence of activities and material requirements but when a change takes place we are generally concerned with the effects on resource levels. These are generally made up of the following levels; labour, plant and staffing. It is these levels that present difficulty to a contractor in presenting a claim based on a change that results in a lack of productivity.

An arising claim will need to address the reduction in productivity and isolate the costs that this attracts. This article will focus on the lack of productivity caused to the planned labour levels and understand whether these are unique to the project, the country or the individual — or whether it is a combination of all that causes the loss.

## The law

The law has thus far been fairly predictable and would warrant a detailed analysis of submissions made to a tribunal. Of late, there has, however, been a significant shift in the approach to the interpretation of quantum, particularly where a tribunal has decided liability. The test for determining all quantum issues was an audit trail of paperwork, diaries, invoices, certificates, bank statements and the like, but this pragmatic nature would not determine the elements of lost productivity that may not be the liability of the employer. The best methods and approach for this are:

- A cost system that allows an audit trail of cause, effect and entitlement. This method would provide the specific elements of lost productivity if there was sufficient detail.
- In the absence of such a system then the use of the records available should be the next alternative, for example invoices, payslips and diaries. This would require the specific reference to lost productivity to be included in the entries.
- In the absence of either, and where the claiming party uses a global approach due to a genuine inability to extract cost information from its records, the parties should consider the background circumstances which explain the genesis and purpose of the contract and how records should have been collated and what should probably have been in the minds of the parties when they contracted. If a genuine inability to produce the records to a satisfactory level exists and this is accepted, then the parties would have to act pragmatically. It is at this point that the parties should give specific regard to the intrinsic and extrinsic factors that affect productivity.

Here, the parties need to have regard to intrinsic and extrinsic factors and a willingness to appreciate the circumstances

**It is not for the employer to incur costs that are attributable to the contractor's supervisory failings. It is not for the contractor to clumsily bundle all of its costs into claims for loss of productivity.**

that surround the lack of productivity that results from a change or event.

## Labour productivity

It was William Schwartzkopf who listed labour productivity as a function of various controllable and uncontrollable factors. He listed these under six groups, comprising schedule acceleration; change in work; management characteristics; project characteristics; labour and morale; and project location/external conditions.

Having previously discussed the use of indices within the presentation of claims and how these can be applied to different countries, it is reasonable to suggest that operatives in any country will react differently to the above and therefore the application of indices from the USA is not relevant to the labour market of Africa.

The matters that seem significant when a change takes place in the African industry are slow release of information; workers fatigue and ability to adapt; strikes; negative labour influences; lack of communication; low morale; public opinion; cumbersome procedures and sophistication of workforce. At the centre of a lack of productivity following a change, is the workers' right to strike. It could be their understanding (rightly or wrongly) that a change in circumstances should result in better payment or conditions and therefore they may use change as a reason to receive better benefits and remuneration.

## The right to strike

The right to strike is enshrined in the South African constitution. Workers have a right to strike, and employers have a right to lock out workers, if a dispute cannot be resolved. An unprotected strike is simply a strike that does not comply with the *Labour Relations Act*. This act uses the term 'protected strike' to describe a strike that complies with its provisions. The provisions require that i) the dispute has been referred to a council or the Commission for Conciliation, Mediation and Arbitration; ii) a certificate that a dispute remains unresolved must have been issued; iii) 30 days must have elapsed since the referral; and iv) a written notice of a strike must have been given to the employer 48 hours prior to it taking place. If these provisions are met, then the strike will be protected. Strikers may not be dismissed and no civil legal proceedings may be brought against them.

A strike is unprotected if it does not comply with the *Labour Relations Act*. A court may grant an interdict against an unprotected strike and order the payment of compensation for any loss

Factors to a lack or loss of productivity that have been given in the USA.

Absenteeism	Crowding of trades	Labour relations
Acceleration	Defective engineering	Learning curve
Access restrictions	Differing site conditions	Overstaffing
Adverse weather	Dilution of supervision	Poor morale
Available craft labour	Untimely approvals	Poor project management
Changes, cumulative	Excessive overtime	Out-of-sequence work
Competition for labour	Failure to coordinate	Rework and errors
Craft labour turnover	Fatigue	Schedule compression



It is accepted that change is part of all construction contracts and with change there is a cost. The ideal situation would be where there is a reasonable period of the activity undertaken on site prior to the change that affects the productivity. This would then allow consideration to be given to the period of time taken to complete the activity after the effect of the change. This allows scrutiny of the programme information and could be adopted to understand the productivity calculations and assumptions by way of the measured mile approach. However, this would need to be accompanied by the contractor's tender; subsequent invoices; and labour records.

What if the employer was to agree that, given the circumstances specific to the country and possibly the contract, it was prepared to utilise an indices as a means of calculating the payment for the issues that a contractor may have in re-establishing its workforce to work on a change or an event giving rise to a change? An employer may suggest that it pays 1.12 of the initial rate to deal with the human and country factors and then it is for the contractor to establish anything further on a cost system or measured mile principle. This would prevent the contractor from using a total costs claim and would require its submission of proper records to provide and confirm a loss of productivity. Ultimately, the contract prevails and the contractor must provide evidence in the form of contemporaneous records to adduce its claim correctly.

## Indices

The use of indices may assist the engineer in the computation of claims and provide a helpful source of data for both parties

Factor	Minor loss	Average loss	Major loss
Trade stacking	10%	20%	30%
Morale and attitude	5%	15%	30%
Manpower reassignment	5%	10%	15%
Crew size	10%	20%	30%
Concurrent operations	5%	15%	25%
Dilute supervision	10%	15%	25%
Learning curve	5%	15%	30%
Errors and omissions	1%	3%	6%
Beneficial occupancy	15%	25%	40%
Joint occupancy	5%	12%	20%
Site access	5%	12%	30%
Logistics	10%	15%	20%
Fatigue	8%	10%	12%
Ripple	10%	15%	20%
Overtime	10%	15%	20%
Weather change	10%	20%	30%

to discuss costs that may arise or have arisen. The existence of such indices is not readily available and would require significant research to source the data required, but they would provide an invaluable method of understanding the intrinsic and extrinsic factors that influence an operative when confronted by a change to its activities or workload.

A starting point would be the comparison of an alternative country with the USA, where the Mechanical Contractors Association of America (MCAA) suggested 16 productivity factors and listed each with a gearing to identify the percentage for minor, average and major losses. The gearings provide productivity factors as percentages to add to labour costs for change orders and/or original contract hours. As you would expect, the use of this is often coupled by the contractor claiming all of the conditions to its claim sum.

The MCAA study is readily available and is employed by claimants in the USA to a wide variety of projects. The limitations to its use are provided by the MCAA itself, who states:

*“These factors listed are intended to serve as a reference only. Individual cases could prove to be too high or too low. The factors should be tested by your own experience and modified accordingly in your own use of them since percentages of increased costs due to the factors listed may vary from contractor to contractor, crew to crew and job to job.”*

In the USA, courts and tribunals will accept the submission of studies such as this but will limit its use within such proceedings on the following basis:

- Source data for the studies is not always known and may be anecdotal rather than empirical and viewed as self-serving for industry participants.
- General industry studies provide no guidelines in how to apply factors where multiple causes have been identified.
- The findings are not conclusive since there is no clear application or no direct relationship to a specific project.
- Courts are more willing to accept the studies as support or rebuttal evidence rather than direct evidence of lost productivity.
- Industry studies are prepared for the purpose of forward pricing of change orders and, therefore, are not for hindsight use in claims for lost productivity.

## What it comes down to

In the final analysis, a contractor will continue to claim on a total cost basis as it will not have the level of detail to satisfy any employer enquiry into the intrinsic or extrinsic factors that have been discussed in this article. This will return the contractor to the mercy of a tribunal to satisfy the evidence requirements and establish that there was no other means of measuring the costs other than the submission of total costs; the contractor can justify that the productivity rates used in its tender were reasonable; the costs that the contractor has incurred as a result of a change are not excessive; and the resulting additional costs are not the responsibility of the contractor but the employer.

In the event of indices being provided and tested in the courts or tribunals, they may offer some insight into the true value of loss of productivity claims.

*Damian James MRICS MCLArb MCIQB MCIInstCES FCABE, Mediator Consultant, Diales, Damian.James@diales.com  
www.diales.com*