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Damages in Construction Contracts:
Legal Issues Surrounding Use of Standard Formulae



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Cite as: 2024 SCC OnLine Blog Exp 22

Published on February 29, 2024 - By Bhumika Indulia



Lost profits and overheads— A remedy for delay attributable to employer

In construction contracts, when contractors submit fixed price bids, they do so with the expectation that the revenues generated from their projects will not only cover direct costs but also encompass broader operational expenses, thus yielding a net profit for the contractor. These operational expenses, known as head office overhead¹, encompass various non-project costs essential for the functioning of the contractor entity, such as administrative salaries and office rent. Naturally, the head office overheads play a crucial role in the contractor's financial planning.

Typically, contractors incorporate a markup on their direct costs within their bids to account for head office overhead. While this markup may initially suffice, complications arise when projects encounter delays without significant scope changes. In such instances, contractors find themselves seeking compensation for the unabsorbed or extended head office overheads, representing a lost opportunity to replace delayed work with new projects swiftly. These claims essentially reflect the loss of potential income and highlight the intricate financial dynamics involved in construction contracts.

Often invoked when projects face delays or premature termination, loss of profit serves

as a measure of compensation for the aggrieved party. Guided by Section 73 of the Contract Act, 1872², the viability of such claim centres on whether the damages naturally arise from the breach or were foreseeable at the time of contracting. However, it is important to note that the amounts awarded are generally limited to those damages that directly result from the breach, excluding indirect or remote losses.

On lost profits, the Supreme Court in *A.T. Brij Paul Singh v. State of Gujarat*³, observed that when a contractor bids for a tender, they expect to earn some profit if their bid is accepted. If, upon execution of the works contract, the employer entrusting the work commits a breach of contract, the contractor would be entitled to claim damages for loss of profit against the profit they expected to earn. For evaluation of loss to contractor, the minutest details need not be examined, and a broad assessment would be sufficient.

Similarly, in *Bharat Coking Coal Ltd. v. L.K. Ahuja*⁴, the Supreme Court held that it is not unusual for contractors to claim loss of profit arising out of contractual delay attributable to the employer. In such cases, the contractor needs to establish that they could have utilised the same time for some other business in which they could have earned profit. Unless such a plea is raised and established, a claim for loss of profits cannot be granted in law.

Standard formulae for computation of lost profits and overheads

In construction contracts across jurisdictions, computation of lost profits and overheads is often guided by some well-recognised standard formulae. Several Indian judicial pronouncements have held a favourable view on utilising these standard formulae to assess lost profits and overheads. The three common formulae amongst the many include: (i) Hudson's formula; (ii) Emden's formula; and (iii) Eichleay's formula.

Hudson formula

The Hudson formula⁵, is stated in the following terms:

Contract head office overhead and profit percentage x (Contract sum + Contract period) x Period of delay.

While the Hudson formula has received a fair share of judicial support, it has been subject to criticism as it takes the head office overhead percentage of the contract as the basis for computing lost profits, which may otherwise have little to no bearing on the actual head office costs of the contractor. The Hudson formula is founded on the fact that, typically, in project bidding, it is common to incorporate a single percentage to encompass both overheads and profit. However, unless explicitly delineated, this consolidated percentage often also encompasses various factors like risk, contingency, head office, and site overheads alongside profit. Consequently, the Hudson formula fails to reflect an allocation solely designated for head office overheads precisely.

Emden formula

The Emden formula⁶, is stated in the following terms:

$(\text{Head office overhead and profit}/100) \times (\text{Contract sum}/\text{Contract period}) \times \text{Period of delay}.$

Using the Emden formula, the head office overhead percentage is arrived at by dividing the total overhead cost and profit of the contractor's organisation as a whole by the total turnover. This formula has the advantage of using the contractor's actual head office overhead and profit percentage rather than the figure contained in the contract.

The Emden formula evolved from the Hudson formula as it uses the actual head office overhead cost rather than a theoretical percentage. This approach is based on audited accounts from contractors or subcontractors to determine the real head office overheads, a favourable departure from Hudson formula as it hinges on verified and reliable data to assess actual cost implications.

Given that the Emden formula is viewed as an improvement over the Hudson formula, it found wide application in a number of cases.⁷

Eichleay formula

While the Hudson and Emden formulas originated in the United Kingdom, the Eichleay formula traces its roots to the United States of America.⁸

In the Eichleay formula, the computation of lost profits is carried out in the following steps:

Step 1: $(\text{Contract billings}/\text{Total billings for contract period}) \times \text{Total overhead for contract period} = \text{Overhead allocable to the contract}.$

Step 2: $\text{Allocable overhead}/\text{Total days of contract} = \text{Daily overhead rate}.$

Step 3: $\text{Daily contract overhead rate} \times \text{Number of days of delay} = \text{Amount of unabsorbed overhead}.$

This formula is used where it is not possible to prove loss of opportunity, and the claim is based on actual cost. It can be seen from the formula that the total head office overhead during the contract period is first determined by comparing the value of work carried out in the contract period for the project with the value of work carried out by the contractor as a whole for the contract period. A share of head office overheads for the contractor is allocated in the same ratio and expressed as a lump sum to the particular contract. The amount of head office overhead allocated to the particular contract is then expressed as a weekly amount by dividing it by the contract period. The period of delay is then multiplied by the weekly amount to give the total sum claimed. The Federal Circuit Court of America regard the Eichleay formula as the exclusive means for compensating a contractor for overhead expenses.⁹

McDermott International Inc. v. Burn Standard Co. Ltd.

The decision in *McDermott International Inc. v. Burn Standard Co. Ltd.*¹⁰, is one of the first Indian cases which discussed at length about the computation of damages and, more importantly, loss of profits using established formulae. In this case, the Supreme Court observed that the provisions of the Contract Act do not prescribe any particular mode or manner to compute damages. At the same time, there is nothing in Indian law to show that any of the formulae adopted in other countries for computing damages would be inconsistent with the laws of India. The Supreme Court referred to the three commonly used formulae i.e. Hudson's formula, Emden's formula, and Eichleay's formula.

As a general overarching principle, the Supreme Court opined that the method used for the computation of damages will depend upon the facts and circumstances of each case.¹¹ While assessing damages, the Supreme Court in *McDermott case*¹², held that the courts must consider only strict legal obligations and not the expectations of the contractor (however reasonable) that the other party will do something that they have assumed no legal obligation to do.¹³

Reverting to the aspect of using formulas to compute damages, the Supreme Court observed that it is an accepted position that different formulae can be applied in various circumstances, and the question as to whether damages should be computed by taking recourse to one or the other formula, having regard to the facts and circumstances of a particular case, would eminently fall within the domain of the arbitrator.

By applying a particular formula to assess the amount of damages, an arbitrator cannot be said to have committed an error warranting the interference of the court. However, where the court or the Arbitral Tribunal, as the case may be, feels that taking recourse to a formula is not feasible, the claimant may be mandated to produce proof of actual damages. In some cases, the courts or the Arbitral Tribunal may even prefer one formula against another.

Batliboi Environmental Engineers Ltd. v. Hindustan Petroleum Corpn. Ltd.

In *Batliboi Environmental Engineers Ltd. v. Hindustan Petroleum Corpn. Ltd.*¹⁴, the Supreme Court dealt with the principles applicable for computing the damages in case of partial prevention i.e. where the breach by the employer is not fundamental and does not entitle the contractor/vendor to cease the work.

The Supreme Court observed that the measure of damages in such cases is the loss of profit arising from the reduced profitability or added expense of the work carried out.¹⁵ Even in a case where there is a fundamental breach by the employer, albeit, the contractor does not immediately elect to treat the contract as repudiated, the contractor may still be entitled to raise a claim for loss of profit on the uncompleted work.¹⁶

The Supreme Court held that the computation of damages should not be whimsical, disingenuous, and absurd, resulting in a windfall gain for one party at the expense of another. The damages should be commensurate with the loss sustained. The object of awarding damages is to place the aggrieved party in the same situation, with damages, as if the contract had been performed. The decision in *Batliboi case*¹⁷, also clarified that the underlying principle in expectation damages is that the sum of money awarded to the party who has suffered the injury, should be the same quantum as they would have earned or made, if they had not sustained the wrong for which they are getting compensated.

The Supreme Court in *Batliboi case*¹⁸, also reiterated that the use of formulae such as Hudson's, Emden's, or Eichleay's has been well-recognised and judicially approved in a catena of English cases¹⁹, and one Canadian case.²⁰ These three formulae use mathematical equations and factual assumptions to compute the damages. In such circumstances, the Supreme Court was of the view that while applying a particular equation or method, the pre-requisites or assumptions of the formula must be satisfied. In this regard, the Supreme Court placed reliance on the decision in *Property and Land Contractors Ltd. v. Alfred McAlpine Homes North Ltd.*²¹, to hold that all three formulae, be it the Emden's formula, Hudson's formula, or the Eichleay's formula, are all dependant on various assumptions, which if not attracted to a given case, would not justify the use of a formula.

As per the Supreme Court, for having a claim of lost profits granted, the contractor has to prove that there was other work available that they would have secured if not for the delay, by producing invitations to tender which were declined due to insufficient capacity to undertake other work. The same may also be proven from the books of accounts to demonstrate a drop in turnover and establish that this result is from the particular delay rather than from extraneous causes. If loss of turnover resulting from delay is not established, it is merely a delay in receipt of money, and as such, the contractor is only entitled to interest on the capital employed and not the profit.

Referring to the decision in *McDermott case*²², the Supreme Court was of the view that the Eichleay formula gave results with greater precision and accuracy. Eichleay formula requires the claimant to itemise and quantify the total fixed overheads during the contract period. The Supreme Court was of the view that Hudson's formula could result in double recovery as the profit is added to the contract sum, which already accounts for the profit and overheads. To avert this double recovery, it was recommended that the formula should be modified to contract sum less overhead and profit.²³ The Supreme Court cited *Hudson's Building and Engineering Contracts* 14th (Edn.), to observe that Hudson's method should be taken as the basis for computation with caution and as a last resort, where no other way to compute damages is feasible or mathematically accurate. Inaccuracies in Hudson's computation should not be overlooked and should be accounted for and neutralised. Hudson's formula, when applied, should be with full care

and caution so as not to over-award the damages.

Unibros v. All India Radio

In *Unibros v. All India Radio*²⁴, the moot point before the Supreme Court was whether a claim for loss of profit could prevail solely based on the delay being attributable to the employer. In this regard, reliance was placed on the decision in *ONGC Ltd. v. Saw Pipes Ltd.*²⁵, to assert that the term “public policy of India” in Section 34 should be interpreted broadly. The Supreme Court also referred to the decision in *Associate Builders v. DDA*²⁶, holding that aspects like compliance with fundamental legal principles, the need for a judicial approach, adherence to natural justice, Wednesbury test of unreasonableness, and patent illegality were constituent elements of the public policy of India.

The Supreme Court asserted that any award attempting to override a binding judicial decision, conflicts with fundamental public policy and is unsustainable. As regards a claim for loss of profits, the Supreme Court cited *Bharat Coking Coal Ltd. case*²⁷, and reaffirmed the requirement for adequate evidence to support such claims. It emphasised that evidence must demonstrate the viable opportunities lost due to the delay and be credible. The Supreme Court specified that evidence could include contemporaneous records of potential projects, tendering opportunities declined due to delays, financial statements, and contract clauses related to delays and compensation.

In *Unibros case*²⁸, the Supreme Court also outlined conditions for successful loss of profit claims: (i) a delay not attributable to the claimant; (ii) the claimant’s established contractor status; and (iii) credible evidence substantiating the claim.

Standard formulae— not an absolute substitute to evidence

There have been circumstances where courts and Arbitral Tribunals have rejected a claim for overhead expenses purely based on a formula for the period of extended performance of contract on account of the lack of evidence. Hence, none of the formulae act as a complete substitute to evidence which directly links the delay to the damages. The claimant always bears the onus of proving that the augmented overhead expenses were a direct result of the prolongation of the contractual period at the fault of the employer. For instance, the High Court of Delhi in *Indo Nabin Projects Ltd. v. Powergrid Corpn. of India Ltd.*²⁹, had held that the standard formulae are an essential tool for computing lost profits and overhead expenses. However, the Arbitral Tribunal is not bound to apply these formulae to every case and absolve the claimant from producing any material which establishes the claim for lost profits.

Conclusion

To summarise, determining how to calculate home office overhead recovery lacks a one-size-fits-all approach, with multiple methods available, each yielding different results. The

suitability of a particular formula depends on the legal context and jurisdiction governing the contract in question. Notably, the Eichleay formula and the Emden formula are often preferred due to their reliance on actual data rather than estimations or historical trends. Nevertheless, it is essential to recognise that these formulas have their limitations. For example, the Eichleay formula is only applicable at the end of a project.

Similarly, the Emden formula's reliance on past data does not always accurately predict future circumstances. Moreover, beyond these methods, there are numerous other accepted formulas globally, each with its own variations and interpretations. Despite the complexities involved, these formulas continuously evolve to accommodate the dynamic nature of construction contracting.

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1. The term "head office overhead" has been defined as, "The incidental costs of running the contractor's business as a whole, which are not incurred directly as a result of the particular project. These overheads are generally administrative expenses and may include items such as rent, rates, directors' salaries, finance charges and auditors' fees."
2. Contract Act, 1872.
3. (1984) 4 SCC 59.
4. (2004) 5 SCC 109.
5. The Hudson's formula appears in *Hudson's Building and Engineering Contracts* (10th Edn.).
6. The Emden formula appears in *Emden's Construction Law* (1st Edn)
7. *Norwest Holst Construction Ltd. v. Coop. Wholesale Society Ltd.*, 1998 EWHC Technology 339; *Beechwood Development Co. (Scotland) Ltd. v. Mitchell*, 2001 CILL 1727; and *Harvey Shopfitters Ltd. v. Adi Ltd.*, 2003 EWCA (Civ) 1757 : (2004) 2 All ER 982.
8. The Eichleay formula derives its name from a case heard in Eichleay Corporation's case (*Eichleay Corporation case*, ASBCA No. 5183, 60-2 BCA) by the Armed Services Board of Contract Appeals.
9. *Eichleay Corporation case*, ASBCA No. 5183, 60-2 BCA
10. (2006) 11 SCC 181.
11. *M.N. Gangappa v. Atmakur Nagabhushanam Setty & Co.*, (1973) 3 SCC 406.
12. (2006) 11 SCC 181.
13. *Lavarack v. Woods of Colchester Ltd.*, (1967) 1 QB 278 : (1966) 3 WLR 706.

14. 2023 SCC OnLine SC 1208.
15. *Batliboi case*, 2023 SCC OnLine SC 1208; and *Hudson's Building and Engineering Contracts* (10th Edn.) pp. 540, 596.
16. *Batliboi case v*, 2023 SCC OnLine SC 1208; and *Hudson's Building and Engineering Contracts* (10th Edn.) pp. 540, 596.
17. 2023 SCC OnLine SC 1208; and *Hudson's Building and Engineering Contracts* (10th Edn.) pp. 540, 596.
18. 2023 SCC OnLine SC 1208; and *Hudson's Building and Engineering Contracts* (10th Edn.) pp. 540, 596.
19. *Peak Construction (Liverpool) Ltd. v. McKinney Foundations Ltd.*, (1970) 1 BLR 114; *Whittall Builders v. Chesterle-Street District Council*, (1987) 40 BLR 82; and *JF Finnegan Ltd. v. Sheffield City Council*, (1988) 43 BLR 124.
20. *Ellis-Don v. Parking Authority of Toronto*, (1978) 28 BLR 98.
21. (1995) 76 BLR 59.
22. (2006) 11 SCC 181.
23. Armed Services Board of Contract Appeals decision in *Eichleay Corporation case*, ASBCA No. 5183, 60-2 BCA.
24. 2023 SCC OnLine SC 1366.
25. (2003) 5 SCC 705.
26. (2015) 3 SCC 49.
27. (2004) 5 SCC 109.
28. 2023 SCC OnLine SC 1366.
29. 2018 SCC OnLine Del 8405.