

How Causation should be Analysed in Construction Claims

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☞ Causation; Construction claims; Construction disputes

Introduction

Causation is one of the topics rarely discussed but plays a key role when dealing with commercial disputes. In construction disputes, all parties including claimants, defendants, independent assessors, experts, adjudicators, arbitrators or judges have to deal with causation during the course of their role. This paper discusses and explains how causation should be analysed in construction claims.

Causation is determined by a strong logic (a factual matter) and rules of interpretation (a legal matter). The court cases referred to in this paper are cited to explain the logic and are not meant to provide a legal position.

Causation in construction contracts is a relatively simple matter to understand and does not involve any metaphysical or scientific view or microscopic analysis.¹

If one of the contracting parties does not fulfil its obligation, it may cause the other party to incur damages. There are three major principles which limit the damages: causation, remoteness and mitigation.

What is causation?

Causation is developing a link between the event and damage. This involves carefully analysing whether a close connection exists between the event and the damage. If this connection is not established, the claim is likely to be rejected as commonly is the case with the global claims.²

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¹ Andrew Burr, *Delay and Disruption in Construction Contracts*, 5th edn (informa law form Routledge, 2016), paras 14-003 and 14-004.

² The Society of Construction Law (SCL), 2nd edn Delay and Disruption Protocol defines global claims as follows: "A global claim is one in which the Contractor seeks compensation for a group of Employer Risk Event but does not or cannot demonstrate a direct link between the loss incurred and the individual Employer Risk Events."

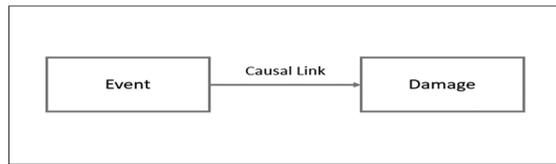


Figure 1: Causal link between event and damage

In construction contracts, the event is usually the risk or breach of contract by a party under the contract. Damages sought by the claiming party are generally the additional costs or additional time for the performance of the contract.

In order to establish an entitlement to damages under a construction contract, the claiming party must prove in addition to other formalities, on the balance of probabilities that³:

- an event has occurred which has caused damages to the claiming party; and
- the risk of that event falls with the other party.

Types of causation

Generally, there are two types of causation: legal causation and factual causation.⁴ Both are dealt with in turn below.

Legal causation

Legal causation is the analysis of the duty which is breached, with the aim to impose “liability on normative or policy grounds”.⁵ In construction contracts, parties to contract sometimes agree a test for causation on certain matters, therefore legal causation will involve the interpretation of that test.

For example, entitlement to an extension of time under FIDIC Red Book 2017 states the following⁶:

“The Contractor shall be entitled subject to Sub-Clause 20.2 [Claims For Payment and/or EOT] to Extension of Time if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over the Works and Sections] is or will be delayed by any of the following causes ...”

In order to establish causation for an entitlement to extension of time, the above test must be satisfied i.e. one of the listed causes has delayed (or will delay) the taking over date of the Works.

It is interesting to note that the taking over date of the Works may fall ahead of the original contract completion date where the contractor is working more efficiently than planned. In such circumstances, if one of the listed events arises

³ *BHP Billiton Petroleum Ltd v Dalmine SpA* [2003] EWCA Civ 170; [2003] B.L.R. 271; (2003) 147 S.J.L.B. 234 at [15] it is stated: “Ei qui affirmat non ei qui negat incumbit probatio” which means “proof rests on him who affirms not him who denies”.

⁴ Nicholas Baatz QC, “Factual and Legal Causation in Construction and Infrastructure Law: A Thorny Subject”, *SCL Paper*, November 2016.

⁵ Nicholas Baatz QC, “Factual and Legal Causation in Construction and Infrastructure Law: A Thorny Subject”, *SCL Paper*, November 2016, p.1.

⁶ Refer to Subcl.8.5 of FIDIC Conditions of Contract for Construction, 2nd edn 2017, p.48.

and critically delays the taking over certificate date, the contractor may have a strong argument for entitlement to an extension of time claim, even if the delayed completion date is not later than the original contract completion date at the time.

Factual causation

Factual causation is where parties to the contract have not expressly agreed the test for causation, therefore all facts surrounding the issue are to be analysed with the aim to find the real event that has caused the damage. In such situations, the issue in dispute is analysed on merit instead of interpretation or legal position.

For example, an employer fails to give dimensional details of an exterior wall (which was on the critical path) and the contractor fails to order the bricks on time. What caused the delay? The issues, a claimant should investigate here are:

- 1) Did the late information cause delay or did the late ordering of the bricks cause delay? and
- 2) Was the late ordering of materials influenced by the fact that the dimensional details were late, or because the contractor was late in procuring bricks and the dimensional details were not being issued?

A claimant needs to consider the inter-relationship or inter-dependency of late information and late procurement, if any. The facts will reveal what really caused the delay.⁷

“Legal causation cannot be applied independently of factual causation.”⁸ Therefore, a claimant must understand the facts surrounding the damage and establish causation depending upon whether a test for causation is specified in the contract or not.

Accordingly, a step by step approach to analyse causation is set out below.

Step 1: Identification of possible events

After gaining the high-level facts surrounding the damage, one should identify the potential events attributable to the damage. For example, if a pipe installation activity of an industrial project is delayed beyond its current planned start and finish dates, the possible events or causes could be:

- 1) pipes were procured late;
- 2) pipes were timely procured but not ready for installation due to fabrication issues;
- 3) insufficient resources were available to achieve the intended productivity;
- 4) inexperienced workforce;
- 5) design changes in pipe installation; and
- 6) any other event that impacted the pipe installation.

⁷ This example is explained in detail in Richard Wilmot-Smith QC, *Wilmot-Smith on Construction Contracts*, 3rd edn (Oxford: OUP, 2014), pp.368–378.

⁸ Nicholas Baatz QC, “Factual and Legal Causation in Construction and Infrastructure Law: A Thorny Subject”, *SCL Paper*, November 2016, p.1.

In practice when a claimant knows of delay to a specific activity and high-level facts surrounding the activity, there would be limited events which could trigger the delay or damage, such as the events noted above.

Step 2: Elimination of possible events

After the factfinding exercise has been carried out, one should eliminate the irrelevant events using the “but for” test.⁹

The “but for” test is required to show that “but for” the event complained of, the claimant would not have suffered the damage of which complaint is made.¹⁰ This is a logical test and should be used with care if more contributory events are involved.¹¹

In the above pipe installation example, if a claimant discovers the cause to be design changes, it must show on the balance of probabilities that “but for” the design changes the pipe installation activity would not have been delayed. It is always open to the defendant to prove that the pipe installation works would have been delayed regardless of the design changes, for example due to lack of pipes. If the defendant makes a case on the balance of probabilities, the defendant would be successful as far as causation is concerned.

If, after elimination of possible events, only one event is left then there are two possibilities:

- 1) first, the only event left is the cause of damage on the balance of probabilities in light of the given facts; and
- 2) second, one should always remember the following¹²:
 - (a) the burden of proof on balance of probabilities that X happened as a result of Y is and remains on the claiming party; and
 - (b) it is always open that even after a prolonged enquiry and with a mass of evidence, to conclude that, on the balance of probabilities, proximate or effective cause remains in doubt, with the consequence that the burden of proof has not been discharged by the claiming party.

This step aids in eliminating the possible causes of damage and focuses on the remaining possible events.

Step 3: Remain focused on what probably happened?

Throughout the whole process of analysing causation, a claimant must not get carried away with some theoretical or complex analysis. A claimant must look at the given facts and decide what probably happened (and not what is more

⁹ HHJ David Wilcox stated in *Thames Water Utilities Ltd v London Regional Transport* [2004] EWHC 2021 (TCC); 95 Con. L.R. 127 at [13] that “[i]t is worth being in mind that the ‘but for’ test functions as an exclusionary test, i.e. its purpose is to exclude from consideration irrelevant causes”.

¹⁰ Stephen Furst QC and Sir Vivian Ramsey, *Keating on Construction Contracts*, 10th edn (London: Sweet & Maxwell, 2016), para 9-092.

¹¹ The case of more contributory events is discussed at the end of this paper under the heading “Seventh check—whether it is a concurrency issue or a causation issue?”

¹² The Honourable Mr. Justice Akenhead, “Causation, Loss and Damage: The Challenge of Chance”, *SCL Paper*, December 2010, pp.2–3.

probable).¹³ What is more probable is subjective whereas what probably happened in the light of given facts is an objective exercise and is decided on the balance of probabilities.

For instance, in the above pipe installation example, if a claimant is of the view as a result of factual inquiry that there were no design changes, no procurement or fabrication delays and the workforce was adequately experienced, then a claimant must eliminate these causes and focus on what probably happened in the given scenario.

Sometimes facts reveal that it is access issue which caused the delay. Sometimes the site procedures set out by the client were applied in a bureaucratic manner which causes delay to the Works. A claimant should remain focused on determining the answer of the question: what probably happened with the given facts?

Step 4: Various checks

A claimant should apply various checks on the remaining possible events with the aim to finding out the effective event which has caused the damage. Some checks may overlap with other checks or the “but for” test. However, careful consideration of each check will ensure correctness of the analysis.

First check—would the damage have happened in any event?

It is difficult to say that X caused Y if Y would have happened anyway. Therefore, in circumstances where damage was to happen anyway, the event in question cannot be said to be the effective cause of that damage.

For example, valuation of additional pipework which is not on the critical path should not include the costs of project manager or the like, unless an express term of the contract provides otherwise, because these costs would have been incurred by the contractor anyway.

Second check—is there a close connection between the event and the damage?

There must be a close causal connection between the event and the damage. In absence of a close causal connection, the damage cannot be said to have been caused by the event.

For example, a very well documented labour costs claim for the pipe installation work which is supported by contemporaneous records as well may not be considered at all if it is claimed as a part of prolongation costs. One of the rationales for not considering a labour costs claim would be that these costs, even if actually incurred as a result of breach of contract by the other party, have not been caused by the prolonged project completion. There is no causal connection between the labour costs and the prolonged completion or in other words these costs are not time related.

¹³ The Honourable Mr. Justice Akenhead, “Causation, Loss and Damage: The Challenge of Chance”, *SCL Paper*, December 2010, p.2.

Third check—what are the limits of contractual duty under discussion?

This is another important check. If causation is satisfied in a given scenario, it may impose liability on the party who accepted the contractual duty. Therefore, one must look at the extent of the contractual duty and consider the grounds upon which it imposes liability.¹⁴ This calls for a careful review of the limit of the duty which depends on the terms of the contract and the local law position on it.

For example, if the start of the pipe installation work is delayed due to lack of approval by the local authority, is the construction contractor responsible for the delay given he has a contractual duty to coordinate with the local authorities? In such circumstances, the extent of duty to coordinate should be closely examined. If delay in authority's approval has occurred due to design matters, then a construction contractor may have a duty to coordinate but not to design the works itself.

In *Plant Construction*,¹⁵ a construction subcontractor installed four acrow props (temporary works) at specified positions as instructed by the client. The roof supported by props collapsed during heavy rain resulting in damage to the works. The temporary support was inadequate to bear the heavy rain. The roof would not have collapsed but for the heavy rain and the inadequate props. This situation also calls for careful review of the subcontractor's duty in relation to the weather conditions and temporary works.

Heavy rain was the subcontractor's risk. Even though the subcontractor had not designed the props, Judge John Hicks QC held the subcontractor responsible for the damage stated in relation to props because the subcontractor had a duty to warn the client more progressively and insistently if not met. For example, by putting it in writing if oral representations were ignored and by taking it up with successively higher levels of management. The judge further stated that the subcontractor as a last resort should have refused to continue to work if the safety of workmen was at risk, "as it had done" in the case of ring main.¹⁶

Fourth check—was it breach of duty that caused the damage or a mere occasion for the damage?

A claimant must distinguish between a breach of duty that is the cause of the damage and a breach of duty that is merely the occasion for the damage.¹⁷

For example, a client instructs a contractor to employ supplier B for the pipe procurement instead of supplier A as originally specified in the contract. If the contractor incurs additional costs due to mismanagement in administering supplier B, can the contractor state that the additional costs are caused by the client's breach of duty i.e. not employing supplier A?

¹⁴ "Common Sense and Causing Loss", a speech by Rt. Hon. Lord Hoffmann, June 1999.

¹⁵ *Plant Construction Plc v Clive Adams Associates (No.3)* [2000] B.L.R 205.

¹⁶ *Plant Construction* [2000] B.L.R 205 at [17].

¹⁷ *Roger ter Haar QC, Remedies in Construction Law*, 1st edn (informa law from Routledge, 2010), para.11.3.

The question of whether the breach of duty was the cause of the damage or merely the occasion for the damage is answered “by the application of the court’s common sense”.¹⁸

Once full facts are known with clarity it is relatively easy to answer the question. For example, if the contractor has incurred costs due to its own mismanagement, it is difficult to state that damage is caused by the breach of duty. However, following from my example above, in circumstances where supplier A is known for its professional and expeditious delivery of the goods and had extensive working experience with the contractor, the mismanagement on the part of supplier B may have a different causation outcome.

Fifth check— was there an intervening event or was there a break in chain of causation?

In analysing causation, sometimes effective cause is met with an intervening event which has influence on the damage.

In *Siemens*,¹⁹ a water tank installed on the tank room floor overflowed as a result of the failure of the ball valve and damages were incurred. However, floor drains were blocked as well. If floor drains were functioning properly, the overflowed water could have been dealt with and damages could have been either reduced or not occurred at all. One of the questions in dispute was: whether the damages were caused by the ball valve failure or the blocked drains?

HHJ Sir Vivian Ramsey held that the effective cause of water overflow was the ball valve failure. The blockage of the drains did not take away the potency of the overflow to cause damage but rather failed to reduce it.²⁰

An intervening event invites claimant’s attention to review whether the chain of causation is broken or not—a fact sensitive matter. For there to be a break in the chain of causation the intervening event must be the conduct of the defending party (and not the claimant) and it should have potency to trigger the damage.²¹

Sometimes an intervening event has the potency to break the chain of causation. An illustration is:

“The Owner of a seed-oil plant discovered that a heat exchanger was leaking. The Owner carried out a repair which failed a hydraulic pressure test. The plant went back into operation without any further steps to repair the heat exchanger being undertaken. Subsequently there was an explosion at the plant which caused significant loss. The judge held that the explosion had been caused by the Owner’s recklessness in not adequately testing the heat exchanger after repair before bringing it back into operation and not by the defendant’s breaches ...”²²

¹⁸ Roger ter Haar QC, *Remedies in Construction Law*, 1st edn (informa law from Routledge, 2010), para.11.3.

¹⁹ *Siemens Building Technologies FE Ltd v Supershield Ltd* [2010] EWCA Civ 7; [2010] 2 All E.R. (Comm) 1185; [2010] B.L.R. 145.

²⁰ *Siemens* [2010] 2 All E.R. (Comm) 1185; [2010] B.L.R. 145 at [32].

²¹ *Hi-Lite Electrical Ltd v Wolseley UK Ltd* [2011] EWHC 2153 (TCC); [2011] B.L.R. 629 at [205].

²² Nicholas Dennys QC and Robert Clay, *Hudson’s Building and Engineering Contracts*, 13th edn (London: Sweet & Maxwell, 2015), para.7-002.

Sixth check—did effective cause precede the damage?

In analysing two or more causes, it must be remembered that the effective cause must precede the consequence.²³ If a cause occurs after the damage has already started to incur, that cause may not be treated as the effective cause of the damage.

For example:

“a situation in which, work already being delayed ... because the contractor had had difficulty in obtaining sufficient labour, an event occurs ... which, had the contractor not been delayed, would have caused him to be delayed, but which in fact, by reason of the existing delay made no difference. In such a situation, although there is a Relevant Event, ‘the completion of the Works is [not] likely to be delayed thereby beyond the Completion Date’. The relevant event simply has no effect upon the completion date”.²⁴

Above example is shown in Figure 2 below.

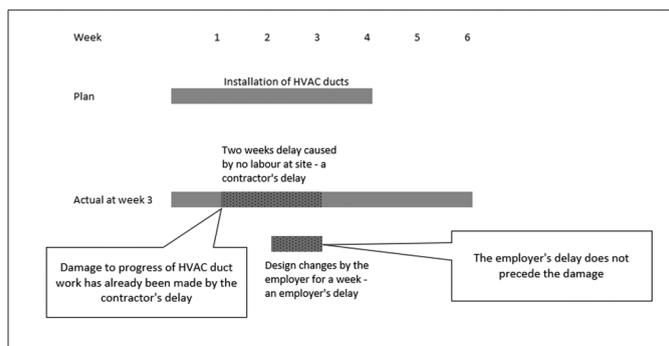


Figure 2: Whether cause precedes the damage

Seventh check— whether it is a concurrency²⁵ issue or a causation issue?

In analysing multiple causes in construction disputes “often, extension of time problems are discussed as if they were problems of concurrency when in fact the true question relates to causation”.²⁶ Therefore, a claimant should closely check the interlink and interdependency between the events to find out what the issue is: concurrency or causation?

For example, if pipe installation work is delayed and potential events are 1) lack of procurement of pipes by contractor (a contractor’s risk event) and 2) design changes to the pipe work (an employer’s risk event). A claimant should check the

²³ Nicholas Baatz QC, “Factual and Legal Causation in Construction and Infrastructure Law: A Thorny Subject”, *SCL Paper*, November 2016, p.6.

²⁴ *Royal Brompton Hospital NHS Trust v Hammond (No.7)* [2001] EWCA Civ 206; 76 Con. L.R. 148 at 173–174.

²⁵ Concurrent delays were defined by Mr John Marrin QC in the SCL paper entitled “Concurrent Delays”, 2003: “[T]he expression ‘concurrent delay’ is used to denote a period of project overrun which is caused by two or more effective causes of delay which are of approximately equal causative potency”. This definition was later approved by UK courts in *Adyard Abu Dhabi v SD Marine Services* [2011] EWHC 848 (Comm); [2011] B.L.R. 384; 136 Con. L.R. 190.

²⁶ Richard Wilmot-Smith QC, *Wilmot-Smith on Construction Contracts*, 3rd edn (Oxford: OUP, 2014), p.368.

interrelationship or interdependency between these two events. Possible situations could be as follows.

- (a) If design changes are to pipe alignments or layouts, it may have no relationship with the procurement, in which case, it is a causation issue with procurement being the effective cause of delay.
- (b) Similarly, if the design is being reviewed and could result in change of pipe thickness or diameter, it may have a serious link with the procurement, in which case, it will again be a causation issue with design being the effective cause of delay.

In both situations (a) and (b) above, at first glance, it appears that it is a concurrency issue as both parties are at fault. However, close consideration of the interlink or interdependency of the events reveals which cause is the effective cause.

Situations (a) and (b) are shown below:

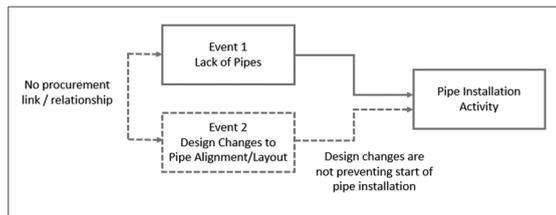


Figure 3: Situation (a)—effective cause of delay to pipe installation is lack of pipes

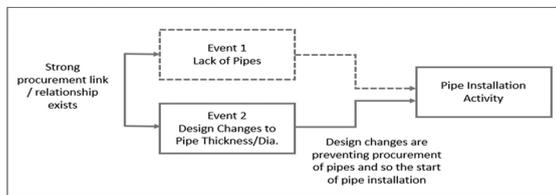


Figure 4: Situation (b)—effective cause of delay to pipe installation is the design changes

There could be situation (c) where pipe thickness or diameter is being changed by the employer and the contractor is unable to engage a pipe supplier anyway due to its poor financial situation. In this case, both causes are operating independently and have equal causative potency in preventing the start of pipe work. Therefore, this may be considered as a concurrency issue instead of causation:

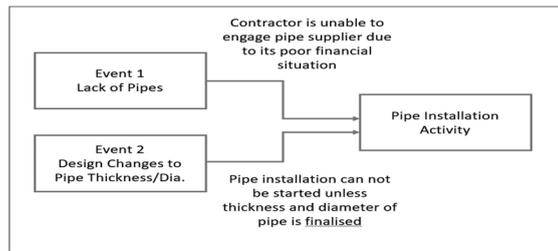


Figure 5: Situation (c) possible concurrency scenario

Future facts may reveal that even though the pipe thickness and diameter were finalised by the client, the contractor remained unable to engage pipe supplier for many weeks. This could be situation (d) in which case lack of pipes may be the effective cause as design change is no more of equal causative potency. However, it can be seen as a concurrent cause scenario in some jurisdictions. This situation is shown below:

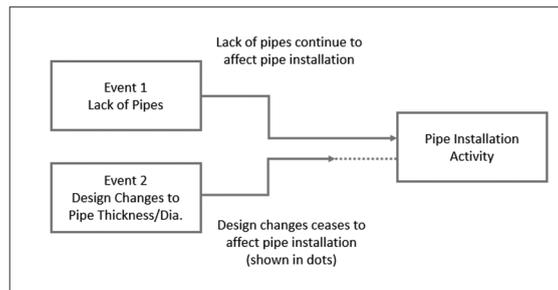


Figure 6: Situation (d)—causation or concurrent depends on local law

Conclusion

Analysis of causation in construction contracts is relatively simple as long as one remains focused on getting the answer to the right questions and does not involve oneself in complex, metaphysical and microscopic analysis.

A step by step approach is very helpful in interpreting the facts of a given situation when analysing causation, as listed below.

When examining the causation, a claimant must focus on:

- whether the damage would not have occurred but for the event complained of;
- what probably happened on the balance of probabilities;
- if the damage would have happened anyway;
- if there is a close connection between the event and the damage;
- what the limits of contractual duty are under discussion;
- if it was a breach of duty that caused the damage or a mere occasion for the damage;
- if there was an intervening event or a break in the chain of causation;
- if effective cause preceded the damage; and
- if it was a concurrency issue or a causation issue.

Always bear in mind that the burden of proving X caused Y is and always will remain on the claiming party (they who assert must prove) which must be discharged on the balance of probabilities.