THE DELAY CLAIM: MEASURING THE IMPACT

by

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I. Introduction

"Time is money" - this expression is perhaps nowhere more true than on the construction site. Every construction contract states or implies that work will be performed over a certain period of time. Contractors and owners rely on this expectation. An owner might enter into leases with prospective tenants for its proposed building. A contractor will commit its resources to other projects. Delay will usually frustrate these plans, causing inconvenience and loss to the innocent party. In addition, a contractor may be asked to accelerate production in order to make up for lost time. This will usually result in overtime, decreased productivity, scheduling problems, and a corresponding increase in costs.

This paper will examine the various types of losses that are caused by delay or acceleration. Part V will consider the practical steps which should be taken by an owner or contractor faced with a claim of this kind.

II. Legal Principles

An impact claim involves a claimant (the "plaintiff"), one or more parties that are being sued (the "defendants"), and may involve additional parties (known as "third parties") who are in turn sued by a defendant on the basis that they are wholly or partly liable for the plaintiff's loss.

Any fact on which a plaintiff relies must be proven to be true on a "balance of probabilities". In other words, the plaintiff need only demonstrate that the facts on which it relies are more likely than not to be true. However, if the evidence is inconclusive, the plaintiff loses. A tie goes to defendant.

In most lawsuits, the issues confronting a plaintiff fall into two categories. Firstly, the plaintiff must establish the *liability* of the defendant (i.e. that the defendant breached a legal duty owed to the plaintiff). Secondly, the plaintiff must prove that the defendant's actions have caused the plaintiff to suffer a loss, for which it should be compensated by an award of *damages*. In a typical delay claim, the contractor must show that the owner was responsible for the delay, and that this delay caused the contractor to suffer a monetary loss.

The amount of damages to which a plaintiff is entitled is determined by a set of judge-made rules which form part of our common law. Essentially, a plaintiff is compensated for all reasonably foreseeable losses caused by the defendant. The plaintiff is entitled to interest on its award, at the rates prescribed by the *Court Order Interest Act*.

A defendant can oppose a claim for damages on four general grounds. Firstly, it can argue that its actions did not cause the plaintiff to suffer any loss. A common example is the argument that the delayed activity was not on the critical path of the project, and therefore did not delay its completion. Secondly, a defendant can argue that the plaintiff's damages were not reasonably foreseeable. Thirdly, the defendant can maintain that the plaintiff has exaggerated the amount of its loss. Fourthly, it can allege that the plaintiff has failed to "mitigate" its loss.

Mitigation is a principle of law which requires a plaintiff to take all reasonable steps to reduce its losses. If the plaintiff fails to take such reasonable steps, the judge will deduct from its award the amount of damages which the plaintiff could reasonably have avoided. The defendant bears the onus of proving on a balance of probabilities that the plaintiff has failed to take reasonable steps to mitigate. So if an owner alleges that a contractor could have reduced its damages by laying off idle workers or moving them to other work, the owner must be able to demonstrate that this would have been a reasonable thing for the contractor to do.

Another defence that is sometimes invoked is apportionment. Apportionment is a rule of law which allows a court to reduce a plaintiff's damages by the degree to which he is responsible for his own loss. Anyone who has ever been involved in an I.C.B.C. claim has probably come across this concept. In one British Columbia decision involving a claim by a contractor the court held that both the owner and the contractor contributed to the delay on the project. The court found that the contractor was responsible for two-thirds of the delay while the owner was only responsible for one-third. The contractor was therefore only awarded one-third of the damages which it had proven.[1]

III. Liability

Liability depends on the language of the construction contract and the facts of each particular case. The contract may exempt the owner from liability for certain kinds of delay. A close examination of the facts may reveal that a third party is responsible for the delay, or that the delay should not have prevented the contract from being completed on time.

Given these variations one must examine the circumstances of each case closely. If one bears this in mind, and the principle that there are exceptions to any rule, it is possible to delineate some general guidelines about liability. In the absence of contractual terms to the contrary, an owner will generally be liable to a contractor for delay caused by:

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[1] *Evergreen Building Ltd. v. H. Haebler Co. Ltd.* (1983), 5 C.L.R. 70 (B.C.S.C.).

- The owner's failure to give the contractor timely and exclusive possession of the site;[2]
- The owner's unauthorised interference with the contractor's work;
- Changes arising during the course of construction (i.e. as a result of design changes, or poor contract documents);
- Unanticipated subsurface conditions;
- Financing problems;
- The actions of other contractors hired by the owner.[3]

An owner may also be liable for delay resulting from the failure to make progress payments when due, although some American decisions have held that the contractor is limited to claiming interest on the overdue payments.[4]

Similarly, in the absence of any contractual terms to the contrary, a contractor will usually be liable to an owner for delay arising out of:

- The repair of deficient work for which the contractor is responsible;
- The contractor's failure to obtain permits in a timely fashion;
- Labour disruptions;[5]
- Late performance by a subcontractor;[6]

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[2] *W.A Stevenson Construction v. Metro Canada Ltd.* (1987), 27 C.L.R. 113, at p.133.

[3] Some American and early Canadian decisions have held that the owner is liable only if it is responsible for the other contractor's delay, or if there is an express or implied obligation on the part of the owner to prevent such delays: *American Jurisprudence: Proof of Facts*, 2d Series, Vol. 5, "Responsibility for Delay in Completing Building Construction", at p.383; *Goldsmith on Canadian Building Contracts*, p.5-7, citing *Lee v. Bothwell* (1874), 24 U.C.C.P. 109 (C.A.). The CCDC contracts provide that the contractor is entitled to compensation and an extension of time if the performance of the work is delayed by the actions of persons engaged by the owner, such as other contractors.

[4] *American Jurisprudence*, Vol. 13, "Building and Construction Contracts", at p. 54.

[5] *American Jurisprudence*, Vol. 13, "Building and Construction Contracts", at p.58.

[6] The contractor will be able to recover any damages paid to the owner from the subcontractor, if the subcontractor is solvent.

- Late delivery and installation of materials;

A general contactor may also be liable to a subcontractor for delay. Some American decisions have recognised that the contractor is liable if it fails to take all reasonable steps to make the site available to the subcontractor, and the subcontractor's work is delayed as a result.[7] Contracts which provided that the subcontractor's work would be done "as directed", "as required" or "when notified" by the contractor have been held to protect a general contractor from such liability.[8]

IV. Damages

A. The New CCDC 2 (1994) Stipulated Price Contract

The new CCDC 2 (1994) *Stipulated Price Contract* contains several General Conditions which must be kept in mind in the event of delay or acceleration. These conditions are summarised below.[9] Those which differ significantly from the 1982 contract are italicised, and the equivalent conditions in the 1982 contract are set out in parentheses:

2.2.9 The consultant will furnish supplemental instructions (instructions which do not involve an adjustment to contract price or time) to the contractor promptly, or in accordance with a mutually agreeable schedule (GC 2).

3.2.3.4 If any part of the work is affected by deficiencies caused by other contractors or the owner's forces, the contractor must notify the owner of such deficiencies *in writing prior to commencing that part of the work*. Failure to notify the owner invalidates any claims arising from such deficiencies, unless the deficiencies were not reasonably discoverable (GC 9.4).

3.5 The contractor will provide the owner with a construction schedule *prior to the first application for payment*, *update the schedule on a monthly basis or as agreed*, and advise the consultant of any revisions required as the result of an extension of the contract time (GC 25.6).

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7 "Building and Construction Contracts: Prime Contractor's Liability to Subcontractor for Delay in Performance", 16 A.L.R. 3d 1252, at p.1254.

8 "Building and Construction Contracts: Prime Contractor's Liability to Subcontractor for Delay in Performance" 16 A.L.R. 3d 1252, at pp.1261-62.

9 The text of the General Conditions is paraphrased in this summary, and should be reviewed in its entirety in the event of a claim.

3.8.1.3 The contractor is responsible to the owner for the actions of its subcontractors and suppliers (GC 10.1.(b)).

3.11.4 The contractor must submit shop drawings to the consultant sufficiently early to avoid any delay. If requested, the contractor and consultant will prepare a schedule of the dates for submitting and returning shop drawings (GC 34.4).

4.1.7 The Contractor and the consultant shall prepare a schedule which shows when the owner and consultant must authorise the purchasing of cash allowance items in order to avoid delaying the project (GC 35.7).

5.8.1 If part of the work cannot be completed because of weather or other conditions beyond the contractor's control then the owner may withhold an amount that may be reasonably required to complete that part of the work (GC 14.9).

6.2 If the owner and contractor agree that an adjustment of the contract time or price is required by a change in the work, a change order shall be signed by the owner *and the contractor* (GC 11).

6.3. *If the owner and contractor are unable to agree on a change order prior to the commencement of a change in the work, the consultant shall issue a change directive. An adjustment of the contract price shall be determined on the basis of the cost of any expenditures required to perform the work contemplated by the change directive, including overhead and profit. Paragraph 6.3.4 sets out the types of costs that are considered in calculating the adjustment*.

6.5.1 If the contractor is wrongfully delayed by the owner, consultant, or anyone engaged by them then the contract time shall be extended for such reasonable time as the consultant may recommend, and the contractor shall be reimbursed for reasonable costs (GC 4.1).

6.5.2 If the contractor is delayed by a stop work order for which it is not responsible the contractor is entitled to an extension of the contract time and reimbursement for reasonable costs (GC 4.2).

6.5.3 If the contractor is delayed by causes beyond its control, such as work stoppages, fire, unusual delay by carriers or unavoidable casualties the contractor is entitled to an extension of the contract time, and is entitled to additional compensation only if the delay results from actions by the owner (GC 4.2).

6.5.4 No extension of time shall be granted unless written notice is given to the consultant no later than *10 working days* after the commencement of the delay (GC 4.4).[10]

7.2.2 If the work is stopped by the order of a court or other public authority for a period of more than 30 days the contractor, provided that its actions are not the cause of the order, may give the owner notice in writing terminating the contract (GC 6.2).

8.2.2 A party is deemed to have accepted a finding of the consultant and to have released the other party from any claims in respect of the matter dealt with in the finding unless the party sends a written notice of dispute to the other party and to the consultant within *15 working days*. The other party must respond in writing within *10 working days* (GC 7.2 and 7.4).

9.2 Each party shall reimburse the other for any damage caused by its wrongful actions. Written notice of such claims must be given within a reasonable time after the damage is first observed (GC 22.1 and 22.2).[11]

9.3.6 *If the contractor is delayed as a result of reasonable steps taken to prevent injury to persons and property by hazardous substances, then it shall be entitled to an extension of contract time and shall be reimbursed for any additional costs.*

12.2 When the *Certificate of Final Payment* is issued each party is deemed to have released the other from all claims (other than warranty or hazardous substances claims), except those which the contractor made in writing before its application for final payment, and those which the owner made in writing *prior to the issuance of the Certificate* (GC 14.12 and 14.13).

Some of these issues are also addressed in the other CCDC and CCA contracts. A careful review of the construction contract is an important first step in any claim.

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[10] It is unclear whether this paragraph requires that written notice be given to the consultant if the contractor is seeking compensation rather than an extension of time. The prudent course is to err on the side of caution and notify the consultant in every case of delay for which the contractor may seek an adjustment.

[11] This section governs acceleration claims.

B. Contractual Limits on Damages

1. Liquidated Damages Clauses

As was mentioned above, ordinarily the amount of damages to which a plaintiff is entitled for delay is determined by common law principles. However, it is possible for an owner and contractor to agree that some or all of these rules do not apply.

One way is by providing for "liquidated damages" in the construction contract. Liquidated damages are a specified amount that one party agrees to pay the other in the event of a default. Typically, a contractor will agree to pay the owner a fixed amount for each day that the completion of the project is delayed by events for which the contractor is responsible. These damages are usually deducted by the owner from the payments owing to the contractor.

If the damages specified are a reasonable attempt to estimate the owner's loss then such a clause will be enforced. If the amount vastly exceeds the potential loss of the owner, the court will likely disregard the liquidated damages clause on the basis that it is an attempt to penalise the contractor.

The contractor will often attempt to prevent such a claim by seeking an extension of time on the basis that the cause of the delay was beyond its control. Some American cases have held that the owner cannot rely on a liquidated damages clause if it is partly responsible for the delay.[12] Other American decisions simply apply the principle of apportionment to pro-rate liquidated damages when the owner and contractor both contribute to the delay. For example, if the total delay was 60 days and the court found that the owner was responsible for one third of the delay, the court might award the owner 40 x the liquidated damages amount.[13]

2. "No Damage" Clauses

It is possible for the owner and contractor to agree that in the event of a delay the contractor is not entitled to damages. Many "no damage" clauses, such as GC 6.5.3 of the CCDC 2 (1994) *Stipulated Price Contract* (delay due to causes beyond the control of the contractor or owner), restrict the contractor to seeking an extension of time.

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[12] Kenneth Cushman, *Construction Litigation* (1981), at p.197. The owner may, however, still recover damages for any loss that it can actually prove: *ibid.*, at p.198.

[13] *American Jurisprudence*, Vol. 13, "Building and Construction Contracts", at p. 52; Kenneth Cushman, *Construction Litigation* (1981), at p.199.

These clauses are enforceable in Canada.[14] However, because of their potentially harsh consequences, such clauses will not be enforced if they do not clearly and specifically rule out the type of claim advanced.[15] For example, a contractor may be able to pursue an impact claim if the no damage clause does not clearly prohibit claims for delay *caused by the owner*.[16] In the United States such clauses have not been enforced in a number of situations:[17]

- If the type of delay is so unexpected that it would not reasonably have been contemplated by the parties when they entered into the construction contract.
- If the delay is sufficiently long to amount to an abandonment of the project by the owner.
- If the owner breached a fundamental term of the contract.
- If the owner unreasonably interfered with the contractor's performance of the contract.
- If the delay was due to fraud or bad faith on the part of the owner.
- If the delay was caused by the owner's wilful misconduct.

These decisions reveal how reluctant the courts are to deprive a contractor of a remedy by enforcing a no damage clause.

A subcontractor will also be prevented from commencing an action if its subcontract contains a clearly drafted no damage clause, or incorporates an enforceable no damage clause found in the head contract.[18]

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14 *Perini Pacific Ltd. v. Greater Vancouver Sewerage and Drainage District*, [1967] S.C.R. 189, p.195; see also *Hawl-Mac Construction Ltd. v. District of Campbell River* (1985), 10 C.L.R. 177 (B.C.S.C.), and *Graham Construction v. Alberta*, (1990), C.L.R. 125 (Alta. Q.B.).

15 *Interprovincial Concrete Ltd. v. Robert McAlpine Ltd.*, (1985) 14 C.L.R. 121 (Alta. Q.B.), *American Jurisprudence*, Vol. 13, "Building and Construction Contracts", at p.54.

16 In *Hawl-Mac Construction Ltd. v. District of Campbell River*, (1985), 10 C.L.R. 177, p.186, the British Columbia Supreme Court held that a contractor was entitled to out-of-pocket expenses caused by a stop work order wrongfully issued by the owner, even though the contract prohibited the contractor from claiming delay-related losses arising "from whatever cause". See also *Westcounty Construction v. Nova Scotia* (1985), 16 C.L.R. 73 (N.S.S.C.).

17 Kenneth M. Cushman, *Construction Litigation* (1981), at pp.180-89.

18 *Litchfield Bulldozing Ltd. v. PCL Construction Ltd.* (1985), 14 C.L.R. 287 (B.C.S.C.).

3. The Role of the Contract Administrator

Most no damage clauses provide that the contract administrator (often an architect or engineer) will decide whether an extension of time is appropriate. This sometimes creates problems. Delays are sometimes caused by design errors for which the architect or engineer is responsible. An extension of time is often tantamount to an admission of liability by these professionals. The consultant may therefore be reluctant to grant an extension. This resistance may result in litigation.

One British Columbia decision illustrates the problems that can arise from this reluctance. In *Hawl-Mac Construction Ltd. v. District of Campbell River* the court considered a contract which obliged the engineer, within seven days of receiving a request from the contractor, to grant a reasonable extension of time for any owner-caused delays.[19] The engineer granted an extension to the contractor, but only after the time for completion of the project had expired, well beyond the seven day time limit prescribed in the contract. The court held that since the engineer had breached its duty under the contract, the owner could no longer rely on the original completion date. The owner therefore had to repay to the contractor the amount which the owner had retained as liquidated damages for late completion.

C. Measuring the Amount of Delay

It is often difficult to determine the impact which delay in a particular activity has on the completion of a project. Every builder is aware that a delay of two weeks in an activity does not necessarily mean that the completion of the project will be postponed for two weeks. The central question is whether the particular activity is critical to the progress of others. Some activities (such as the commencement of excavation) are clearly critical, and their delay will normally affect the scheduling of other work. Other activities (such as drywalling) are normally not critical, and may be postponed for a certain period without an impact on the work around them. Measuring delay is further complicated by the fact that delay in a critical activity may be neutralised by acceleration.

The measurement of delay falls within the domain of construction loss experts. These experts work with legal counsel to present a picture of the claimant's loss that hopefully is understandable, and fits within the legal framework of the law of damages.

Construction loss experts have developed several ways of measuring project delay. A proper presentation of their technical and sometimes mysterious discipline is not possible

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[19] *Hawl-Mac Construction Ltd. v. District of Campbell River* (1985), 10 C.L.R. 177, p.185 (B.C.S.C.).

within the confines of this paper. What follows is a brief overview of some of the more popular approaches.[20]

1. Conventional Method

This approach proceeds by developing a schedule, sometimes called the "Entitlement Schedule", which indicates how the project would have progressed if only the delays for which the defendant is responsible are taken into account. One begins by comparing the As-Planned to the As-Built Schedules in order to ascertain the timing and extent of the delay. Those delays for which the defendant is responsible are added to the As-Planned Schedule. The resulting Entitlement Schedule demonstrates when the project would have been completed if any delay for which the plaintiff is responsible is disregarded. If the project was completed before the date for completion in the Entitlement Schedule, then the contractor accelerated its work.

2. Collapsing Method

This is the reverse of the Conventional Method. Rather than adding the defendant's delays to the As-Planned Schedule, the Collapsing Method proceeds by subtracting them from the As-Built Schedule. The resulting "collapsed" schedule demonstrates when the project would have been completed but for the defendant's delays.

3. Snapshot Method

This method selects one or more "snapshot" points at which the impact of preceding delays is measured. The completion date of the project is then recalculated from that date forward using the As-Planned Schedule. The difference between the completion date in the As-Planned Schedule and the completion date in the revised schedule is the delay attributable to the delay preceding the snapshot point.

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[20] Stephen Revay Jr., "Quantifying Delay, Acceleration and Impact Claims", Third Annual Construction Superconference (1993).

D. The Contractor's Damages

In addition to determining the amount of delay, the legal team must identify the expenses which have been affected, and quantify their increase. In the case of a contractor, the costs most often affected by delay are:

- head office and site overhead costs;
- equipment rentals and maintenance;
- increased labour and material costs;
- financing costs;
- insurance and bonding costs;
- costs incurred to deal with poor weather conditions;
- cost of repairing deterioration of incomplete work that is left exposed to the elements;
- claims for indemnity against the owner for delay claims brought against the contractor by its subcontractors;
- loss of opportunity to work on other projects.

The principal ways in which acceleration can lead to increased costs for a contractor are as follows:

- loss of productivity arising from overmanning and working overtime;
- increased supervision costs;
- additional material costs;
- additional equipment costs;
- additional moving costs (i.e. for equipment, formwork etc. that must be moved from one site to another in order to accommodate the accelerated schedule);
- additional financing costs, incurred in order to pay for the increased costs set out above.

The magnitude of some of these costs is straightforward. For example, it is easy to calculate the loss caused by an increase in the price of materials during the period of delay. The damages caused by other costs are more difficult to quantify. The following is an overview of some of the issues which commonly arise.

1. Head Office Overhead

In preparing a bid or quote for a project, a contractor will mark up its costs in order to absorb the cost of running its head office. If a project is delayed, the contractor is deprived of revenue from other work that would defray this overhead.

In *Shore & Horwitz v. Franki of Canada Ltd.*[21] the Supreme Court of Canada awarded a contractor two types of head office overhead costs. Firstly, it calculated the contractor's average monthly overhead cost, and multiplied this monthly cost by the number of months of delay. Secondly, the Court awarded the contractor overhead costs based on a percentage of out-of-pocket expenses incurred because of the delay. The court calculated this second category of overhead costs by determining the ratio between the contractor's head office overhead and its other direct costs during the period that it took to complete the project. The Court found that head office overhead was 4.99% of these other costs. It calculated the contractor's overhead costs on the out-of-pocket expenses by multiplying the out-of-pocket expenses by 4.99%.

Another widely used method was developed in the American *Eichleay Corporation* decision.[22] The court held that a contractor's overhead could be determined by the following 3-step formula:

1. $$\frac{\text{contract billings}}{\text{total billings for contract period}} \times \text{total overhead for contract period} = \text{overhead allocable to contract}$$

2. $$\frac{\text{allocable overhead}}{\text{days of performance}} = \text{daily contract overhead}$$

3. $$\text{daily contract overhead} \times \text{days of delay} = \text{damages recoverable}$$

The tests followed in both of these decisions have the appearance of mathematical certainty. However, they are subject to the fundamental principle that a plaintiff is only entitled to those damages which he or she can prove. Unless a contractor can show that the delay prevented it from performing other work that might have absorbed its head office

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[21] [1964] S.C.R. 589.

[22] A.S.B.C.A. 5183, 60-2 BCA P.2688.

overhead, then an owner will be able to make a convincing argument that the contractor has not suffered any loss.

2. Site Overhead

Delay will typically cause a contractor to incur extra overhead costs on the construction site. These include additional operating costs, costs for the rental of site facilities, security costs, and salaries for supervisory and administrative personnel assigned to the site. Such additional costs are also often present in cases of acceleration.

These costs are easily calculated, and the contractor should be careful to ensure that all additional costs are taken into account.

3. Labour

Labour costs can form part of a contractor's delay claim in four principal ways. Firstly, a contractor can recover damages for the cost of retaining an idle workers while work on a project is delayed. The owner may have a reasonable argument, however, that the contractor could have mitigated its loss by occupying the workers with other work, or by laying them off at the commencement of the delay and re-hiring them when work commenced.

Secondly, sometimes delay will result in work being completed after an increase in the price of labour. A contractor can generally recover damages for these higher costs.

Thirdly, often delay will result in work being performed out of sequence. This results in "stop and go" work, as crews travel from one part of the project to another and are continually required to adapt themselves to new tasks and re-orient themselves to old ones. A contractor may claim damages for the loss of productivity caused by such disruption. Such damages are difficult to quantify, however.[23]

Fourthly, delay may result in work being performed in the winter or during severe weather. This will lead to decreased production, and may result in a further stoppage of work.

Loss of productivity also forms the basis of a contractor's acceleration claim. The causes of this loss are overmanning and overtime.

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[23] Where the contractor's claim can be presented under the "Measured Mile" approach (discussed at p.16 of this paper), the loss resulting form this inefficiency will automatically form part of the contractor's damages.

Overmanning generates increased production, but with diminishing efficiency as more workers are added to the site. There are several causes of this inefficiency. Overmanning can result in the stacking of trades, where trades that are supposed to work sequentially are on the site at the same time. This results in increased supervision costs, downtime while one trade must await the completion of some part of the other trade's work, and work having to be undone because of poor coordination. Overmanning also requires inexperienced workers to be oriented to the work, and possibly even trained. In addition, at some point overmanning also gives rise to safety concerns.

Acceleration will usually also require overtime. Numerous studies have confirmed the obvious point that overtime work is less productive than that performed during straight time.[24]

It is difficult to measure the lost productivity caused by delay and acceleration. Perhaps the most convincing way to present this part of the claim is through the Measured Mile approach, considered below. Where this approach is not feasible, a contractor may resort to studies that have been done on the effects of overtime and overmanning. Since these rely on industry averages rather than the experience of the particular contractor on the particular project, they are open to criticism. They are nonetheless useful when a contractor had insufficient data to present this part of its claim any other way.

4. Materials

If delay forces a contractor to purchase materials after an increase in the price contemplated in its bid, then it may recover this extra cost from the contractor. Since the contractor's damages must be reasonably foreseeable, the owner might be able to avoid liability in those instances where an increase in the price of supplies is unexpected, or where the increase is exorbitant. Depending on the materials, an owner may also have a reasonable argument that the plaintiff could have avoided or mitigated its loss by purchasing and storing the materials before the price increase. In this event, the contractor would be able to recover any additional storage charges.

A contractor may also have a claim if the architect or engineer does not approve shop drawings in a timely fashion, and thereby prevents the contractor from purchasing materials in sufficient quantities to obtain the volume discounts on which its bid was based.

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[24] A 1964 study conducted for the construction industry in the Detroit area concluded that the productivity of a worker who worked 72 hours per week (six days per week, 12 hours per day) was the same as that of a worker who worked 47 to 52 hours straight time: Stephen Revay, Jr., above, at p.476.

5. Equipment

There are three types of costs associated with construction equipment: rental or ownership costs, operating costs, and maintenance costs.

Delay may result in the contractor renting equipment for longer than contemplated in its bid. Similarly, a contractor may be required to rent additional equipment in order to accelerate performance of the work. These additional rental payments may be claimed against the owner.[25]

A claim for increased ownership costs is considerably more complex. There is considerable disagreement over how to prorate the cost of equipment to a particular project. Some commentators argue that the owner should simply receive an award that compensates it for the depreciation of the equipment during the delay. Others maintain that the contractor should be compensated not only for depreciation, but also for a prorated portion of certain capitalised costs.[26] In the United States the courts have allowed 50% of the amounts set out in certain cost manuals.[27]

The contractor's operating and maintenance costs during the delay may also be claimed against the owner. The contractor should prorate its operating and maintenance costs on an hourly basis, and then base its claim on the number of hours that the equipment was used during the period of delay. Ideally, records should be kept for each piece of equipment. If the contractor simply charges these expenses to a pooled equipment account, then the owner will be able to challenge the claim on the basis that the operating and maintenance expenses are not representative of the cost of using the equipment in question.

6. Loss of Opportunity

In a leading decision on the law of damages, the British Columbia Court of Appeal confirmed that a plaintiff is entitled to damages for the loss of an opportunity to transact

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25 If the lease has an option to buy the equipment at the end of the term, then the payments may exceed fair market rent, and an adjustment should be made accordingly.

26 These include replacement cost escalation, interest on investment, taxes, insurance, and storage: Stephen Revay, Jr. "Quantifying Delay, Acceleration and Impact Cost Claim", *Third Annual Construction Superconference* (Canadian Institute, 1993), at p.24.

27 The two most commonly referred to are the Associated General Contractor's Manual and the Contractor's Equipment Cost Guides. The practice of allowing 50% of these costs is prescribed by the Armed Services Procurement Regulations, and is widely followed.

business.[28] In the recent decision of *D.J. Lowe (1980) Ltd. v. Nova Scotia (Attorney-General)*, the Nova Scotia Supreme Court applied this principle to award damages to a contractor who proved that a delay of one year had deprived it of the opportunity to bid on other work.[29] The court calculated the damages by estimating the revenue that the contractor was likely to have earned from other projects during the year, based on its earnings in previous years. The Court estimated this amount to be $1,000,000. It then multiplied this amount by 21.6%, which was the average ratio between the contractor's profits and gross revenues over this period of time. The contractor was therefore awarded $216,000 for loss of profits.

The *D.J. Lowe* decision confirms that a contractor will be awarded those damages which are *likely* to flow from the owner's delay. The contractor received a substantial award for loss of profits, even though it could not prove that it would necessarily have been awarded any particular contract during the period of delay. It is an example of the benefits of thoughtful preparation, and should be considered by any contractor making a claim for delay.

7. Global Approaches to Assessing the Contractor's Damages

A contractor's damages may be assessed not only by looking at how delay has affected the specific costs mentioned above, but also by making a global assessment of the impact on contractor's overall costs. Two methods are commonly used.

Under the "Measured Mile" approach the contractor's damages are the difference between the actual cost of the work affected by delay or acceleration, and the probable cost of such work if there had been no impact. In order to determine the cost of the work in the absence of any impact, it is necessary to determine the contractor's normal productivity during comparable work on that project that was not accelerated or delayed (i.e. the "measured mile"). In order to establish what the contractor's cost would have been, one multiplies the amount of delayed or accelerated work by the contractor's normal productivity.

The Measured Mile method is an effective way of measuring damages attributable to both delay and acceleration. However, it is effective only if there was comparable work on a project that was not accelerated or delayed. It is therefore impractical on smaller projects in which each phase of work is completed quickly, or on projects which are characterised by impact throughout (i.e. fast track projects or projects with design problems).

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[28] *Houweling Nurseries Ltd. v. Fisons Western Corporation* (1988), 37 B.C.L.R. (2d) 2, p.8.

[29] (1994), C.L.R. (2d) 181 (N.S.S.C.)

The "Total Cost Method" is simpler from a conceptual point of view. Under this approach, the contractor's damages are the difference between the amount of its bid and the actual cost of completing the project.

While this approach is theoretically easy to understand, it is plagued by serious difficulties. Firstly, judges are sceptical of this method, and are reluctant to adopt it. One reason for this reluctance is that the Total Cost Method tends to exaggerate the damages of a contractor that has contributed to its own loss. Consider the example of a contractor that erroneously bid $1 million on a project for which its break-even point was $1.5 million. If the cost of completing that project after delays is $2 million, the contractor would be awarded $1 million in damages. The contractor would thereby be relieved from the consequences of having underbid on the project, and will receive a windfall. Similarly, the Total Cost Method overcompensates a contractor whose overruns are primarily due to its own inefficiency. Not surprisingly, the Total Cost Method is favoured by contractors and disliked by owners.

In addition, while the Total Cost Method is simple in theory, it is difficult to apply in practice. In a Total Cost claim, every part of the contractor's bid and performance is in issue. This means that the contractor will have to disclose to the owner all of its bid documents and working papers, notwithstanding the sensitive nature of some of this information. The owner will endeavour to prove that all or part of the contractor's damages are due to the fact that it underestimated its bid, or that the contractor did not work efficiently throughout the project. The result is lengthy, complex and expensive legal proceedings.

Notwithstanding these difficulties, the Total Cost Method is a rough and ready way for an owner to identify inflated claims. If the contractor's claim exceeds the amount of damages to which it would be entitled under the Total Cost Method, this is a good indication that the contractor has exaggerated its loss.

In addition, the Total Cost Method may be acceptable as an approach of last resort for contractors who lack the data to quantify their claim on a more reliable basis.[30] In order to succeed the contractor must demonstrate that:

- its bid price was reasonable;
- its actual cost of completing construction was reasonable;
- the increase in the cost of construction was due to delay for which the owner was responsible, rather than the actions of the contractor.

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[30] See *W.A. Stephenson Construction (Western) Ltd. v. Metro Canada Ltd.* (1987), 27 C.L.R. 113 where the Total Cost Method was accepted by the British Columbia Supreme Court.

Alternatively, if the contractor has underbid, it may be possible to apply the Total Cost Method after correcting the deficiencies in the bid. This approach is sometimes referred to as the Modified Total Cost Method.

E. The Owner's Damages

1. Loss of Rent

An owner is able to recover damages for reasonably foreseeable loss resulting from the delayed completion of a building. If the owner intends to lease all or part of the building its loss will be fairly easy to quantify. The owner should claim the following:

- loss of revenue during the period for which completion is delayed, net of any expenses that the owner is able to forego while the building is unoccupied;
- loss of revenue resulting from the postponement of future rent increases;
- a pro-rated amount of property taxes incurred during the period of delay, provided that these taxes would have been passed on to the tenants under their leases;
- lost revenue from parking, if applicable.

2. Loss of Business Revenue

Landlords are not the only owners who may recover for loss of profits. If the building is to be occupied by the owner as retail space or a restaurant, for example, the owner would have a reasonable argument that it is entitled to be compensated for the loss of profits arising from the delayed opening of its business. Since the owner is only entitled to those damages that were reasonably foreseeable when the agreement with the contractor was entered into, the owner should ensure that the contractor is aware of the intended use of the building. One way to do this is to refer to the intended use of the building in the construction contract. In projects which are tendered, the owner should refer to the use of the building in the invitation to tender.

3. Loss of Profits from the Sale of the Property

If a contractor is responsible for delaying the completion of a residential project during a falling real estate market an owner may lose a considerable amount of money. The owner may claim damages against the contractor for this loss, under the right circumstances.

The owner must be able to prove that it is probable that the contractor's default caused it to lose profits on the sale of the units. In two British Columbia decisions, the owner's claim failed because it was unable to prove that it would have made any profit from the sale of the units even if completion had not been delayed.[31] If units were priced so high that there would have been no interest in them even if they came onto the market earlier, then the owner's claim will fail. Similarly, the claim for loss of profits would fail if the market for the units had declined so far by the scheduled completion date that the owner would have lost money on their sale in any event.

Another effective defence is that the owner should have mitigated its loss by pre-selling units before completion. If pre-selling is a reasonable marketing option, the contractor can argue that the owner could have avoided all or most of its loss of profits by pre-selling during the construction of the project, prior to a market crash. In one decision the court held that it was unreasonable for the owner not to attempt to reduce its damages in this manner. and reduced the owner's damages to a fraction of the amount claimed for loss of profits.[32]

4. Financing Costs

A delay in construction may cause an owner to incur additional financing costs. These are recoverable from the contractor if they were reasonably foreseeable at the time that the construction contract was entered into.

5. Materials

If delay results in the owner having to purchase owner-supplied materials after a price increase, then the increased cost may be claimed against the contractor. As in the case of a claim by the contractor, the owner must prove that the increase in price was reasonably

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[31] *Falconer Construction Ltd. v. E.Y. Construction Ltd.* (April 29, 1992, Victoria Registry 90 393, B.C.S.C.); *Oak Point Properties Ltd. v. Leimay Properties Inc.* (1986-87), 20 C.L.R. 107, p.119.

[32] *Falconer Construction Ltd. v. E.Y. Construction Ltd.*, above, n.31.

foreseeable, and could not have been avoided by purchasing the materials earlier and storing them until needed.

6. Head Office Overhead

A contractor can claim damages for its unabsorbed office overhead. Can an owner who is delayed by a contractor make a similar claim?

Consider the example of a residential developer who, because of a contractor's delay, is only able to build 50 units in one year, rather than the 100 homes that it had projected. Or the case of a landlord who is building a rental property and, owing to the builder's delay, will only begin receiving income from that property on year after the projected completion date. Can these owners claim that this delay caused their office overhead to be under-absorbed?

Such a claim would appear to be consistent with the general principles governing the law of damages. Despite the fact that contractor overhead claims are often substantial, there appears to be no decision in British Columbia in which an owner has advanced such a claim.

V. The Preparation of a Claim

Work has been delayed on the project to the point where it is beginning to appear that a claim will be made. The following are some practical guidelines for navigating the difficult course ahead.

A. Read the Contract

As mentioned above, a careful review of the construction contract is a crucial first step in any claim. The contract defines the parties' rights and responsibilities. Even more importantly, the contract usually contains time limits for making a claim. As we shall see in the following section, there is a high return on the time invested in familiarising oneself with these provisions.

B. Time Limits

Many construction contracts set out time limits which must be adhered to by a party making a claim. The new CCDC 2 (1994) *Stipulated Price Contract* contains a number of limits, set out at pages 4 to 6, above, which should be strictly followed: GC 3.2.3.4, GC 3.5, GC 6.5.4, GC 8.2.2, and GC 12.2.

Some cases have held that notifying the other party within the time limits set out in the contract is a "condition precedent", that is, a requirement which must be complied with in order for a claim to be made.[33] Other decisions have allowed the contractor to make a claim even where the required notice was not given. These cases have arrived at this result by a number of ways. Some have concluded that the notice provisions were not conditions precedent. Others have held that the contractor could pursue its claim because the owner waived the need to comply with the notice requirements (i.e. by paying other claims for which notice was not given), or was otherwise made aware of the claim.[34]

Whether a contractor is precluded from making a claim because of a failure to comply with written notice requirements is a complex question. Any contractor who wishes to avoid the significant cost that often attends the litigation of complex construction issues would be well advised to carefully review the notice requirements of the construction contract, and ensure that they are complied with.

C. Extensions of Time

Granting an extension of time as a remedy for delay sometimes has unanticipated consequences for the owner and contractor. Some contracts, such as the CCDC agreements, provide that for certain forms of delay, the contractor is entitled to an extension of time *and* compensation for its additional expenses. In other cases, however, the contract specifies only that the contractor is entitled to an extension of time, or fails to address the contractor's remedies altogether.

In those projects where the contract does not expressly state that the contractor may claim both an extension and damages, the contractor should be careful about accepting an offer of additional time from the owner. If the contractor wishes to accept the extension, it should first make clear that it is not forfeiting its right to claim damages. If the contractor accepts

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[33] *Doyle Construction Co. Ltd. v. Carling O'Keefe Breweries of Canada Ltd.* (1988), 27 B.C.L.R. (2d) 89 (B.C.C.A.), and *Acme Masonry Ltd. v. Bird Construction Ltd.* (1986), 20 C.L.R. 228 (B.C.C.A.).

[34] *W.A. Stevenson Construction (Western) Ltd. v. Metro Canada Ltd.* (1987), 27 C.L.R. 113, p.177 (B.C.S.C.).

the owner's offer without reserving its right to claim damages it might be considered to have waived its right to sue.[35]

If the contractor has provided a performance bond, the owner should carefully consider the impact of an extension on the position of the bonding company. It is a well established principle of law that a surety (the bonding company) is discharged from any obligation to its obligee (the owner) if there is a material variation to which the surety has not consented in the contract between the principal (the contractor) and the obligee (the construction contract). A recent decision of the Supreme Court of Canada concerning guarantees suggests that in order to be discharged from its obligations, a surety may now be required to prove that the material variation prejudiced its rights under the bond.[36]

An owner must be mindful of these principles if a contractor seeks an extension of time for completion of a project for which there is a performance bond. In a recent Canadian decision, a court held that a bonding company was not liable under its performance bond where the owner and contractor had agreed to a two year extension of the completion date, without the consent of the surety.[37] The court held that in most construction contracts time is not considered to be "of the essence" (i.e. a term so fundamental that its breach will entitle the other party to walk away from the contract). A bonding company is deemed to know this, and to accept that reasonable extensions of time will not relieve it from liability. However, some extensions go beyond what is considered to be reasonable, and significantly alter the obligation which the bonding company agreed to guarantee. When this threshold is crossed, the bonding company is released from its obligations. Conceptually, the principle is easy to understand. The difficulty lies in knowing where to draw the line in a particular case.

As a result, if there is a performance bond[38] in place, the owner or its consultant should review any request for an extension of time with the bonding company. If the bonding company refuses to consent to the extension, then the owner will have to decide whether the extension would amount to a material variation of the contract. The owner and contractor may be able to persuade the bonding company that it is in its interests to consent by demonstrating that the contractor will be unable to complete the contract

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[35] *Goldsmith on Canadian Building Contracts*, pp. 5-7.

[36] *Pax Management Ltd v. Canadian Imperial Bank of Commerce* (1992), 95 D.L.R. (4th) 1 (S.C.C.).

[37] *St. John's Metropolitan Area Board v. William I. Vokey and Sons Ltd.* (1991), 44 C.L.R. 243 (Nfld. C.A.).

[38] The owner need not seek the consent of a surety that has issued a Labour and Material Bond since a material variation of the construction contract will not discharge a bonding company from its obligations under such a bond.

without an extension.[39] If the bonding company is unyielding, then the owner and its consultant should be reluctant to agree to the extension.[40]

D. Documentation

As we have seen, a plaintiff bears the onus of proving the facts which support its case on a balance of probabilities. Ensuring that documents are properly kept and preserved will assist both the contractor and owner in this task.

In order to properly prepare for the possibility of a delay claim, a contractor or owner should maintain as many of the following documents as possible:

- Tender package, including Issued for Tender Drawings and specifications.
- Signed construction contract, along with all supplementary conditions.
- Signed subcontractor and supplier contracts.
- Signed and dated copies of contemplated change notices, change notices, change directives and orders, site instructions, field work orders, and stop work orders.
- Original and revised schedules. If these are on a computer program, the discs should be preserved.
- Purchase orders, invoices, receipts, and accounting and payroll records. These documents provide the crucial backup for an impact claim. In addition, such records are crucial to a claim under GC 6.3.4 of the CCDC 2 (1994)

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[39] It is unclear under Canadian law whether a bonding company is liable for damages caused by the contractor's delay. The bonding company will resist such a claim on the basis that its obligation under the performance bond is to "perform the work", and not to indemnify the owner for damages. This interpretation has been followed in at least one American decision, which held that a bonding company is not liable for delay damages unless such liability is specifically provided for in the bond: *American Home Assurance Co. v. Larkan General Hospital* 593 So. (2d) 195.

[40] One problem with most construction contracts, including the standard CCDC contracts, is that they provide that the consultant will extend contract time for a reasonable time. The contracts do not specifically provide that a failure by the bonding company to consent to the extension is a reasonable ground for refusing the extension. As a result, a contractor may argue that the owner and its consultant have breached their contractual duty to approve a reasonable extension. Owners should consider adding a Supplementary Condition to the contract which expressly recognises that the consultant is entitled to refuse a request for an extension of time if the bonding company does not consent to the extension.

Stipulated Price Contract, which requires the contractor to present an itemised accounting of all expenses and savings caused by work performed pursuant to a change directive.

- Issued for Construction Drawings

- Shop drawings, including memoranda, letters, etc. evidencing when drawings were transmitted.

- Field diaries. Ideally, these should describe:

    - whether any part of the work has been delayed (thereby alerting head office to the possibility of a claim),

    - the part of the project worked on,

    - weather conditions,

    - the names of the contractor's and owner's staff present on site, and the names of any visitors,

    - the number of workers under contractor's direction,

    - equipment on site,

    - subcontractors on site,

    - material delivered to the site,

    - daily progress,

    - significant discussions with representatives of the owner or any subcontractors,

    - injuries or accidents.

    All entries should be written in ink.

- A binder of photographs of the progress on the site, cross referenced to notes that indicate who took the picture and, where necessary, describe the part of the work depicted. These should be taken with a camera that automatically imprints the date and time when the picture is taken.

- Minutes of meetings.

- Correspondence with other parties, and notes of meetings and discussions with them.

- Records of payments and holdbacks.

If the owner is bringing the claim, then it will also want to gather those documents which will establish its loss of profits. These would include correspondence and other communications with potential tenants and leasing agents, buyers and realtors, leases and interim agreements.

E. Obtain Evidence from Key Employees

As soon as it appears that an impact claim may be made, all key personnel should be asked to provide a signed written statement setting out their recollection of events. Ideally, counsel should be involved at this stage in order to ensure that all essential information is recorded.

Since the trial of many disputes does not occur until two or more years after the project is completed, written statements are a valuable way of ensuring that important witnesses are able to provide accurate testimony.

Moreover, some employees may leave before the trial. In some cases their departure is related to their handling of the events leading up to the dispute. It is not unusual for a witness' recollection to become remarkably poorer or even change after his or her employment is terminated. Human nature being what it is, it is prudent to obtain statements from all employees while events are still fresh in their minds.

F. Settlement Discussions

Quite often parties will attempt to resolve their dispute by making offers of settlement. If these efforts are unsuccessful one party may try to argue that the other's offer of settlement is an admission that it is not entitled to the full amount claimed in the ensuing litigation.

Whether such communications are admissible evidence in court generally depends on whether the parties understood the offers to have been made for the purposes of settlement only. Considerable effort and money can be spent resolving this sometimes difficult question.

In order to avoid these problems, parties embarking on settlement negotiations should expressly confirm that their discussions are "without prejudice" to their rights. This should

be done in any letter which contains a settlement offer. Similarly, a letter should be sent prior to any settlement meeting confirming that the discussions at the meeting are without prejudice.

Such precautions will only protect communications which are intended to facilitate a settlement. Stating that a letter is written without prejudice will not prevent admissions of fact from being raised by the other party at trial.

G. Written Brief

If a decision is made to proceed with a claim, then the final step is to prepare a brief that summarises the background leading up to the dispute. A well organised brief will include:

- A Table of Contents.
- An Introduction which describes the parties, the nature of the claim, and the relevant portions of the construction contract.
- A detailed Narrative, describing the facts leading up to the claim.
- A summary of extra costs incurred.
- Appendices of relevant documents and photographs.

While the preparation of a brief will require a significant amount of time, it will lead to considerable savings later on. If properly prepared, the brief will be an invaluable tool for informing senior management of the claim, and instructing legal counsel and expert witnesses.

John G. Mendes
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