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Contents

MAPPING THE CHANGING CONTOURS OF ENGLISH JURISPRUDENCE ON THE LAW OF REMOTENESS OF CONTRACTUAL DAMAGE

By Harshvardhan Tripathi*

Introduction

Consider a scenario:

'A' enters into a contract with 'B' for the supply of pure mustard oil. B fails to supply the mustard oil of required purity. During an inspection by the inspector, A was found to be selling impure mustard oil. The remaining stock of oil was seized and destroyed, and A was arrested for selling adulterated edible items. He was subsequently prosecuted and then convicted. A brings in a claim for damage against B for the breach of contract and demands damages for the following kinds of losses- the loss of oil, the profits expected out of selling it, loss of social and business reputation, expenditure incurred during litigation and mental agony experienced during prosecution.

B might have breached the contract but can he reasonably be expected to bear all the losses that might flow as a consequence of the breach? For instance, at the time of entering the contract, could B have contemplated that a potential breach of contract from his end, would lead to A being prosecuted, convicted and consequently suffer mental agony? Common sense with lead us to answer the question in negative. B should not be responsible for *all* the losses that A suffers due to the breach of the contract since B could not have reasonably contemplated at the time of entering into the contract that A would suffer such a loss. Such losses would be too

remote and hence B cannot be burdened with the liability to pay damages for the same. This hypothetical scenario demonstrates the complex problem involved in adjudicating the claims for contractual damages that the consequence of a breach of a contract might indeed be theoretically endless. Hence, it is an important judicial exercise to circumscribe the liability of the defendant.

The Rule in Hadley v Baxendale

The test for remoteness of damage was established in the seminal ruling of *Hadley vs Baxendale*[1] in 1854. The speech of Baron Alderson laid down the two famous rules that continue to be applied even in 2021 as the default test for assessing the remoteness of damage.

When a party breaches the contract and causes loss to the other party, the claimant can recover two kinds of damages:

1. Damages that may fairly and reasonably be said to be arising naturally in the 'usual course of things from such breach of contract. (General damages) The defendant is considered liable for all the losses which naturally happen in the usual course of things after the occurrence of a breach of contract.
2. Damages that may reasonably be supposed to have been in the contemplation of both parties at the time of entering into the contract (Special damages). The special damages are recoverable only in those cases where the special circumstances surrounding the contract have been brought to the knowledge of the defendant to bring the possibility of the special loss in the reasonable contemplation of both parties.

If the claimant fails to bring the special circumstances to the attention of the defendant, the courts would be unwilling to allow for the recovery of special damages. But in those cases where the special

[1] [1854] EWHC Exch J70.

circumstances have been communicated to the defendant[2], or where the special circumstances are already within the knowledge of the defendant[3], special damages are recoverable.

The two limbs of Hadley v Baxendale test of remoteness were further developed in *Victoria Laundry (Windsor) Ltd v Newman Industries Ltd*[4], where Lord Asquith on the Court of Appeal posited propositions to comprehensively explain the test of determining remoteness of damages, which amplified the two rules of *Hadley v Baxendale*. The key rule remained that only such losses will be recovered which were reasonably foreseeable at the time of entering into the contract to be flowing from the breach. What was foreseeable at the time of entering into the contract depends upon the knowledge possessed by both parties, and in particular by the party breaching the contract.

The knowledge possessed by the person in breach of contract can be classified into two kinds: *first*, 'imputed knowledge' about the loss that might result due to a breach, which a reasonable person can be reasonably expected to know as being in the 'ordinary course of things' at the time of entering into the contract. The first rule of the *Hadley v Baxendale* deals with scenarios where the defendant can be imputed with the knowledge of the special loss. Besides the knowledge that the defendant is expected to possess, she might also possess actual knowledge of the special circumstances surrounding the contract. The actual knowledge of more losses arising from the breach of the contract because of these special circumstances would trigger the second limb of *Hadley v Baxendale* and make the additional losses recoverable.
In *C Czarnikow Ltd v Koufos (The Heron II[5])* the House Of Lords reiterated the test in *Hadley v Baxendale* and provided much need

[2] *B. P Exploration Co (Libya) Ltd. V Hunt* (No. 2), (1981) 1 WLR 232 (CA).

[3] *Simpson v London and North Western Railway Co* (1876) LR 3 CP 499.

[4] [1949] 2 KB 528.

[5] [1969] 1 AC 350, 422.

clarity about the degree of likelihood required for a claimant to be allowed to recover damages. Lord Reid laid down the test that it should be seen 'if the loss is of a kind which the defendant at the time of entering into the contract ought to have realised not to be *unlikely* to research from the breach'[6]. 'Not unlikely' was a deliberate selection of expression by Lord Reid to denote that the degree of probability required was considerably less than an even chance. However, it should not be very unusual. Even though a type of damage is foreseeable as a real possibility, if such damage only occurs in a very small minority of cases, then it cannot be said to be arising in the usual course of things; nor can it be said to be in the contemplation of the parties at the time of entering the contract as a possible result of the breach.

The House of Lords decision in *South Australia Asset Management Corporation v.York Montague Ltd.* ("*SAAMCO*")[7] Lord Hoffman introduced the 'agreement centric approach' to hold that the defendant is liable to pay only for such losses for which he had assumed responsibility at the time of entering into the contract. *SAAMCO* modified the test of remoteness and resulted in a position that even though a loss might be foreseeable and arises in the usual course of things, such loss will not be recoverable if the defendant has not assumed the responsibility of being liable for such losses. This principle applied not only to the second limb of the *Hadley vs Baxendale* cases, but also extended to the cases concerning the first limb such as in *SAAMCO*. This 'agreement-centric approach' and the introduction of the novel concept of the 'assumption of responsibility by the defendant was further extended in the House of Lords ruling of *Transfield Shipping Inc v. Mercator Shipping Inc. ("The Achilleas")*[8]. *SAAMCO* and *The Achilleas* led to a situation where the law surrounding remoteness of contractual damages was thrown into a state of conceptual disarray.

[6] Id.

[7] [1997] 1 A.C. 191 HL.

[8] [2009] 1 AC 61.

The Jurisprudence confusion caused by Achilleas

The common law jurisprudence on the remoteness of contractual damages established by the ruling in *Hadley v Baxendale* remained stabilized since 1854. However, *SAAMCO* and *The Achilleas* altered the position set by *Hadley v Baxendale* and introduced an additional limitation of the assumption of responsibility of the losses by the defendant to allow for the recovery of contractual damages.

Facts in *The Achilleas* involved a time charter, as per which the defendants were required to redeliver the ship to the Claimants by 2nd May 2004. However, the defendants breached the term of the contract and only redelivered the ship back to the Claimant on 11th May 2004. As part of their business arrangement, the Claimants had previously entered into a follow-on 'fixture' contract, under the terms of which they were supposed to make the ship available for the use of new charterers by the 8th May 2004.

Because of the breach on the part of the defendant, the claimant could not make the ship available on time, and consequently, Claimant was forced to renegotiate the rate of hire in the follow-on fixture contract. However, by that time the rates had fallen and the claimant had to reduce the rate of hire which cost them a loss of 8000 USD per day.

The defendants accepted their liability for the damages caused to the claimant because of the reduced market rate between the period of 2nd May to 11th May 2004. But the claimant demanded damages that covered losses for the entirety of the time duration of the follow-on fixture contract. The house of Lords sided with the defendant and ruled that the claimant's damages were limited to the period between 2nd May to 11th May 2004. The losses incurred for the remaining duration of the follow-on fixture was too remote and cannot be recovered.

Two of the presiding judges in the matter, Lord Rodger and Baroness Hale applied the conventional remoteness test of *Hadley v Baxendale* and asked 'whether, at the time of entering into the contract, the defendant would have reasonably contemplated as a matter of serious possibility, that in case of a default on his part, the claimant would lose a follow-on fixture and suffer loss'[9]. Both the judges answered this question to be negative and held that the loss suffered by the claimant was too remote.

Unpacking the 'Acceptance of responsibility' approach posited in The Achilleas

Lord Hoffman and Lord Hope went beyond the *Hadley v Baxendale* test in *The Achilleas* and added a further requirement that at the time of entering into the contract the defendant should have accepted liability for such special losses to be recoverable.

The reasoning adopted by the two charges comes very close to the view that argues that if the defendant has accepted responsibility for the losses in the contract, the losses will not be considered too remote. However, English Courts have expressly rejected this view in the previous rulings of *The Heron II* and *GKN Centrax Gears Ltd v Matbro Ltd*[10]. The judges erred in demanding 'an acceptance of responsibility' of the special losses by the defendant because the test in *Hadley v Baxendale only* requires that the defendant should have knowledge at the time of entering into the contract that special losses might ensue in case of breach of the contract.

There has been a considerable amount of debate about whether the defendant's bare knowledge of the special losses is sufficient to not consider the damages to be too remote, or whether the defendant should have more than mere knowledge and should have expressly undertaken the responsibility of the special losses in order to allow a

[9] Id.

[10] [1976] 2 Lloyd's Rep 555.

claim for special damage by the claimant's to succeed[11].

In a few cases, English courts have expressed the opinion that a bare knowledge of the special circumstances surrounding the contract will make the defendant liable for paying damages for special losses. The more refined position in this regard seems to be that a mere casual remark is insufficient to give the defendant the necessary degree of knowledge about special circumstances surrounding a contract, and what is instead required is that the claimant discloses information about special circumstances in such a manner, that the defendant can reach the fair inference that the breach of contract would lead to special loss to the claimant. The scope of the defendant's contemplation should be enlarged and the special circumstances should be understood clearly by him.

The approach of Lord Hoffman and Lord Hope falls foul of the rules in *Hadley v Baxendale* because it demands not only an exceptionally high degree of knowledge on the part of the defendant but also further proof that the defendant agreed to enter into the contract *on the terms* that he would assume the liability for the special loss. This approach misunderstands the required degree of knowledge by the *Hadley v Baxendale* test. Further, it ignores that the view which posits that, to make the defendant liable for special losses it is necessary to have a term of the contract indicating that the defendant accepted the liability for special losses, has long been rejected by the English Courts.

The test of remoteness of contractual damage: an external rule or an interpretive exercise?

Instead of looking at the remoteness of damage as an external rule that applies by default to contracts, Lord Hoffman in *Achilleas* looked at the remoteness of losses as a matter of construing the contract. He was misled by adopting the 'scope of the duty of care' approach

[11] *British Columbia etc. Saw-Mill Co Ltd v Nettleship* (1868) LR 3 CP 499, 509.

adopted in the controversial decision of *SAAMCO,* to hold that the responsibility for the special loss was outside the scope of the duty assumed by the defendant, and hence the special loss was too remote.

Kramer in Comparative Remedies for Breach of Contract[12] has supported such an 'agreement centered approach' and argued that allocation of responsibility for the breach of contract is a matter which should be determined by looking at the contractual agreement even in those cases where it is not covered expressly by the agreement. Kramer posits that rules of remoteness should not be seen as default rules which apply in cases where nothing is agreed between the parties but instead should be understood as a framework to discover what was agreed between the parties.

However, Kramer's agreement centric approach suffers from the flaw that while construing the contract as per the intention of the parties, the Court would invariably end up imposing their own decision behind the mask of 'construction' of the contract. A contrasting opinion is found in Lord Neuberger of Abbotsbury's approach in *Marks & Spencer plc v BNP Paribas Securities Services*[13] where he took a more narrow, and arguably the correct view that construction of the contract is a separate step from examining the implication of a contractual term. Although in both steps the Court has to engage in determining the meaning and scope of the contract and has to draw inferences from similar factors, these two steps are fundamentally separate and should not be conflated as Kramer argues.

Utility of the 'assumption of responsibility' approach

The 'assumption of responsibility' standard posited by *The Achilleas* has rightly been characterized as 'vague and unclear' in later case

[12] Kramer in Comparative Remedies for Breach of Contract (eds Cohen and McKendrick, 2004) 249.

[13] [2015] UKSC 72; [2016] A.C. 742

laws[14]. However, its conceptual importance can be highlighted using an often quoted hypothetical fact scenario.

Consider a situation where a passenger before sitting in the cab, informs the cab driver of the special circumstance that he needs to reach at a particular destination within a particular time to close a lucrative business deal. In a scenario where the cab driver fails to fulfil his contractual promise, can he be held liable for the loss of the lucrative business deal suffered by the passenger? This hypothetical fact scenario stretches the boundaries of the orthodox test in *Hadley vs Baxendale*. Although common sense and reader's sense of fairness might suggest that the taxi driver is not liable for the loss, if the rule in the second limb of *Hadley vs Baxendale* is applied strictly, the taxi driver would be liable to pay damages because at the time of contracting with the passenger, he had the knowledge of the special circumstances surrounding the contract and therefore the loss suffered by the passenger is not too remote.

The cab driver can argue that only a bare knowledge of the special circumstances surrounding the contract is not sufficient to make the defaulting party liable for paying damages for such loss. It should be shown by the passenger that not only did the cab driver have knowledge about the special circumstances, but he also agreed to assume the responsibility of bearing the loss in case of a default. In other words, the contract was made *on the terms* that the taxi driver will be held responsible for the loss. Since the cab driver did not assume any responsibility for the special loss, the 'assumption of responsibility' approach will come to his aid in contesting the passenger's demand for damages.

It can also be argued that the driver was not accorded sufficient opportunity to limit his liability at the time of contracting and therefore he cannot be expected to have assumed such disproportionate risk.

[14] [2010] EWHC 542 (Comm).

In *Out of the Box Pte Ltd v Wanin Industries Pte Ltd*[15] the Singapore Court of Appeal has proposed another interpretation of this hypothetical scenario by opining that remoteness of damage is in fact not at the heart of the issue in this factual scenario. What is to be determined is that whether the cab driver is responsible for losses incurred by the passenger under special circumstances as a matter of objective construction of the contract. Therefore, one should focus on ascertaining the scope of contractual terms undertaken by the cab driver, instead of looking at whether the passenger's demand for damages for the *breach* of those contractual terms is too remote or not. In trying to find out whether the cab driver undertook the contractual terms, it will be relevant to look at the manner in which the special circumstances were conveyed by the passenger to the cab driver and the substance of what was conveyed. Thus, the cab driver will be held responsible only when the passenger would have made an explicit and unequivocal communication to the taxi driver that he will be responsible for the loss in case he does not drop the passenger on time. This interpretation by the Singapore Court of Appeal treats the issue of remoteness as being conceptually distinct from the task of interpretation of the contract in order to determine the exact nature of the obligations undertaken under the contract. This resonates the Lord Neuberger of Abbotsbury's approach in *Marks & Spencer plc* that the questions of interpretation and implication of contractual terms should not be conflated or confused with the questions of the remoteness of loss.

The continuing legacy of the Achilleas and SAAMCO

The Achilleas and SAAMCO put the law surrounding the remoteness of damage in uncertainty and this was visible in the later case laws such as the Court of Appeal's observation in *Supershield Ltd v Siemens Building Technologies FE Ltd*[16]. The Court held that while

[15] [2013] SGCA 15; [2013] 2 S.L.R. 363.

[16] [2010] EWCA Civ 7, [2010] 1 Lloyd's Rep. Plus 20.

Hadley vs Baxendale continued to remain the default rule grounded in the policy, it could be displaced by the approach in *The Achilleas* in some cases, such as where the court would examine the contract and the commercial background to determine if the special losses were within or outside the scope of the contractual duty undertaken by the defendant. Thus, *The Achilleas* could have two possible effects: first, where the losses which should be recoverable under the *Hadley vs Baxendale* would be considered too remote ('the exclusionary effect'); and second, where the losses which will be non-recoverable under the *Hadley vs Baxendale* would be held to be not too remote (the 'inclusionary effect'). *SAAMCO's* inclusion of 'scope of duty undertaken' by the defendant to determine the remoteness of losses further muddied the water. Thus, the doctrinal confusion which was given birth by Lord Hoffmann's opinion in *The Achilleas* became severe in *Supershield Ltd.* Although it did clarify crucial questions like whether the *Hadley vs Baxendale* continued to remain the default law or whether there are exceptional circumstances where a deviation from the general rule is possible? Further, it did not sufficiently clarify in which kind of cases and based upon what reasons could the dictum of *The Achilleas* displace the application of *Hadley vs Baxendale*.

Clarifying the confusion created by the Achillea in Sylvia

The confusion that ensued post-*Achilleas* was put to rest by the English High Court in *Sylvia Shipping Co. Ltd. v Progress Bulk Carrier Ltd*[17]. The decision reviewed the previous case laws on the remoteness of contractual damages starting from the classic position laid down in *Hadley v Baxendale* and *Heron II* up to the recent House of Lords decision in *The Achilleas*. Through a perusal of the authorities, Hamblen J distilled two distinct approaches adopted by the English courts while dealing with the question of the remoteness of loss:

[17] [2010] EWHC 542 (Comm).

1. The orthodox approach laid down by the two rules of *Hadley v Baxendale* which has been reiterated in *Heron II.*
2. The broader approach of *The Achilleas* that looks into the question of whether the loss for which damages are being claimed is a type of loss for which the defendant either actually assumed the responsibility, or can be reasonably inferred to have assumed responsibility.

Hamblen J made it unequivocally clear that the orthodox approach continued to remain the general test to be applied to the majority of the cases. However, there may be 'unusual' cases such as *The Achilleas* where the orthodox approach would not lead the court to the correct assessment of the remoteness of damage. In such unusual cases where the fact scenario concerns '*a particular context, special circumstances, or a specific understanding in the relevant market*'[18], it might become necessary to examine if the defendant assumed the responsibility for the loss.

In *Sylvia* the Court provided a useful guide to determine those 'unusual' cases which require an application of the broader approach: *first*, the broader approach is to be applied in those cases where the application of *Hadley v Baxendale* rules would result in "*unquantifiable, unpredictable, uncontrollable or disproportionate liability*"[19]. *Second*, the broader approach is to be applied in those cases where there exists clear evidence that '*the imposition of liability would go against the understanding and expectations of the specific market or industry*[20].

Justice Hamblen's opinion in *Sylvia* reinstated the primacy of two rules in *Hadley v Baxendale* and limited the application of *The Achilleas* to only fact-specific "unusual" cases. It became clear that

[18] *Id.*

[19] *Id.*

[20] *Id.*

the broader approach is an exception to the orthodox approach which is only applicable in unusual cases. *Sylvia* partly put the confusion caused by *The Achilleas* to rest. The Court's approach in Sylvia reflects the willingness to adopt the law of remoteness of contractual damages to the changing business realities of modern times. The test in *Hadley vs Baxendale* was posited nearly 170 years ago and it was reasonable on the part of the Court in *Sylvia* to expand the scope law of remoteness to account for novel situations such as in *The Achilleas*.

'Attorney General of the Virgin Islands' and the present position of law

The latest development on the law of remoteness of loss has been witnessed in the 2021 Privy Council judgement of the *Attorney General of the Virgin Islands v Global Water Associates Limited*[21]. This case involved two contracts between the Government of the British Virgin Island and Global Water Associates Limited (GWA):

1. Design-build agreement (DBA)
2. Management, Operation and Maintenance agreement (MOMA)

As per the terms of DBA, the government was supposed to construct a water treatment plant at the designated site. As per the MOMA, the government undertook to hire the services of GWA in managing, operating, and maintaining the water treatment plant for 12 years of operation. The government could not fulfil its obligations under the DBA, and consequently, GWA was deprived of the opportunity to profit from the terms of the MOMA. GWA presented its claim for lost profits under MOMA in the arbitration proceeding instituted against the Government of the British Virgin Islands. The Arbitral Tribunal and the Court of Appeal sided with the government and held that GWA's loss of profits under the MOMA was too remote and could not

[21] [2020] UKPC 18.

be recovered. The Privy Council allowed GWA's appeal and held that the loss of profits incurred by GWA from the inability of earning profits under MOMA was within the reasonable contemplation of the parties at the time of entering into the DBA. Therefore, the loss was not too remote and could be recovered.

Attorney General does not advance the jurisprudence of the remoteness of loss but rather demonstrates the correct application of the *Hadley vs Baxendale* test and provides an overview of the precedents on the remoteness of damages. But it is interesting to note the Privy Council's finding that the test in *Hadley vs Baxendale* was more appropriate for a time when the jury took the decision. But in today's setup where judges give reasoned decisions the application of the test requires "*closer scrutiny and some expansion*"[22]. After considering decision such as *Victoria Laundary* and *Heron II* at length, the Privy Council primarily focused on reviewing the latter.

The Privy Council noted that the present case did not require applying the broader approach of *The Achilleas* because market volatility or peculiar understanding of the market was not the issue facing the Court. While deciding remoteness of loss, the Council asked the question '*if the loss was contemplated as a "real possibility" at the time of entering into the contract*[23]. The choice of the expression 'real possibility is akin to Lord Walker of Gesting Thorpe's preference in *The Achilleas.* This choice of arguably vague expression seems to be deliberate because such expression provides more flexibility to the Courts in analyzing the remoteness issue.

However, regardless of the expression used at the heart of the matter lies the task of objectively assessing the common expectation of the parties at the time of entering into their contract. Further,

[22] *Id.*

[23] *Id.*

through the usage of "real possibility" expression the Privy Council has made it abundantly clear that while assessing whether the parties contemplated such loss at the time of entering into the contract, the courts are not solely concerned with the percentage probability of the occurrence of event. Although the percentage probability might be a relevant factor, it should not be the sole determining factor of the exercise[24].

Another noteworthy feature of the decision is that the Council concluded that the lost profits were a form of consequential loss. As a matter of common conception, it is often understood that lost profits fall within the ambit of the first limb of *Hadley vs Baxendale*. However, the Attorney General is a useful reminder that it might not always be the case.

Thus, the legal position surrounding remoteness of damages after the *Attorney General* can be summarised as:

1. The principle behind awarding damages for the breach of the contract is to put the party who has suffered loss because of breach of the contract back to the state before the breach as if the contract had been fulfilled as originally undertaken.
2. The party who has suffered losses because of a breach of contract can only recover such part of the loss which the parties at the time of entering into the contract reasonably contemplated to result in case a breach of the contract happens. For such loss to be recoverable, it should have been reasonably contemplated as a serious possibility by the parties.
3. In order to assess what the parties had recently contemplated, one must look at the knowledge possessed by the parties at the time of entering into the contract, and specifically the knowledge possessed by the party committing the breach of contract.

[24] *Also* see *Heron II.*

4. The test to determine what was reasonably contemplated is an objective determination of the defendant's knowledge. Instead of looking at what he had *actually* contemplated, one must ask what the defendant ought to have taken in his or her contemplation at the time of entering into the contract. The assumption behind this objective determination is that the defendant would have seriously thought about the consequences of the breach before entering into the contract. Besides being an objective test, the exercise of deciding what the defendant reasonably contemplated is a factual one and must be undertaken keeping in mind the peculiarities of every case.

How to adapt contracts with the developing jurisprudence on the remoteness of damage

Thinking from the claimant's perspective, in order to make the recovery of losses easier, it would be advisable to freely exchange information at the time of negotiating the contract and inform the other party of all the special circumstances surrounding the contract. Furthermore, the claimant should make it unequivocally clear that for which specific losses it might hold the other party to be responsible in case of a possible breach of the contract. In order to have sufficient evidence backing his claim, the claimant should aim to create an appropriate trail of correspondence that shows the degree of knowledge possessed by the parties at the time of entering into the contract.

For the defendant, it is also important to ask probing questions at the time of contract negotiation and fully understand for which losses does the claimant expect him to be liable in case of a potential breach. The presence or absence of a paper trail of correspondence can be a useful tool to demonstrate whether the claimant *actually*

brought home the point of the special circumstances surrounding the contract, or whether it was nearly a casual remark. In the latter case, the defendant can argue that such a casual remark from the claimant does not show that the parties 'reasonably contemplated' such loss, and therefore the Court would consider such loss too remote for recovery and rule in favour of the defendant.

While drafting limitation clauses to exclude consequential losses, it is important not to include vague and broad-brush terms like "consequential loss" but rather state specifically which loss is intended to be excluded.

Lastly, before the outbreak of Covid-19 pandemic, the additional losses that might result from the breach of contract due to pandemic might not be considered to be within the reasonable contemplation of the parties when they entered into the contract. But given the changing legal environment surrounding Covid related regulations, the parties should have a discussion with respect to the additional losses that might flow as a result of the pandemic related restrictions.

Concluding Remarks

The law surrounding the remoteness of contractual damages continues to be an intriguing area of development. The two rules posited by *Hadley vs Baxendale* continue to occupy the field and remain the default test to be applied in the majority of the cases. Although in cases like *SAAMCO* and *The Achilleas* attempts have been made by the English courts to formulate newer tests; the recent ruling of *Sylvia* and the *Attorney General* suggests that the ghost of *SAAMCO* and *The Achilleas* can be safely said to be buried. It has become abundantly clear that the orthodox approach of the *Hadley v Baxendale* is to be applied by default in the majority of cases, and only in the 'unusual cases' is the broader approach of The Achilleas and the 'assumption of responsibility' standard to be applied.

INEFFECTIVE USE OF EXPERT EVIDENCE IN CONSTRUCTION ARBITRATION

Professor Doug Jones AO*

I INTRODUCTION

In 1782, Lord Mansfield said that "in matters of science, the reasonings of men of science can only be answered by men of science".[25] With this statement, his Lordship paved the way for expert opinions to be accepted as evidence designed to assist judges in common law courtrooms. In the years since the 18th century, the use of expert evidence has only continued to grow.[26]

The civil law has followed a different path relying traditionally on court appointed experts for the assistance delivered in common law jurisdictions by party appointed experts.

In international arbitration both approaches have been combined, but with increasing reliance by counsel from both traditions upon party appointed experts, a development which can be traced in the developments of the IBA Rules on the Taking of Evidence in International Arbitration.[27]

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[25] *Folkes v Chadd* (1782) 99 ER 589, 590.

[26] Tal Golan, 'Revisiting the History of Scientific Expert Testimony' (2008) 73(3) *Brooklyn Law Review* 879.

[27] See, the first edition of the IBA Rules: International Bar Association, 'Rules on Evidence in International Arbitration' (1999, first ed)) arts 5–6; and the revised edition published in 2010: International Bar Association, 'Rules on the Taking of Evidence in International Arbitration' (2010, revised ed) arts 5–6.

Expert evidence has found itself particularly at home in construction arbitration, taking advantage of the complex legal and technical issues that are typically found in these kinds of arbitral disputes. Yet, although the reliance on party appointed expert testimony steadily increases, in many cases its value in providing assistance to arbitral tribunals has regrettably not followed suit. This is because the proliferation of party appointed expert evidence, bears with it numerous challenges which can limit the effectiveness of the evidence.

What are those challenges? In this paper three will be discussed: first, the partisanship of party appointed expert witnesses which can undermine the reliability of the evidence; second, the use by competing experts of conflicting facts, data and methodologies; and third, the asymmetric use of and over-reliance on experts. These challenges have the potential to increase the inefficiency, delay and cost in the arbitral procedure, and reduce the value of the expert's evidence.

Some ways in which these challenges may be overcome will be explored: first, considering a few existing solutions and protocols in international arbitration, and then proposing approaches to resolving these issues which build on and supplement the existing mechanisms. Finally, the appendices to this paper contain examples of how these approaches can be implemented in practice.

Before examining the challenges, it is instructive to briefly consider the role of the expert witness in construction arbitration.

II THE ROLE OF EXPERT WITNESSES IN CONSTRUCTION ARBITRATION

The general role of expert witnesses, whether they be appointed by the parties or the tribunal, is to assist the tribunal in its decision making by providing relevant and independent evidence in their area

of expertise. Arbitral tribunals find particular value in expert evidence in cases with complex factual and legal issues as an expert can provide much-needed clarification on the more intricate points. Construction arbitration proceedings are an example of such a case in which expert evidence is critical. The construction arbitrations are notoriously fact-intensive and technically complicated. The rise of the modern 'megaproject'[28] has resulted in disputes that are commensurately 'mega' in size and in complexity. The importance and utility of expert evidence to assist a tribunal in deciding factual issues has, as a consequence, grown immensely. As such, identifying the challenges associated with their use is of heightened importance to ensure that common traps are avoided and that maximum utility is derived from expert evidence.

There are three broad categories of expert evidence that can be identified: strictly technical expertise, legal expertise, and expertise related to delay, disruption and quantum.[29] Technical experts assist where the dispute involves a specialist area of knowledge on which the tribunal may require assistance. Legal experts are primarily used to explain aspects of a relevant laws with which the tribunal lacks familiarity. Finally, delay, disruption and quantum experts are sorters of facts the analysis of which is crucial to evaluating such claims. They then apply methods of analysis to the facts to assist in assessing and evaluating the claims. Expert in fact analysis and evaluation, these experts are clearly distinguishable from technical experts and are deployed with greater regularity than technical experts.

As noted above, in common law domestic litigation, experts are almost invariably appointed by the parties, and only exceptionally by the court. Parties operating in an adversarial system retain control

[28] Bruce E Hallock and James G Zack Jr, 'What Have we Learned from Megaprojects?' (2019) 36(2) *International Construction Law Review* 208.
[29] Nigel Blackaby and Alex Wilbraham, 'Practical Issues Relating to the Use of Expert Evidence in Investment Treaty Arbitration' (2016) 31 *ICSID Review* 655, 660.

over the conduct of the proceedings and the way in which their case is presented, including the appointment, and deployment, of experts. On the other hand, in the civil law domestic tradition, the court typically takes the initiative in appointing experts since it bears the primary responsibility of fact-finding.

In international arbitration, the procedure relating to the taking of evidence is a combination of both common law and civil law traditions.[30] Subject to any express agreement between the parties, experts can be appointed by a party or by the tribunal.[31] That being said, however, the use of party appointed experts is the norm in practice despite the extensive involvement of counsel and arbitrators with civil law backgrounds.[32] It is with party appointed experts that this paper is concerned.

With that background and context, the question arises: what is the problem with expert evidence in construction arbitration?

III WHAT ARE THE CHALLENGES?

A Partiality and Bias in Party Appointed Experts

The first issue is that of partiality and bias in party appointed experts. It has often been lamented that party appointed experts are nothing more than 'hired guns' who feel beholden to their appointing party

[30] Rolf Trittmann and Boris Kasolowsky, "Taking Evidence in Arbitration Proceedings Between Common Law and Civil Law Traditions: The Development of a European Hybrid Standard for Arbitration Proceedings" (2008) 31(1) *University of New South Wales Law Journal* 330.

[31] Most institutional rules and domestic legislative frameworks allow parties the freedom to determine the arbitral procedure and include express provisions for both party and tribunal appointed experts: see United Nations Commission on International Trade Law, 'Model Law on International Commercial Arbitration' (1985, with amendments adopted in 2006) arts 19, 26; International Chamber of Commerce, 'Arbitration Rules' (2017) arts 25(3), 25(4).

[32] Paul Friedland and Stavros Brekoulakis, '2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process' (Survey, 2012) 29.

and will advocate their case, whether they are consciously, or not. This is a problem which has bedevilled common law civil litigation. Indeed, Lord Woolf, one of the United Kingdom's then most senior jurists, undertook a review of civil procedure and litigation in the UK, producing a set of Interim and Final Reports advocating major reforms. While his Lordship recognised the value of a "full, 'red-blooded' adversarial approach" to civil litigation,[33] he nevertheless expressed concerns over the excessive cost, inefficiency and delay prevalent in the civil justice system. The area of party-appointed expert evidence was identified as one of the sources of the problem and an area especially in need of reform. Lord Woolf highlighted the tendency, perceived or otherwise, of expert opinions to be biased in favour of the party which appointed the expert.

Similar concerns have been observed in international arbitration, where use of party-appointed experts predominates. The respondents to the 2012 Queen Mary University International Arbitration survey who preferred tribunal appointed experts said that, in their experience, party appointed experts often acted as partisan advocates for the party who appointed them. According to them, this would often result in the appointment of a third expert by the tribunal, which was an additional expense that might have been avoided by the appointment of an expert by the tribunal in the first place.[34] Additionally, the problem is worsened by the appointment by counsel of arbitrators with civil law backgrounds who may be unfamiliar with the measures that domestic courts in common law systems have implemented in response to perceived bias, or even of the issue itself.

The problem is two-fold. The first relates to the remuneration of party appointed experts. They are employed and paid by the appointing

[33] Sir Harry K Woolf, *Access to Justice: Final Report to the Lord Chancellor on the Civil Justice System in England and Wales* (HMSO, 1996) [13.6].
[34] Paul Friedland and Stavros Brekoulakis, '2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process' (Survey, 2012) 29.

party. This is not to suggest that the payment of fees itself leads to explicit bias and the majority of cases of expert partiality are not scandalous occurrences of bribery and fraud. Rather, the partiality exists on a more subconscious level. It is only human nature for an expert to feel somewhat indebted, consciously or otherwise, to those who are paying their fees. And additionally a concern for repeat business. It is therefore said to follow that experts naturally feel inclined to use their testimony to 'assist' their appointing party's case.[35]

Secondly, and perhaps more insidiously, experts who are appointed by parties will develop a greater personal and professional connection with the party and counsel who appointed them. Again, it is not suggested that the time an expert spends with counsel or the party necessarily results in direct bias. However, the fact that the expert, in preparing for the hearing, will have had detailed exposure to only one side's case and materials, has the potential to subconsciously influence his or her analysis and conclusions. Further, it would be similarly natural for an expert to feel more familiar with the counsel and parties with whom they have spent more time in preparation and discussion. This may affect the way in which they approach their role (more favourably to 'their' side) and the way in which they view the other side (more unfavourably, for example during cross-examination).

This is a particularly relevant if the expert has been appointed in several different matters by the same law firm or party, an issue akin to repeat arbitrator appointments.[36] In circumstances where expertise is required in niche technical areas from which there is

[35] As observed by Sir George Jessel MR in *Abinger v Ashton* (1873) 17 LR Eq 358, 374.

[36] Indeed, the 2018 Queen Mary University International Arbitration Survey considered whether experts should be "held against the same standards of independence and impartiality as arbitrators": Paul Friedland and Stavros Brekoulakis, '2018 International Arbitration Survey: The Evolution of International Arbitration' (Survey, 2018) 32–33.

only a limited pool of experts to select, repeat appointments can be common. One of the concerns with this is that the financial benefit accrued from being repeatedly appointed by the same party may amount to that expert having a financial interest in the outcome of the arbitration, to ensure that re-appointment can continue. Another concern is that the expert will feel compelled to support the party's case in an effort to continue the appointments and maintain a steady income. Finally, an expert who has been retained by a party on numerous occasions may have greater knowledge of relevant information about the party in other cases which may impact his or her ability to neutrally evaluate the issues in the current case.

Of course, the expression by experts of conflicting opinions and opposing conclusions are sometimes simply a natural consequence of expert testimony on complex issues. The problem arises where differences in opinion and conclusion can instead be attributed to the reluctance of the experts to deviate from the 'party line'. This casts doubt on the fundamental utility of the evidence and the value of a party appointed expert's testimony has therefore been criticised as being limited.[37] How can a tribunal accept expert evidence which is suspected of being tainted with bias? Experts who believe that they are assisting their appointing party's case by maintaining its position, no matter how unreasonable it becomes, are ironically not only merely unhelpful, but actively undermine their party's case.

Concerns of partiality also engender suspicion within the parties and create a lack of confidence in the evidentiary procedure. At its most extreme, this could have implications regarding challenges to the final award. Particularly in the context of virtual hearings, where suspicion of the remote evidentiary procedure and witness examination is already a live issue, the added problem of expert bias could be the straw that breaks the proverbial camel's back. It is

[37] See, eg, Mark Kantor, 'A Code of Conduct for Party-Appointed Experts in International Arbitration' (2013) 26(3) *Arbitration International* 323; Alexander Nissen, 'Expert Evidence: Problems and Safeguards' (2007) 25(7) *Construction Management and Economics* 785, 789.

critical, therefore, that arbitrators and counsel are aware of the issue, and its consequences, in order to develop the effective mechanisms to resolve the issue.

B Use of Conflicting Facts, Data and Methodology

The second problem is the risk that corresponding experts opining on the same issue use different datasets, facts or methodologies in their reports.[38] The assumption that experts, especially technical experts, are analysing objective facts and therefore necessarily come to the same conclusion is misguided. In many cases where there are multiple expert witnesses opining on the same issue, the experts will reach conflicting conclusions. While in some instances there is a genuine difference in interpretation of the data, diverging conclusions can also be attributed to a number of other variables, including, but not limited to, the actual methodology, factual evidence and data sets used in the calculations.

The difficulties that arise from this are self-evident. The existence of uncontrolled variables undermines the reliability and, importantly, the comparability of the experts' reports. Too often there are instances where the experts have passed each other like ships in the night, each using different facts or data upon which to base their report. The subsequent analyses and conclusions presented in their respective reports are unable to be usefully compared; had the experts used the same dataset and facts, their conclusions may well be different. Further, had the data and facts been mutually used, the corresponding experts may have reached conclusions similar to one another, allowing them to narrow the issues. Failure to use common data sets and facts therefore hinders the tribunal's ability to effectively use the experts' skills and decreases the utility of the evidence.

[38] See Paul Friedland and Stavros Brekoulakis, '2018 International Arbitration Survey: The Evolution of International Arbitration' (Survey, 2018) 33.

The reliance on differing methodologies is a particularly relevant issue for delay and disruption experts, as well as other experts in fields where there are a number of accepted methods that can be used to analyse data. The use of different – and sometimes conflicting – methodologies can result in similar issues where the tribunal becomes unable to sufficiently compare the experts' reports and assess the more persuasive position. This is the case even if both methodologies are independently acceptable (after all, both apples and oranges are acceptable fruits to eat, but that does not make their comparison easy). Ultimately, the same issues of cost, delay and inefficiency arise out of the wasted utility of the evidence in these circumstances.

When expert evidence is properly managed, however, it has a greater capacity to increase the efficiency and reduce the cost of the arbitral process. When the expert evidence procedure is not sufficiently tailored and the testimony not appropriately directed, then the expert evidence can confuse rather than clarify.

C Asymmetric Use of Experts and Over-Reliance

The final issue is the asymmetric use of experts between parties and the increasing trend of over-reliance on expert evidence. There often arise situations where one party wishes to adduce expert evidence on a certain topic while the other party has not thought it necessary, or where one party has called a multitude of experts on the topic, where the other has only called one. Such asymmetric use of experts creates perceptions of unfairness between the parties, causing the other party to call expert evidence despite the fact that it may be wholly superfluous. This leads to greater, usually unnecessary, reliance on experts. As the frequency and complexity of construction disputes has ballooned, so too has the use of party appointed experts.[39] Not all of it is necessary or worthwhile. In some instances, parties will also attempt to run their case through their expert

[39] Sir Harry K Woolf, *Access to Justice: Final Report to the Lord Chancellor on the Civil Justice System in England and Wales* (HMSO, 1996).

witnesses. Rather than adducing expert evidence only on the truly relevant issues, they attempt to construct their entire case through the evidence. This can result in, as an example, delay reports that run to hundreds of pages, setting out and attempting to interpret provisions of the contract.

Much of this type of use of expert evidence is a misguided effort by parties to bolster their case, wrongly believing that the number of experts called adds to the strength of their submissions. On the contrary, excessive and unnecessary reliance on expert evidence is often nothing more than a drain on time, money and efficiency of the arbitral process.

IV WHAT ARE THE SOLUTIONS?

Having outlined some of the challenges of party-appointed experts, it is appropriate to explore some ways in which these challenges can be mitigated. First, it is important to identify the procedural options available in international arbitration. Then some of the existing solutions which have been developed in international arbitration will be examined and some additional options will be explored

The unique procedural capabilities of international arbitration make it well-equipped to mitigate the challenges mentioned. Tribunals are not limited by civil procedure rules or prescribed practice notes, as are domestic courts. This presents both advantages and disadvantages. On the one hand, procedural flexibility is a valuable tool which can maximise efficiency and curb cost and delay. The ability to flexibly direct arbitral procedure makes it possible for tribunals to proactively apply bespoke procedures suitable to the dispute. This, of course, depends on consistent proactive case management by the tribunal and its willingness to take initiative in deciding procedural matters. Even though arbitral procedure is determined by party agreement, the tribunal has the opportunity to guide the parties to the most efficient and effective processes.

The procedural autonomy afforded in international arbitration, however, is a benefit only if tribunals effectively take advantage of this characteristic. Where a tribunal has not, the challenges will remain, and may even be exacerbated. Furthermore, as tribunals lack the institutional support afforded to domestic courts, where a tribunal is not sufficiently proactive in monitoring and adjusting procedural steps, the process may be commandeered by a strong-willed party.

There are additional procedural limitations to arbitration which, if not appropriately managed, may hinder the effectiveness of expert evidence. For example, because hearings in arbitrations are typically shorter than those in court, the tribunal cannot simply rely on extensive cross-examination of the expert to test the accuracy and utility of the evidence. Further, international arbitrations, as the name would suggest, are typically conducted between geographically disparate parties and counsel. Members of the tribunal and the parties may be based in different countries, or, as we have come to appreciate, events such as a global pandemic may compel hearings to be conducted remotely. In these circumstances, the development of expeditious and effective procedure is of critical importance, recognising the already challenging logistical issues.

A Existing Solutions

It is proposed to discuss commonly utilized strategies. They are:

1. the frameworks in arbitral institutional rules;
2. the use of expert witness conferencing; and
3. the use of tribunal appointed experts.

1) IA guidelines

Most institutional rules contain only general provisions on the

process of taking evidence,[40] leaving the details to be determined by the parties and the tribunal. The International Bar Association (IBA) and the Chartered Institute of Arbitrators (CIArb), however, have developed more comprehensive standards of conduct in relation to the taking of evidence, including arrangements for party appointed experts.[41]

The IBA Rules on the Taking of Evidence in International Arbitration 1999, amended in 2010, are guidelines to assist parties and tribunals in facilitating efficient and economical evidentiary procedure. While the IBA Rules are not exhaustive,[42] partly due to the wide scope of their intended operation, they are a 'tried and tested' model on which tribunals can base the process for taking expert evidence.[43]

The 2010 amendments to the IBA Rules in relation to party appointed experts attempt to address the challenge of expert bias, echoing the findings of the Woolf Report. The IBA Rules require experts to provide a description of the instructions that they have received from the parties,[44] consistent with aims of transparency. They also require that experts' reports contain the expert's statement of independence

[40] Klaus Sachs and Nils Schmidt-Ahrendts, 'Protocol on Expert Teaming: A New Approach to Expert Evidence', in Albert Jan van den Berg (ed), *Arbitration Advocacy in Changing Times* (ICCA Congress Series, Kluwer Law International 2011) vol 15, 137.
[41] International Bar Association, 'Rules on the Taking of Evidence in International Arbitration' (2010); Chartered Institute of Arbitrators, 'Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration' (September 2007).
[42] For example, there is some question as to how they operate in regards to hearsay: see SI Strong and James J Dries, 'Witness Statements under the IBA Rules of Evidence: What to Do about Hearsay?' (2005) 21(3) *Arbitration International* 301.
[43] Jones (n 12) 7.
[44] International Bar Association, 'Rules on the Taking of Evidence in International Arbitration' (2010) art 5(2)(b).

from the parties, their legal advisors and the arbitral tribunal,[45] emphasising the overriding duty of the experts to the tribunal rather than to their retaining party.

The IBA Rules also provide for a consultation between the tribunal and parties at the earliest appropriate time "with a view to agreeing on an efficient, economical and fair process for the taking of evidence".[46] The consultation should include issues such as the "scope, timing and manner" of "the preparation of witness statements and expert reports", among other topics.[47] This emphasises the importance of efficiency and economy while, at the same time, balancing the parties' and tribunal's autonomy to decide procedural matters.

The 2007 CIArb Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration is similar to the IBA Rules. It emphasises the importance of independence of experts by setting out the ethical principles of independence, duty and opinion which should guide the expert's evidence, including specifically that "[a]n expert's opinion shall be impartial, objective, unbiased and uninfluenced by the pressures of the dispute resolution process or by any Party".[48] Article 8 of the CIArb Protocol provides that the expert must submit a declaration,[49] containing statements regarding the expert's foremost duty to assist the Tribunal[50] and the impartiality and objectivity of the evidence.[51]

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[45] International Bar Association, 'Rules on the Taking of Evidence in International Arbitration' (2010) art 5(2)(c).
[46] Ibid art 2(1).
[47] Ibid art 2(2)(b).
[48] Chartered Institute of Arbitrators, 'Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration' (September 2007) art 4(1).
[49] Ibid art 4.5(n),
[50] Ibid art 8.1(a).
[51] Ibid art 8.1(b).

The CIArb Protocol also provides guidance on procedural matters, including that experts must first enter into a discussion for the purpose of identifying and agreeing on the issues on which they are to opine, as well as agreeing on the tests or analyses to be applied on the facts.[52] This is the foundation for the majority of the expert evidence;[53] with the experts proceeding to prepare their reports on the terms that they have agreed. The CIArb Protocol allows the tribunal wide scope to direct the proceedings, for example, by directing the experts to confer further[54] or to hold preliminary meetings with the experts.[55]

Despite these positive provisions, it is unclear whether the regulation of evidence procedure itself, through codes of conduct and protocols actually reduces partiality and bias of many party appointed experts. It has been suggested that the prescribed statements of independence "conflate 'impartiality' and 'objectivity' with 'independence'".[56] An expert can be outwardly 'independent' from the appointing party, while nevertheless harbouring subconscious biases which may influence his or her report. Indeed, there remain concerns regarding the "appearance versus reality" of impartiality where codes of conduct and statements of independence are concerned.[57] Can an expert, even acting in good faith, can ever be entirely free from pressures from their employing party or from the case itself? Neither the IBA Rules nor the CIArb Protocol themselves explain how an expert can in fact *be* independent, and not merely *show* independence. Mark Kantor argues that "no protocol or code can regulate the ability of a party to hire an expert who is just a good actor or actress"[58] and who is able to appear objective while

[52] Ibid art 6.
[53] Ibid art 6.1(c).
[54] Ibid art 7.2.
[55] Ibid art 7.3.
[56] Mark Kantor, 'A Code of Conduct for Party-Appointed Experts in International Arbitration' (2013) 26(3) *Arbitration International* 323, 329.
[57] Ibid 333.
[58] Ibid 335.

delivering fundamentally partisan evidence.[59] Whether or not this is the case in practice, the theoretical concern is shared by many.

2) Expert Witness Conferencing

Expert witness conferencing, also referred to as 'hot-tubbing', refers to the practice of taking evidence from experts from similar disciplines together. This enables each expert to engage both with the tribunal and with each other in a forum-like discussion on the differences in their analyses and conclusions. This method of taking evidence is especially effective in complex arbitrations which have difficult factual and technical issues and where the parties rely on evidence from multiple expert witnesses. In those circumstances, the conventional approach of examining witnesses from each side in a linear fashion can lead to confusion in the tribunal's and counsel's understanding of the issues. This is particularly the case if there are a large number of witnesses and opposing expert witness statements are heard days apart. By taking expert evidence via witness conferencing, the experts are able to engage with opposing views directly and in succession, thus facilitating deeper examination of the most contentious issues. The experts can keep one another accountable for their views, and are less likely to present strongly partisan opinions in the presence of their peers who are able challenge those opinions directly. As a result, witness conferencing and hot-tubbing are seeing increasing application in international arbitration, frequently with positive results.

Guidance on expert witness conferencing can be found in procedures developed by common law courts. Australian courts were a pioneer of the technique[60] and the New South Wales Supreme Court Practice Note SC Gen 11 on 'Joint Conferences of Expert Witnesses' is a useful source of direction on the topic. It

[59] Ibid.

[60] Megan A Yarnall, 'Dueling Scientific Experts: Is Australia's Hot Tub Method a Viable Solution for the American Judiciary?' (2009) 88 *Oregon Law Review* 311, 312.

states that the objectives of witness conferences include:[61]

- "the just, quick and cost-effective disposal of the proceedings;
- the identification and narrowing of issues in the proceedings during preparation for such a conference and by discussion between the experts at the conference. The joint report may be tendered by consent as evidence of matters agreed and/or to identify and limit the issues on which contested expert evidence will be called;
- the consequential shortening of the trial and enhanced prospects of settlement;
- apprising the court of the issues for determination;
- binding experts to their position on issues, thereby enhancing certainty as to how the expert evidence will come out at the trial. The joint report may, if necessary, be used in cross-examination of a participating expert called at the trial who seeks to depart from what was agreed; and
- avoiding or reducing the need for experts to attend court to give evidence."

These principles are equally applicable to the use of expert conferencing in arbitrations.

In 2001, Justice James Wood of the NSW Supreme Court observed that his joint conference experiences had been "entirely positive" because it brought the disputed issues into sharper focus.[62] He noted that the practice of hot-tubbing frequently inspired discussion of facts that were unknown or underappreciated by one or more of the experts, while simultaneously allowing experts to dismiss

[61] Supreme Court of New South Wales, *Practice Note SC Gen 11: Joint Conferences of Expert Witnesses*, 17 August 2005, [5].
[62] Justice James Wood, 'Expert Witnesses: The New Era' (Paper, Eighth Greek Australian International Legal and Medial Conference June 2001).

peripheral issues that were identified as being of no consequence. Furthermore, he suggested that the discussion between the experts themselves would more likely be conducted on a more appropriate, scientific way than if it was led by counsel unfamiliar with the areas of expertise.

Justice Steven Rares of the Australian Federal Court, a court that has adopted specific guidelines for the concurrent taking of expert evidence,[63] has also acknowledged the many benefits of witness conferencing.[64] He recognised that "a great advantage" of concurrent evidence was that the experts were more likely to be on the same page, adopting the same assumptions and being able to diffuse any uncertainty immediately.[65] The process resolved the issues of experts using conflicting datasets or methodologies, as any discrepancies could be immediately raised and discussed. This expends less hearing time and cost than a conventional cross-examination process.[66]

In international arbitration, witness conferencing is a similarly popular technique for the taking of evidence.[67] The Chartered Institute of Arbitrators published in 2019 its new Guidelines for Witness Conferencing in International Arbitration, which seeks to serve as a "useful aide-memoire" for arbitrators and counsel.[68] which adopt a three part structure: the Checklist, the Standard Directions and the

[63] Federal Court of Australia, *Expert Evidence Practice Note* 25 October 2016.
[64] Justice Steven Rares, 'Using the "Hot Tub": How Concurrent Expert Evidence Aids Understanding Issues' (Summer 2010-2011) *Bar News* 64.
[65] Ibid 68.
[66] Ibid 70.
[67] The majority of respondents (62%) in the 2012 Queen Mary University International Arbitration Survey believed that expert witness conferencing should take place more often: Paul Friedland and Stavros Brekoulakis, '2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process' (Survey, 2012) 28.
[68] Chartered Institute of Arbitrators, 'Guidelines for Witness Conferencing in International Arbitration' (April 2019) 11.

Specific Directions. The Checklist contains a list of preliminary practical matters directing tribunals and counsel to consider whether witness conferencing is appropriate at all, taking into account the nature of the issues in dispute, the types of witnesses and other logistical matters.[69] The Standard Directions are intended to be adopted in an early procedural order and provide the basic procedural framework, including a chronology and a joint schedule with areas in agreement and disagreement.[70] The Specific Directions contain more specific procedural orders for three types of conferences: those led by the tribunal; those led by the witnesses; and those led by counsel.[71] The structure provided by these Guidelines remains flexible and non-exhaustive, allowing parties and tribunals to craft the procedure in a way which best suits the arbitration, while making the most of the benefits of witness conferencing.

Witness conferencing can be an efficient and effective tool when deployed correctly. This depends on the engagement of the tribunal in the process and the initiative taken to ensure the proceedings are conducted in a way that will facilitate, rather than hinder discussion.

3) Tribunal Appointed Experts

Tribunal appointed experts, as mentioned earlier, are a hallmark of domestic litigation in civil law jurisdictions.[72] The role of a tribunal appointed expert is to assist the tribunal in reaching the 'objective truth'.[73] In litigation, court appointed experts are remunerated by the court, although ultimately paid by the party who bears the costs of

[69] Ibid 16–17.
[70] Ibid 18–19.
[71] Ibid 20–23.
[72] Christian Johansen, 'The Civil Law Approach: Court-Appointed Experts' (2019) 13(4) *Construction Law International* 18, 18.
[73] Julian DM Lew, Loukas A Mistelis and Stefan Kröll, *Comparative International Commercial Arbitration* (Kluwer Law International 2003) ch 22, 553–83.

the litigation, and can be selected with little regard to submissions from the parties. It is said that this practice encourages experts to build favourable reputations with the court by rendering "a careful, succinct and well-substantiated report" so that they will be retained again in other matters.[74]

While use of party appointed experts remains prevalent in arbitration, there have been calls for greater use of tribunal appointed experts to avoid some of the issues that have been observed with their party appointed counterparts. For example, the Rules on the Efficient Conduct of Proceedings in International Arbitration ('Prague Rules') were developed by a working group of primarily civil law practitioners from Central Europe[75] as a response to growing concerns of the lack of guidelines and protocols which adopt civil law traditions.[76] The procedure suggested by the Prague Rules is accordingly heavily influenced by civil law practices. Article 6 of the Prague Rules stipulates that the tribunal may appoint an expert either at the request of a party or of its own initiative, where expert opinion is necessary.[77] When selecting an expert, the tribunal may have regard to candidates proposed by the parties, but is not bound by them.[78] Although party appointed experts are not precluded, they appear to be secondary to tribunal appointed experts.

The obvious advantage of using tribunal appointed experts is in reducing expert partisanship, whether perceived or in actuality. In theory, removing the financial incentive and other connections

[74] John H Langbein, 'The German Arbitral Advantage' (1985) 52(4) *University of Chicago Law Review* 823, 838.
[75] G. Stampa, "The Prague Rules" (2019) 35(2) *Arbitration International* 221–244.
[76] See A. Rombach and H. Shalbanava, "The Prague Rules: A New Era of Procedure in Arbitration or Much Ado about Nothing?" (2019) 17(2) *German Arbitration Journal* 53–54.
[77] Rules on the Efficient Conduct of Proceedings in International Arbitration (2018) art.6.1.
[78] Ibid art.6.2(a).

between an expert and the appointing party decreases the likelihood that the expert will be biased. The appointment of an expert by the tribunal reinforces the notion that the expert's ultimate duty is to the tribunal to be independent and impartial. Implementing procedures such as allowing the parties to each suggest a list of names and subsequently having the tribunal appoint one expert from each list may achieve a balance between the parties' autonomy to run their cases with concerns of impartiality.[79] Even in that circumstance, however, I would query the true impartiality of the experts, the parties having proposed their names in the first place. The use of a single tribunal appointed expert on each issue can also mitigate the other concerns regarding conflicting datasets among experts and the asymmetric use of experts, by virtue of the fact that there will be only one expert.

There are, however, significant disadvantages to tribunal appointed experts. First, and especially relevant to parties more familiar with the adversarial system, the tribunal appointment of experts removes the parties' autonomy to control their case. One of the reasons why international arbitration is so appealing to parties is because it allows them the freedom to decide the procedure of the dispute in a way that best showcases their submissions.[80] The way in which expert evidence is presented may be critical to a party's case, and to remove the party's ability to direct the presentation is a source of major concern.[81] Of course parties cannot be denied the opportunity

[79] As proposed by Klaus Sachs at the 2010 ICCA Congress: Klaus Sachs, 'Experts: Neutrals or Advocates' (2010, ICCA Congress, Conference Paper) 13–15.

[80] Respondents to the 2019 Queen Mary University International Arbitration Survey noted that the ability to tailor the arbitral process was a key advantage of arbitration: Paul Friedland and Stavros Brekoulakis, '2019 International Arbitration Survey: Driving Efficiency in International Construction Disputes' (Survey, 2019) 23.

[81] Klaus Sachs and Nils Schmidt-Ahrendts, 'Protocol on Expert Teaming: A New Approach to Expert Evidence' in Albert Jan van den Berg (ed), *Arbitration Advocacy in Changing Times* (ICCA Congress Series No 15, Kluwer Law International, 2011) 135, 141.

to call their own experts to contradict the tribunal expert leading to greater cost than would have been the case without the tribunal expert.

There is a further concern that the reliance on evidence from an expert appointed by the tribunal will result in the dispute being effectively decided by the expert, as a 'fourth arbitrator'. The use of a tribunal appointed expert bears with it the risk that the tribunal will rely too heavily on the expert's opinion, rather than making their own determination on the parties' submissions. The tribunal may end up delegating key decision-making responsibilities to the expert. Whether or not this in fact occurs, there arises nevertheless another perception issue, as parties are more inclined to *believe* that the tribunal is abdicating its function.

Finally, and relatedly, the use of only a single expert appointed by the tribunal could be equally unfair in determining the dispute, as the tribunal will only be given one perspective of the issue. Even if that perspective is impartial and unbiased, it may be wrong, or fail to take account of a methodology of relevant theory to which the single expert is unsympathetic . To rely only on one expert would force the tribunal to almost blindly accept his or her conclusions. Having multiple experts engage on the one issue allows for debate and discussion of differing approaches. Rather than confounding, this can often clarify the real position. The central premise of the adversarial system of law is that it is easier for a tribunal to make determinations when it is provided with multiple perspectives that challenge each other. Although this problem can be remedied by appointing more than one expert per issue, the other concerns relating to tribunal appointed experts would remain. Further, if a tribunal appointed expert is used, the parties are likely, in practice, to engage their own experts behind the scenes to comment on and critique the findings of the tribunal expert, in an attempt to overcome those difficulties. If this is the case, then the perceived efficiency and cost-effectiveness of using tribunal appointed experts is called into question.

B Proposed Solutions and Best Practice

There is room for improvement to what already has been done. Two additional approaches will now be discussed. The first is a process of proactive case management of party appointed experts from an early stage in the procedural history of an arbitration. The second is a means that allows experts to be accessed and used by the tribunal after the hearing stage for the purposes of calculations in the final award.

The value of expert evidence can be increased by proactive case management. The suggested practice directions aim to maximise efficiency by focussing on limiting the differences between experts *prior* to the evidentiary hearing. This reduces the amount and scope of expert evidence to be tendered at the hearing to only that which is really necessary. At each stage of the process, the issues or topics requiring expert evidence are streamlined, and the variables between the experts and their opinions are reduced. At the hearing stage, therefore, only the most relevant issues are ventilated and it can consequently be conducted more expeditiously and with less expense. Put simply, this process helps ensure that each party appointed expert's report engages squarely with the issues raised by the other. The process of limiting the differences also means that even if there exists bias on the part of the expert, then the scope of the bias is also limited.

The following process is proposed:

1. first, identify the disciplines in need of expert evidence and which experts are proposed to give evidence in each discipline;
2. second, establish within each discipline a common list of questions;
3. third, defer the production of all expert reports until all factual evidence (documentary and witness) is available and ensure that the experts opine on a common data set;

4. fourth, require the experts within each discipline to produce a joint expert report identifying areas of agreement and disagreement;
5. fifth, require the experts within each discipline to produce individual expert reports on areas on disagreement only; and
6. sixth, require the experts to produce 'reply' expert reports containing views in the alternative showing what their conclusions would be if the other expert's assumptions and methodologies were accepted by the tribunal.

Above all, the effectiveness of the proposed directions depends on consistent preparation and proactive case management from the tribunal. It is important that the tribunal remains honest about acknowledging the difficulties of adducing expert evidence by the arbitral tribunal and maintains open communication with the parties on those issues. As a matter of general guidance, the tribunal should raise this issue with the parties at the earliest practical stage of the proceedings, to ensure that all involved are aware of the ensuing process.

The application of these directions has proved invaluable in my own practice. In a recent substantial (US$1bn+) dispute concerning a four-unit nuclear power plant, in which there were more than six separate areas of expert evidence. One was disruption, a notoriously vexed area, where the parties' experts reached agreement on how to measure and quantify disruption. At the hearing they gave a joint presentation on their joint findings and no cross examination was needed. Although this may be a particularly impressive example of the effect of this approach, these techniques have produced positive outcomes in virtually all cases in which I have deployed them.

For greater guidance within a practical framework, an anonymised extract from a procedural order detailing the above process has

been appended to this paper in **Appendix A**.[82] It gives practical effect to the steps listed above. References in this paper will be made to the sections of the procedural order relevant to each step. Of course, the directions are not prescriptive and the extract provided should be simply noted as a guide that can be altered to suit the needs of the arbitration at hand.

Despite this procedure, some parties in memorial style cases are insistent on providing comprehensive memorials which include individual expert reports without waiting for the other steps in proposed directions. In those cases, I have also developed practical measures which attempt to nevertheless ensure that the experts are able to jointly engage on agreed and disagreed issues. This alternative framework has been appended in **Appendix B**.

The proposed steps will now be explored in greater depth.

First, it is necessary to determine at an early stage the disciplines for which expert evidence is required and, with tribunal approval, to identify and appoint the relevant experts.[83] This ensures, from the outset, that evidence will be tendered only on the relevant issues. It is not uncommon for parties to object to certain suggested experts, or to the need for experts at all on particular issues. Identifying the experts at this stage enables these objections to be dealt with early on. Parties may also find that, in the process of determining the relevant issues, the scope, or value of their dispute on those issues do not warrant the production of expert evidence. To further reduce the inefficiencies in the evidentiary procedure, only one expert on each side should opine on any given issue.

Once the experts have been appointed and the relevant disciplines selected, the tribunal must establish within each expert discipline a common list of questions for the appointed experts to answer.[84] It is

[82] See Appendix A.
[83] See Appendix A, cl 1.2–1.3.
[84] See Appendix A, cl 1.4.

vital that the tribunal maintains active oversight over this process, for instance, assisting where parties are unable to agree on the questions to be asked.

Next, the experts within a single discipline should provide their opinions on the basis of the same factual evidence and a common dataset. An expert should not have any more or any different information from the other experts in the same field. Any expert reports should be deferred until the production of the factual evidence (both documentary and lay witness) so that all experts have the fullest knowledge of the facts and circumstances of the matter. Furthermore, the experts must use a common data set to limit the number of uncontrolled variables that could cause differences in outcome in each expert's report. Only then are the true areas of expert contention revealed. If identified, the experts should inform the tribunal of any differentials in information so that they can be corrected or accounted for. Where the facts are mutually understood (even if disputed), any divergence in the expert reports can be attributed to the expert's genuine analysis, rather a difference in factual material available to them.

After detailed "without prejudice" conferral and exchanges of "without prejudice" drafts between themselves, the experts should provide joint reports identifying areas of agreement and disagreement, with reasons for their disagreements.[85] Individual expert reports should only be produced after this stage and only on the areas of disagreement.[86]

Requiring experts to produce joint reports before individual reports allows them to discuss their positions on a provisional basis, without having committed themselves to a particular position in their individual reports. This can be useful for experts to test their conclusions and analyses on a preliminary basis. In this respect, subject to party agreement, it is critical for the experts to meet

[85] See Appendix A, cl 1.8.
[86] See Appendix A, cl 1.9.

periodically, without the presence of the parties' representatives.[87] At these meetings, it is important that the tribunal emphasises that these discussions are to be held in camera between the experts only. If there is to be any possibility of common ground between the experts, it is much more likely to be achieved before the experts have formally declared positions from which they must retreat.

It is of course to be expected that the experts may reach diverging conclusions. Where these differences are attributable to particular factual assumptions, it is important that the experts also provide their opinions on the basis of the factual assumptions adopted by their counter-expert. Essentially, this asks the experts to consider whether, if they adopted all of the same factual assumptions as their counter-expert, they would reach the same outcome, or different outcome, and if different, what that difference would be.

This approach is useful because the value of the experts' evidence is often contingent on the tribunal's findings on certain issues. It prevents a situation where, if the tribunal decides a particular factual issue one way, they are left with the assistance of only the expert who relied on the same assumption. The proposed directions ensure that experts from both sides consider all the possible factual assumptions and methodologies that may be adopted by the tribunal. Consequently, their final expert reports can be utilised regardless of the position eventually taken by the tribunal.

The tribunal should also inform the parties and experts that reply expert reports should respond only to the expert reports served by the opposing side and should not refer to any new issues not already addressed. This avoids any further proliferation of unnecessary and irrelevant evidence.

It will go without saying that it is critical that the tribunal remain proactively engaged throughout this process. Constant review and oversight by the tribunal in case management conferences is vital to

[87] See Appendix A, cl 1.12.

ensuring the success of each of these steps. While this approach may appear to be labour-intensive and time-consuming, my experience has shown that the time and cost expended at this early stage will save a vast amount of time and cost in the future.

It is only at this stage, after these steps have been followed, that value of the evidence can be maximised from witness conferencing or hot-tubbing at the hearing. Tribunals wishing to implement hot-tubbing in the hearing should pay particular attention to the conferral of experts and joint reports to narrow the scope of the issues requiring expert evidence. This will ensure that the yield from the witness conferencing is as productive and valuable as possible.

C Post-Hearing Experts Access Protocol

I will now turn to consider the second of my proposed solutions, which relates to the involvement of experts *after* the main evidentiary hearing. Some may find this to be a radical proposal – what use remains of expert witnesses after they have provided their testimony? The answer, I suggest, is that experts – especially quantum experts – continue to have a valuable, and underused, role to assist the tribunal in their calculations regarding the final orders.

This concept has been realised in what is called an Experts Access Protocol. This is a tripartite agreement between the tribunal, the parties and the relevant set of experts (usually quantum experts, although the Protocol can be transposed for other expert disciplines). An example agreement in relation to the use of quantum experts can be found at **Appendix C**.

The Protocol contains a mutual agreement that the tribunal is able to communicate with the experts solely "for the purpose of their performing calculations on the basis of existing material contained in their expert reports forming part of the evidentiary record".[88] Those communications are to be kept entirely confidential from the

[88] Appendix C, cl 1.1.

parties,[89] until the tribunal's final calculations are provided together with the award to the parties.[90] The Protocol stipulates in express terms that the tribunal's communications with the experts must not involve "the provision of expert opinion, rather than the performance of calculations".[91]

The utility of such a framework becomes clear in complex proceedings. In cases, for instance, where issues of quantum are multi-factorial and highly variable based on numerous different assumptions, the assistance of quantum experts for calculation purposes is invaluable. An illustrative example of such a case, drawn from my experience, concerns change orders in construction disputes, where issues such as the base line of change, whether certain line items fall within or outside a contractor's scope of work and the contractually permissible methods of valuation are all in dispute. In some circumstances, it may be appropriate to require the quantum experts to prepare a valuation "model" ahead of time that allows the Tribunal to input certain data and receive a valuation output. In other cases, however, especially where they are more complex, the creation of such a model would be disproportionately time-consuming and expensive. Instead, the more efficient approach would be for the tribunal to decide the factual matters and subsequently provide that information confidentially to the quantum experts for them to agree on the ultimate valuation.

One might ask why the tribunal would take this route, rather than simply publishing its reasons and requesting that the parties attempt to agree on the consequential orders to be made. There are three reasons why this approach should be preferred.

First, in some cases, there are serious concerns regarding asset preservation. Limiting the period of time between when the parties can infer the outcome of the arbitration, for example by reading the

[89] Appendix C, cl 3.1.
[90] Appendix C, cl 3.3.4.
[91] Appendix C, cl 1.1.

tribunal's reasons, and when the final orders are made mitigates that risk. Second, in arbitrations involving publicly listed corporations, parties may be subject to continuous disclosure obligations relating to share market issues. If information is provided which can be translated into potential outcomes, a dispute may arise as to whether there has been a failure for one party or the other to meet those disclosure requirements. Third, and on a practical level, this approach ensures that the parties (both the client and its legal representatives) are simultaneously provided with a complete and comprehensive statement of their rights and liabilities, as finally determined by the tribunal.

As a concluding remark on the Expert Access Protocol, experience regarding such a procedure has been universally positive. In the author's experience no parties have refused to enter into such an agreement, and the experts have always been able to provide valuable assistance to the tribunal.

V CONCLUSION

Since Lord Mansfield's 1782 decision in *Folkes v Chadd*, the use of expert witnesses has evolved dramatically. Expert evidence no longer consists simply of an engineer making observations of a decaying harbor as it did in that case. As construction disputes have grown in size and complexity, so too has the use of expert evidence and the procedural challenges which follow. In circumstances where expert evidence has become so valuable to tribunals, it is critical that the issues which reduce its utility are adequately addressed. In this paper, I have sought to identify the most pressing challenges in expert evidence, including expert bias, the use of conflicting data and overuse of expert evidence.

This paper sets out a framework, which supplements existing mechanisms, to address these issues. The solutions suggested, at their core, seek to limit the amount and scope of expert evidence required and limit the differences between corresponding experts

prior to the hearing. The intended result of this process is that the evidence tendered is limited to only that which is truly necessary. This technique will increase the efficiency of the process and utility of the evidence, and reduce the effects of any underlying expert bias. It is hoped that this paper, and the approaches proposed herein, will assist parties and tribunals grappling with the challenges of expert evidence in construction arbitration to maximise the value of party appointed expert evidence.

APPENDIX A – EXAMPLE EXPERT WITNESS PROCEDURAL ORDER

Experts

1.1 Dealings with any Party-appointed experts shall be carried out with the IBA Rules on the Taking of Evidence in International Arbitration and CIArb Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration serving as guidelines, subject to any applicable law.

1.2 **On or before [insert date]**, each Party shall provide the Tribunal and the other Parties with details of the expert disciplines and the identity of the experts within those disciplines whom it proposes to call, together with an identification of the topics upon which the experts in each discipline will be asked to opine.

1.3 In response to the advice in paragraph 1.2 above each Party shall provide the Tribunal and the other Parties with details of any further expert disciplines and the identity of the experts within those disciplines whom it proposes to call, together with an identification of the topics upon which the experts in each such additional discipline will be asked to opine on or before **[insert date]**.

1.4 The Parties shall confer and try to come to an agreement as to the principal topics and issues that the experts are to address by reference to the Parties' respective cases on or before **[insert date]**, advising the Tribunal any agreement reached, by that date. In the case of any disagreement, the Parties shall revert to the Tribunal for the resolution of any disagreement by that date, setting out the areas of disagreement with brief reasons for disagreement.

1.5 Any expert report shall:

(a) be prepared in accordance with the CIArb Protocol and the IBA Rules on the Taking of Evidence in International Arbitration;

(b) set out the name and business address of the expert, his or her relationship with any of the Parties, if any, and a description of his or her qualifications, including his or her competence to give evidence;

(c) commence with a summary of matters intended to be established by the expert;

(d) be signed and dated by the expert;

(e) take the form of a declaration under oath or affirmation; and

(f) contain numbered paragraphs and page numbers.

1.6 The Parties shall arrange for meetings and communications between their respective Experts to be scheduled in **[insert month]**.

1.7 **On or before [insert date]**, the Parties' experts, on each respective discipline, shall produce a Joint Expert Report of matters agreed and disagreed.

1.8 **On or before [insert date]**, the Parties may file and simultaneously exchange between themselves individual expert report dealing with areas of disagreement identified in the Joint Expert Reports.

1.9 Following such exchange, each expert shall be entitled to produce a report in reply, which shall be limited to responding to the matters raised in the report of the other expert. Such replies shall be exchanged simultaneously on **[insert date]**.

1.10 The Tribunal may, upon notice to the Parties and with the Parties' consent, hold meetings with any expert at any reasonable time.

1.11 Meetings between the Parties' experts, and any draft reports prepared by those experts shall be without prejudice to the Parties' respective positions in this Arbitration and shall be privileged from production to the Tribunal.

1.12 Although the Parties shall arrange for the meetings referred to in this section to be scheduled, it is expected that experts of like disciplines are to be otherwise unaccompanied at such meetings.

1.13 Any Expert Reports are to contain the following declaration:

"I declare that:

I understand that my duty in giving evidence in this arbitration is to assist the arbitral tribunal decide the issues in respect of which expert evidence is adduced. I have complied with, and will continue to comply with, that duty.

I confirm that this is my own, impartial, objective, unbiased opinion which has not been influenced by the pressures of the dispute resolution process or by any party to the arbitration.

I confirm that all matters upon which I have expressed an opinion are within my area of expertise.

I confirm that I have referred to all matters which I regard as relevant to the opinions I have expressed and have drawn to the attention of the arbitral tribunal all matters, of which I am aware, which might adversely affect my opinion.

I confirm that, at the time of providing this written opinion, I consider it to be complete and accurate and constitute my true, professional opinion.

I confirm that if, subsequently, I consider this opinion requires any correction, modification or qualification I will notify the parties to this arbitration and the arbitral tribunal forthwith."

1.14 Any expert who has filed an expert report shall make him or herself available to be cross-examined at the Main Evidentiary Hearing. Notice should be given requiring his or her cross-examination by the other Party **[insert date within 2 weeks of the exchange of the last expert reports]**. The Party relying on such evidence shall secure that witness' presence and availability at the Main Evidentiary Hearing in advance. Any Expert who gives evidence at the Main Evidentiary Hearing will do so after having given an oath or affirmation.

1.15 In the event that a Party does not make an expert available, the requesting Party may apply for any additional ruling from the Tribunal, including the setting aside of the prior testimony of that expert, or the drawing of an adverse inference.

1.16 The admissibility, relevance weight and materiality of the evidence offered by an expert shall be determined by the Tribunal in accordance with the IBA Rules.

APPENDIX B – EXAMPLE EXPERT WITNESS PROCEDURAL ORDER (MEMORIAL STYLE)

1. Experts

1.1 Dealings with any Party-appointed experts shall be carried out with the IBA Rules on the Taking of Evidence in International Arbitration and CIArb Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration serving as guidelines, subject to any applicable law.

1.2 Each Party shall serve any expert reports on which it intends to rely alongside its written pleadings.

1.3 Any expert report shall:

(a) be prepared in accordance with the CIArb Protocol and the IBA Rules on the Taking of Evidence in International Arbitration;

(b) set out the name and business address of the expert, his or her relationship with any of the Parties, if any, and a description of his or her qualifications, including his or her competence to give evidence;

(c) commence with a summary of matters intended to be established by the expert;

(d) be signed and dated by the expert;

(e) take the form of a declaration under oath or affirmation; and

(f) contain numbered paragraphs and page numbers.

1.4 Any Expert Reports are to contain the following declaration:

"I declare that:

I understand that my duty in giving evidence in this arbitration is to assist the arbitral tribunal decide the issues in respect of which expert evidence is adduced. I have complied with, and will continue to comply with, that duty.

I confirm that this is my own, impartial, objective, unbiased opinion which has not been influenced by the pressures of the dispute resolution process or by any party to the arbitration.

I confirm that all matters upon which I have expressed an opinion are within my area of expertise.

I confirm that I have referred to all matters which I regard as relevant to the opinions I have expressed and have drawn to the attention of the arbitral tribunal all matters, of which I am aware, which might adversely affect my opinion.

I confirm that, at the time of providing this written opinion, I consider it to be complete and accurate and constitute my true, professional opinion.

I confirm that if, subsequently, I consider this opinion requires any correction, modification or qualification I will notify the parties to this arbitration and the arbitral tribunal forthwith."

1.5 Any expert who has filed an expert report shall make him or herself available to be cross-examined

at the Main Evidentiary Hearing. Notice should be given requiring his or her cross-examination by the other Party **[insert date within 2 weeks of the exchange of the last expert reports]**. The Party relying on such evidence shall secure that witness' presence and availability at the Main Evidentiary Hearing in advance. Any Expert who gives evidence at the Main Evidentiary Hearing will do so after having given an oath or affirmation.

1.6 In the event that a Party does not make an expert available, the requesting Party may apply for any additional ruling from the Tribunal, including the setting aside of the prior testimony of that expert, or the drawing of an adverse inference.

1.7 The admissibility, relevance weight and materiality of the evidence offered by an expert shall be determined by the Tribunal in accordance with the IBA Rules.

2. Expert Case Management

2.1 Within **[two (2) weeks of the submission of the Respondents' Statement of Defence]**, experts in like disciplines, who have each submitted reports with the Parties' first round memorials, shall meet on a without prejudice basis. The purpose of this meeting is to identify relevant issues and whether there is agreement or disagreement on those issues arising out of their reports in the first round of memorials. In the case of any issue which has been addressed exclusively by one expert in the relevant discipline, the experts in that discipline shall discuss the issue and ascertain whether it is an issue of agreement or disagreement.

2.2 If the Respondents introduce expert evidence in a new field with their Statement of Defence, or the Claimants introduce expert evidence in a new field with their Statement of Reply, the Parties' experts in the relevant like disciplines shall meet on a without prejudice basis **[within two (2) weeks of the submission of the Respondents' Statement of Rejoinder]**. The purpose of this meeting is to identify relevant issues and whether there is agreement or disagreement on those issues arising out of their reports filed to date. In the case of any issue which has been addressed exclusively by one expert in the relevant discipline, the experts in that discipline shall discuss the issue and ascertain whether it is an issue of agreement or disagreement.

2.3 Although the Parties shall arrange for the meetings referred to in paragraphs 2.1 and 2.2 to be scheduled, it is expected that experts of like disciplines are to be otherwise unaccompanied at such meetings.

2.4 Following any joint meeting(s) held in accordance with paragraph 2.1, experts in the relevant like disciplines which were the subject of such meeting(s) shall produce, and submit to the Tribunal **[within one (1) month of that meeting]**, a joint statement identifying issues of agreement and disagreement between them and (as the case may be) summarising the experts' agreed position or each expert's position on issues in dispute.

2.5 Following any joint meeting(s) held in accordance with paragraph 2.2, experts in the relevant like disciplines which were the subject of such meeting(s) shall produce, and submit to the

Tribunal **[within one (1) month of that meeting]**, a joint statement identifying issues of agreement and disagreement between them and (as the case may be) summarising the experts' agreed position or each expert's position on issues in dispute.

2.6 Meetings between the Parties' experts, and any draft reports prepared by those experts, shall be without prejudice to the Parties' respective positions in this Arbitration and shall be privileged from production to the Arbitral Tribunal.

2.7 After receipt of one or more joint statement(s), the Tribunal may provide the experts and the Parties with any additional guidance or comments on the joint statement(s) which it considers appropriate, including the identification below, or otherwise) and/or which they would like to discuss with the experts and the Parties at an Expert Case Management Conference.

2.8 If the Tribunal considers it necessary, **[within two (2) weeks of the Joint Report provided pursuant to paragraph 2.4]**, the Tribunal may schedule an Expert Case Management Conference (which the Tribunal may request the Parties' respective relevant experts to attend) at which the Parties and/or the Parties' experts who prepared a joint statement in accordance with paragraph 2.4 shall report to the Tribunal on issues of disagreement and any other matter which the Tribunal may direct.

2.9 If the Tribunal considers it necessary, the Pre-Hearing Conference shall incorporate an Expert Case Management Conference (which the Tribunal may request the Parties' respective relevant experts to attend) at which the Parties and/or the

Parties' experts who prepared a joint statement in accordance with paragraph 2.5 shall report to the Tribunal on issues of disagreement and any other matter which the Tribunal may direct.

2.10 The Tribunal shall make any further directions in relation to expert matters which it considers to be appropriate following an Expert Case Management Conference.

APPENDIX C – EXAMPLE EXPERT ACCESS PROTOCOL (QUANTUM EXPERTS)

1 Assistance to be Provided

1.1 The Parties agree that the Arbitral Tribunal will be given access to two of the Parties' experts, **[insert]** and **[insert]** (the **"Quantum Experts"**), on a confidential basis, for the purpose of performing calculations on the basis of existing material contained in their expert reports forming part of the evidentiary record, adopting assumptions to be provided to them by the Arbitral Tribunal (the **"Calculations"**). For the avoidance of doubt, the Arbitral Tribunal will not engage in confidential communications with the Quantum Experts about matters that require the provision of expert opinion, rather than the performance of calculations.

2 Confidential Information

2.1 In this Agreement, Confidential Information means: (i) all information supplied or made available to the Quantum Experts by the Arbitral Tribunal, (ii) all information supplied or made available to the Arbitral Tribunal by the Quantum Experts, (iii) all correspondence, discussions or queries raised between the Arbitral Tribunal and the Quantum Experts, (iv) all correspondence and discussions between the Quantum Experts, and (v) all material and working papers and spreadsheets prepared by, amended by or examined by the Quantum Experts in that context, all from the date of this agreement forward, for the purpose of the Quantum Experts assisting the Arbitral Tribunal with any and all Calculations.

3 Undertakings Regarding Confidential Information

3.1 Disclosure and Use: The Quantum Experts will keep all Confidential Information confidential and will not, except as permitted by this agreement, disclose or distribute Confidential Information, or permit it to be disclosed or distributed, or disclose its substance, to any person including the Parties to the arbitration or their legal representatives.

3.2 Security of Information: The Quantum Experts will at all times effect and maintain adequate security measures to preserve the confidential nature of the Confidential Information, at least equivalent to the measures they would prudently effect and maintain for their own valuable and sensitive confidential information.

3.3 Exceptions: The following disclosures only are permitted by this agreement:

3.3.1 Arbitral Tribunal's Agreement: Confidential Information may be disclosed to the extent that the Arbitral Tribunal has expressly directed in writing that the Quantum Experts need not keep it confidential or may disclose it.

3.3.2 Required by law: Confidential Information may be disclosed to the extent required by law.

3.3.3 Quantum Experts' Staff: Confidential Information may be disclosed to members of the staff working for each of the Experts only to the extent necessary to assist the Experts in their interactions with the Arbitral Tribunal and each other and on the basis that such members of staff provide an equivalent undertaking to the relevant Quantum Expert.

3.3.4 Final Calculations: The final calculations performed by the Quantum Experts which are relied upon by the Arbitral Tribunal for determining the quantum awarded shall either be attached to, or provided at the same time as, the Tribunal's Award. Thereafter any calculation errors that may be identified by any of the Parties shall be dealt with in accordance with **[the applicable rules governing Award correction]**.

4 Costs

4.1 The Party who engaged each of the Quantum Experts for the arbitration will remain responsible for each of their costs, including staff costs and other direct costs, and the Arbitral Tribunal will have no responsibility for any costs of the Quantum Experts. The Quantum Experts will submit all applicable invoices to the Arbitral Tribunal for approval and the Arbitral Tribunal will confirm within 15 days that the sums invoiced have been properly incurred.

4.2 The Arbitral Tribunal may allocate as costs of the arbitration the costs of the Quantum Experts arising from their assistance to the Arbitral Tribunal.

5 Disputes

5.1 All disputes arising out of or in connection with the present agreement shall be finally settled under the Rules of Arbitration of the London Court of International Arbitration by one or more arbitrators appointed in accordance with the said Rules. The seat of the arbitration shall be London and the language of the arbitration shall be English.

IS IT TIME TO IMPLEMENT NEC ADJUDICATION IN HONG KONG?

By Albert Yeu*

Introduction

NEC4 suites of contract and statutory construction adjudication are two emerging construction industry developments that provide good project management culture, effective dispute resolution and safeguard to supply chain cash flow in Hong Kong. In the transition from NEC3 to NEC4 suites of contract, the Hong Kong SAR government is instrumental to adopting the NEC adjudication scheme. This article analyzes a few NEC cases to highlight the most important procedural and substantive aspects of NEC adjudication and to advance knowledge in the area. It also highlights the practical considerations in selecting the future NEC adjudicators in Hong Kong and discusses the challenges in providing quality adjudication services to achieve fair, professional and independent resolutions in construction disputes.

Practical Criteria for Selecting NEC Adjudicators

Although adjudication is known as an interim binding dispute resolution procedure, the quality of the adjudication depends on the quality of the adjudicator. In other words, adjudication is as good as the adjudicator. This is why the selection of the adjudicator has a fundamental importance in the adjudication process. The first and essential step is the review of the adjudicator's professional background and biographical information, that will allow the verification of their professional qualifications and expertise they have in the construction field. Some paramount characteristics of the adjudicators are their independence and impartiality. Such conditions are required in all of the adjudication legislations and

regulations. Adjudicators appointing bodies also set code of conducts for their panel adjudicators to comply with. Adjudicators failing to comply with the requirements of independence and impartiality may be subject to disciplinary action or removal from the panel of adjudicators. It is also important that the adjudicator is a "fair" person always observes and acts on the natural justice. Another factor to take into account is the expertise of the adjudicator. Depending on the type of dispute, the subject matter and technical aspects of the dispute, an adjudicator who possesses both legal and technical background may be designated. Even though some might argue that adjudicators should always be lawyers, it is obvious that a technical expert appointed as the adjudicator may explain the technical issues better than a pure legal profession. Moreover, when a technical and legal adjudicator is chosen, he/she must have the knowledge of adjudication legislations and case law. In this sense, the adjudicators will need to have experience conducting adjudication proceedings effectively, expeditiously and fairly. Likely, knowledge of the NEC language and case law are also influential to the fair judgment of anyone who becomes an NEC adjudicator. The following paragraphs provide some case in points on construction disputes, dispute resolution and adjudication matters for those who prepare to take the quest to become a NEC adjudicator in Hong Kong.

Rok Building Limited v Celtic Composting Systems Limited [2009] EWHC 2664 (TCC) (30 October 2009)

(NEC3 Option W2, the effect of adjudicator's decision – directive or declaratory nature?)

Celtic was the main contractor employed by Devon County Council to carry out civil engineering works in Devon. Rok was a subcontractor of Celtic to provide and in-vessel composting facility. The subcontract incorporated the NEC3 ECC Option B with amendments.

There were delay in completion of the subcontract and the responsibility for the delay was an issue between the parties. Rob claimed a flooding event caused delay in completion and it was a compensation event under NEC3 ECC. Celtic disagreed it was a compensation event. In June 2009, Rok served a notice of adjudication and then a referral to adjudication in July 2009 in relation to a payment and extension of time claim arising from the flooding event.

The effect of paragraph 12 of the adjudicator's decision was the subject matter of the proceedings. Paragraph 12 stated:

> *"12.3 That Rok shall be paid in the additional sum of £204,465.14 plus VAT in relation to interim payment application 13 in respect of the compensation event arising from the flooding on the site…*
>
> *12.5 That Celtic shall pay interest on the sum awarded in the sum of £1470.47 and which continues to accrue at a daily rate of £14.00 from and including 8 September 2009, until judgment or sooner payment.*
>
> *12.6 That Rok shall pay 25% of my costs and expenses in the sum of £5371.88 plus VAT; that Celtic shall pay 75% of my costs and expenses in the sum of £16,115.63 plus VAT…"*

Celtic did not pay the adjudicated sum because the decision did not provide a due date for payment. Instead, Celtic reflected the adjudicated sum in the next interim payment certificate and showed a reduced amount to be paid to Rok. The key question in these proceedings was then whether the adjudicator's decision was directive in nature (meaning Celtic was to pay the adjudicated sum forthwith or within a reasonable time) or declaratory in nature (meaning Celtic is allowed to account for the adjudicated sum in future certification and payment procedure).

The court interpreted paragraph 12 of the adjudicator's decision as directive in nature for the following reasons:

1. The whole dispute arose because of Celtic's refusal to compensate for the flooding event in the previous payment certificate, which if Celtic had done so it would not need to account for the payment in future certification;
2. Rok's notice of adjudication was about the amounts that should have been but were not included in the previous certification;
3. Rok sought the redress "to be the additional sum" and not a declaratory relief;
4. Rok claimed to be paid the gross sum less retention, plus VAT, meaning that it was intended to be a payment under previous certification. The adjudicated sum was calculated in the same manner;
5. Paragraph 12 of the adjudicator's decision was framed in directive language despite the missing due date;
6. The decision on interest was a confirmation that the adjudicated sum plus interest was to be paid by the next payment due date, not after any future date of payment certification.

The court held in paragraphs 26 and 27 that in absence of a due date the directive was requiring for an immediate payment but simply legislating for continuing interest to be payable if payment was delayed :

> *"26…Whilst it is undoubtedly the case that many adjudicators do call for payment within a specific period of time, that is not essential in my view if it is clear from the wording of the decision and in context that payment is required to be made. If, as here, there is the clearest contractual requirement that an adjudicator's decision is binding and is to be "implemented", the absence of a specific period for payment in the decision does not undermine the requirement that the*

sum is to be paid. One would need wording which made it clear that later certificates were to be issued to reflect the decision and less directive wording to avoid an interpretation that what the Adjudicator meant was that Celtic should pay, without more. Properly construed, the Adjudicator was requiring in effect immediate payment but simply legislating for continuing interest to be payable if payment was delayed beyond 7 September 2009."

"27 The fact that there are and were certification procedures in place set up by the contract between the parties to reflect adjudicators' decisions or to correct or revise earlier certified values does not mean that an adjudicator cannot direct in the decision that payment is to be made…"

Hochtief (UK) Construction Limited and Volkerfitzpatrick Limited (JV) v Atkins Limited [2019] EWHC 2019 (TCC) (31 July 2019)

(NEC3 ECC Option A – the blame game in design and build contract)

This case concerns a dispute arising in the East Kent Access Road Phase 2 project. The project comprises the construction of two new dual carriageway roads to improve transport links in East Kent. The Employer was Kent County Council and the main contractor was Hochtief and Volkerfitzpatrick (JV). KCC hired Jacobs Engineering UK Ltd to carry out the design work excluding structural design. JV hired Atkins Limited to carry out the structural design work. The scope of the subcontract between JV and Atkins included the civil and structural design of the Cottington Road Bridge ("the Bridge") and the Cliffsend Underpass ("the Underpass").

The main contract was the NEC3 ECC Option A which provided that the detailed design of the structures was to be carried out by JV. The subcontract was subject to the terms and conditions of the main contract with some amendments. Following completion of the Bridge in 2011, surface settlement of the carriageway on the north

and south sides of the approach embankments was discovered, forming localized depressions. KCC carried out remedial work between 2012 and 2014 amounting over 800,000 pounds.

KCC brought an action against Atkins for breach of contract and/or negligence in carrying out the structural design work. An issue of the dispute, inter alia, was related to the adequacy of the design of a drainage system of sub-surface water from above or adjacent to the membranes that were argued to be the main cause of the differential settlement of the carriageways. JV averred that Atkins failed to design or specify any adequate system of sub-surface water. Atkins argued that the pattern of settlement was not collapse settlement but foundation settlement that was expected in the construction. Atkins submitted that they had already incorporated the 6N fill on top of the HDPE membrane and specified that the membrane should be laid to a fall of 1:40 away from the abutment. Atkins submitted that the design intent was that most sub-surface water would flow into the 6N fill and be dissipated into the sides of the embankment or the fill in the embankments. Therefore, the local depressions were caused by poor workmanship carried out by JV's failure to following the installation specification and poor soil compaction.

The following outlines the considerations of the court before the conclusion in finding Atkins' liability to the road depressions arising from their failure in designing adequate sub-surface drainage system:

Chorological Events

Item	Date	Event
1	October 2008	Jacobs issued geotechnical desk study data report
2	December 2009	Atkins issued ground investigation report and geotechnical design report
3	December 2009	Atkins issued AIP design for the

		Bridge specifying the allowable differential settlement along the centerline of the structure and between the Bridge structure and approach embankment
4	January 2010	Jacobs issued earthwork design report indicating the general approaching embankments to the Bridge could comprise layers of Class 1, 2 and 3 fill material, including chalk. The ends of the embankments would be about 9m high sloping down to the back of the abutments. Structural fill would then be placed against the Bridge, providing a relatively free draining granular layer (Class 6N/6P material) to the base of the abutments and wing walls. Class 6N – selected well graded granular material Class 6P – selected uniformly graded granular material (including chalk)
5	February/March 2010	Atkins proposed to use lightweight backfill in lieu of 6N/6P materials as structural fill to reduce pressure on the wing walls and piling costs.
6	March 2010	Atkins submitted revised AIP using EPC blocks as structural fill covered with two layers of HDPE protective waterproof membrane. The same amount of differential settlement was allowed in the revised AIP.
7	April/May 2010	Atkins realized potential clashes

		between the HPDE membrane and Jacobs' design for highway drainage.
8	May 2010	Jacobs commented on the AIP that they had calculated the settlement at existing ground level behind the abutment and requested Atkins' confirmation of what settlement was expected behind the abutment at carriageway level. Atkins represented that most of the settlement would occur during the construction stage and long term settlement would have minimum impact of the highway surface.
9	May 2010	Atkins issued specification for the Bridge
10	June 2010	AIP approved by KCC
11	June 2010 to December 2010	Construction work commenced, backfilled with Class 2 and Class 3 materials and use of vertical band drain to accelerate consolidation.
12	September 2010	Atkins wrote to JV to remind the proper installation method of the polystyrene.
13	October 2010	JV submitted technical query on the specification for the HDPE membrane wrapping around the EPC blocks.
14	January 2011	Atkins sought manufacturer's confirmation on the HDPE layer and welding requirements
15	February 2011	JV proposed to carry out a sloped finish instead of benched finish for the HDPE membrane. Atkins rejected. JV then proposed to omit the HDPE membrane from being

		wrapped around the EPC blocks and extend it over the top layer of the EPC blocks.
16	March 2011	Not addressing to JV's proposal, Atkins issued a document entitled "Departures from standards listed in the AIP" for the Bridge in the final AIP, approved by KCC in June 2011
17	April 2011	JV requested Atkins' response to the technical query and Atkins made is clear that the HDPE layer should fully warp around the EPC blocks.
18	June 2011 – July 2011	JV reiterated that they were unable to warp the HDPE layer around the EPC blocks fully and presented a drawing showing the HDPE membrane laid on top of the EPC blocks as before but the membrane was mechanically fixed to the abutments, not stepped down over the upper layers of EPC blocks and extended 15 meters into the embankment fill.
19	July 2011	Atkins issued final drawing showing the EPC blocks and HDPE details at the abutments and wing walls.
20	Sep 2011	Carriageway construction completed and the Bridge was opened to traffic.
21	Late 2011	Local road depressions were observed in the carriageways on the Bridge, approximately 20m to 30m away from the abutments, approximately 0.5m wide and 30mm to 40mm deep.
22	Mar 2012	JV prepared a factual report based on settlement monitoring data.

23	April – September 2012	JV carried out trial pits and trenches to investigate the conditions of fill around the HDPE membrane.
24	Late 2012 – May 2014	Remedial works, post monitoring and resurfacing works

The court was satisfied, with the experts' opinion, that there were localized depressions and not just predicted settlement of the underlying ground across the carriageways at the edge of the membrane as revealed by settlement data, trial pits and trenches. One of the issues considered by the court was the cause(s) of the differential settlement on the Bridge approach embankments in respect of three questions:

1) Whether Atkins' design for the approach embankments made adequate provision for sub-surface drainage;
2) Whether the JV's works were in accordance with Atkins' design and to a reasonable standard;
3) Whether the differential settlement was caused and/or contributed to by design and/or workmanship issues.

The court provided the following findings on the cause of settlement. The experts have identified an industry guidance note on the design of surface and sub-surface drainage of trunk roads and earthworks associated with highway structures. The recommended drainage provision includes sub-surface drainage to remove any water which may permeate through the pavement layers of roads away from the formation. It was the chalk fill, which was prone to significant collapse compression upon inundation with water, mainly attributed to the risk of collapse. The risk could be reduced by proper compaction, control of water content and protection from water inundation. Atkins submitted that they were free to depart from the guidance as far as the alternative design did not cause any stability problem.

The court compared the original design of structural fill (6N/6P materials) and the revised design (EPC blocks with HDPE membrane) and considered there was not enough evidence to show that the revised design intent in relation to the sub-surface drainage system was communicated to the JV. In any event, regardless of Atkins' intention, the intent of the revised design was to drain down a significant proportion of water falling onto the membrane to the edge of the membrane lying across the carriageway, but there was no such mechanism by which the water arriving at the edge of the membrane under the carriageway could drain to the embankments. Despite that JV did not construct in accordance with the revised design, the court found that the dominate cause of depressions resulting from the collapse compression of chalk fill was the excessive water penetration due to Atkins' failure to design adequate sub-surface drainage for water accumulating on the membranes and percolating into the chalk fill. The reasons were:

1. The undue settlement and differential settlement occurred predominately at the ends of the HPDE membranes;
2. The trial pit and trench investigations found saturated and very soft chalk in places below the ends of the membranes;
3. The settlement monitoring data showed a rapid rates of settlement of the carriageway and central reservations between December 2011 and January 2012 at the ends of the membranes, coinciding with a period of significant rainfall;
4. A reduction in the rates of settlement of the carriageways and central reservation occurred in early 2012, coinciding with a reduction in the rate of rainfall observed;
5. The progression of settlement depressions occurred in both directions away from the ends of membranes;
6. Post-monitoring data after remedial drainage trench installed showed limited overall settlement of the embankment and no evidence to indicate further settlement took place.

Mears Limited v Shoreline Housing Partnership Limited [2015] EWHC 1396 (TCC) (20 May 2015)

(Cl.10.1 Mutual Trust and Cooperation or Estoppel by Convention?)

Shoreline employed Mears under NEC3 TSC Option C – Target Contact with Price List on a maintenance and repair term contract. The contract was not signed until six months after the works started. In the initial contract, interim payments were supposed to be made by invoicing with reference to defined cost plus fee based on the Price List, subject to a pain/gain share mechanism. The Price List was revealed to be academic in nature containing some missing items that Mears did not price for. A workable payment reference so-called the "composite codes" was then agreed between the parties instead of the Price List. The final draft contract appeared later only then Mears realized the costs were significantly higher than planned. Shoreline recalculated all the cost plus prices using the contractual mechanism, applied the pain/gain share mechanism and withheld about £300,000.

Mears brought this action against Shoreline. The doctrine of estoppel was considered by the court and found in favor of Mears. "Estoppel by convention" means that a party is prevented and estopped from arguing a point due to the way the parties have acted. It can arise when the contracting parties act on an assumed state of the law or the facts and there need not be a binding contract on those assumed matters. For those acts of the parties to become a convention, one shall establish the following requirements:

1. Clear communication of the assumption in question between the parties;

   "[64] … I am satisfied to a high degree that there was agreement and therefore a convention between the parties that Mears would be paid against the Composite Codes set out in the CRED… The mutual understanding was that Mears would be paid for the work done and entered on those systems and logged under those Composite Codes."

2. Reliance on the assumption in question by the party claiming benefit from it;

   "[64] … This was the parties' shared assumption and for six months both parties acted on it, both by entering thousands of jobs against those Composite Codes and secondly by invoicing and paying accordingly. Both parties therefore relied upon this shared assumption."

3. It must be unconscionable or unjust for the part to act contrary to the convention;

   "[65] In my judgment, it would be unjust and unconscionable for Shoreline to deny the convention and common assumption upon which they agreed to operate, at least until the latter part of January 2010 when Shoreline in effect gave notice that it no longer wished to be bound by the convention. This is because the parties organized and ordered their affairs and their business on this project from July 2009 to January 2010 on that basis. It would be almost dishonest for Shoreline to seek to renege from what they agreed to and both parties acted upon…"

   "[66] There is an added element of unjustness and unconscionability which arises out of the fact that part of the shared common assumption was that there was no need to amend the Contract to reflect the agreement and convection between the parties as to the applicability of the Composite Rates."

4. The estoppel argument is used as a shield, not a sword;

   "[67] This is not a case in which the "sword" versus the "shield" argument assists Shoreline. The reality is that the estoppel is properly on the facts being relied upon to show

that the deduction of some £300,000 by Shoreline was not conscionable or just by reason of the convention between the parties. If that is right, Shoreline is estopped from asserting that it was entitled to make the deduction and, once it is so estopped, the amount deducted should be repaid because there is no remaining good ground to justify the retention."

5. The convention comes to an end once it is found to be erroneous.

The court concluded an effective estoppel by convention based on the above discussions. An interesting point also pleaded by Mears was the trust and partnering language used in the NEC3 contract, essentially Clause 10.1 stating *"The Employer, the Contractor and the Service Manager shall act as stated in this contract and in a spirit of mutual trust and cooperation"*. Mears submitted that the contract should "be interpreted and applied on the basis of the shared of value and norm of behavior of partnership" and by way of implied term that "any party would not take advantage against the other of the departure by the other from the strict requirements of the contract where the first mentioned party was or ought to have been aware of the departure without warning the other party and affording an opportunity and a reasonable time to the other party to change". Mears argued that Shoreline knew about they would enforce the strict payment terms of the contract but still encouraged Mears to sign the contract. The court did not find in favor of these arguments and as any such implied term of that the obligation to act in a spirit of mutual trust and cooperation or even in a partnering way would prevent either party from relying on any express terms of the contract freely entered into by each party. In the contract, there was no express term to exclude or limit reliance on any established and effective estoppel.

Imperial Chemical Industries Limited v Merit Merrell Technology Limited [2018] EWHC 1577 (TCC) (21 June 2018)

(The effect of NEC3 ECC Cl. 65.2 on the court's power)

In this case, MMT carried out works for ICI in a new paint manufacturing facility in England from 2012 to 2015. The contract scope referred to the manufacturing, construction, installation, commissioning and handover of steelworks among other works. There was no pipework included in the contract and ICI issued a PMI No. 3 in February 2013 to MMT to carry out pipework in the facility under the NEC3 terms. A dispute had arisen in relation to the total value of the works performed by MMT. The court considered two legal matters regarding the NEC3 contract terms, 1) the court's ability to revisit assessments under the NEC3 contract terms; and 2) the court's ability to revisit agreement reached between ICI and MMT.

The first matter relates to the legal status of the assessment made by the Project Manager during the course of the works. MMT argued that because the Project Manager reached assessments of the value of work for the purposes of interim applications during the works, ICI has no contractual ability to challenge them and the court has no ability under the contract terms to revisit them. MMT's argument rests on the wording of the NEC3 contract which deals with compensation events and that an assessment of a compensation event could not be opened up in legal proceedings, in particular Cl. 65.2 states:

> *"The assessment of a compensation event is not revised if a forecast upon which it is based is shown by later recorded information to have been wrong."*

The court did not accept this argument for two reasons. Firstly, this argument ignored the scope of the adjudication provision Option W2:

Option W2 Cl. W2.3(4) states:

> *"The Adjudicator may*

- *Review and revise any action or inaction of the Project Manager or Supervisor related to the dispute and alter a quotation which has been treated as having been accepted*
- *Take the initiative in ascertaining the facts and the law related to dispute*
- *Instruct a Party to provide further information related to the dispute within a stated time and*
- *Instruct a Party to take any other action which he considers necessary to reach his decision and to do so within a stated time."*

The court held that the scope and extent of an adjudicator's powers were not determinative of the court's jurisdiction, but the court can certainly not have less power in this respect than an adjudicator. The same adjudicator's power to *"to review and revise any action of the Project Manager"* must also rest on the court.

The court found in favor of this conclusion by reference to the case of:

1. Grove Developments Ltd v S&T (UK) Ltd [2018] EWHC 123 (TCC) considering the issue of whether an adjudicator's decision on an interim application could be opened up at the next interim valuation stage;
2. Henry Boot Construction Limited v Alstom Combined Cycles Limited [2005] 1 WLR 3850 considering the issue on whether the fact that a certificate is a condition precedent is a bar to the right to payment when it is absent;
3. Beaufort Developments (NI) Limited v Gibert-Nash (NI) Limited [1999] 1 AC 266 considering whether the fact that the power to open up, review and revise certificates was expressly conferred on an arbitrator will remove the court's power to determine the rights and obligations of the parties.

The court concluded in paragraph 67:

> *"There is nothing in the NEC3 form (here, as amended) that states that a Project Manager's assessment is conclusive as to the rights of the parties. If there is "no limitation on the nature, scope and extent of the dispute which either side can refer to an adjudicator" then an employer could, if it wished, refer a dispute about an assessment to an adjudicator. If the adjudicator has jurisdiction to determine that dispute, then the court must be entitled to determine it too. If the court were not so entitled, then the decision of the adjudicator would, contrary to all authority, be a final and binding determination of that dispute. In my judgment, estoppel does not arise either. There is no such legal obstacle that prevents ICI from challenge, in law, the assessment reached by the Project Manager."*

This brings to the second matter of MMT's argument relating to revocation of agreement between the parties. MMT submitted that ICI and/or its agent agreed to the different items during the project on rates, measurements and sums. ICI sought to challenge these items in the proceedings as the relationship turned bad. The court found it was both a legal issue and an evidential issue and the legal issue required analysis from the first principles and not the NEC3 contract terms. The court considered the evidence and contemporaneous documents and concluded in paragraph 73:

> *"The evidence… shows that final agreements were intended by the parties in respect of these items. The intention of the parties was that they would conclusively determine the rights of both ICI and MMT… Objectively analyzed therefore, with the common background knowledge known to both parties, I find that each of these agreements satisfies the requirements for the formation of binding legal relations between ICI and MMT in respect of each particular item of work."*

SGL Carbon Fibres Ltd v RBG Ltd [2012] CSOH 19 (27 January 2012)

(The significance of NEC3 ECC Cl. 50.5 and C/D/E/F52.2 on the later change in payment assessment)

The Employer SGL hired RBG to construct an additional production line, civil and structural elements and installation of equipment, piping and ducts at SGL's permises in Easter Ross. The NEC3 ECC Option C and Option W2 were adopted with amendments.

The captioned proceedings concerned a decision on the onus or burden of proof relating to SGL's claim to recover sums allegedly overpaid to RBG during the course of construction. Under the Option C contract, the Project Manager was obliged to certify payment to RBG in terms of the Price for Work Done to Date (PWDD), defined as *"the total Defined Cost which the Project Manager forecasts will have been paid by the Contractor before the next assessment date plus the Fee"*. The Defined Cost is defined in Cl. 11.2(23) as:

> *"Defined Cost is*
>
> - *the amount of payments due to Subcontractors for work which is subcontracted without taking account of amounts deducted for*
>   - *retention,*
>   - *payment to the Employer as a result of the Subcontractor failing to meet a Key Date,*
>   - *the correction of Defects after Completion,*
>   - *payments to Others and*
>   - *the supply of equipment, supplies and services included in the charge for overhead cost within the Working Areas in this contract*

and

- *the cost of components in the Schedule of Cost Components for other work*

less Disallowed Cost."

Disallowed Cost is defined in Cl. 11.2(25) as:

"Disallowed Cost is cost which the Project Manager decides

- *is not justified by the Contractor's accounts and records.*
- *should not have been paid to a Subcontractor or supplier in accordance with this contract,*
- *was incurred only because the Contractor did not*
    - *follow an acceptance or procurement procedure stated in the Works Information or*
    - *give an early warning which this contract required him to give*

and the cost of

- *correcting Defects after Completion,*
- *correcting Defects caused by the Contractor not complying with a constraint on how he is to Provide the Works stated in the Works Information,*
- *plant and Materials not used to Provide the Works (after allowing for reasonable wastage) unless resulting from a change to the Works Information,*

- *resources not used to Provide the Works (after allowing for reasonable availability and utilization) or not taken away from the Working Areas when the Project Manager requested and*
- *preparation for and conduct of an adjudication or proceedings of the tribunal."*

The case went to arbitration where SGL was claimant and RBG was respondent. SGL claimed that they had paid more than what was due to RBG under the contract and sought to recover the overpayment. RBG claimed that further sums were due and there was no overpayment by SGL. An issue before the arbitrator was whether the onus of proof lies on SGL to show that a given sum of money claimed by RBG at some point during the course of construction was too much, or on RBG to show that the sum was well-merited. The arbitrator decided based on the general rule 'he who avers must prove' that the onus of proof lay on SGL to prove its case that any sum paid amounted to overpayment, and on RBG to prove its entitlement to the further sums in the counterclaim.

The court somehow considered the arbitrator's reasoning was supported by NEC3 ECC Cl. 50.5 stating that *"The Project Manager corrects any wrongly assessed amount due in a later payment certificate"*, but the burden of proof at that stage lies on the party arguing for such correction. Therefore, if SGL sought to contend an overpayment in any stage of the contract it owed the burden of persuading the Project Manager to correct the payment in a later payment certificate. Likewise, if RBG considered that they were underpaid, they then persuade the Project Manager to correct the payment.

SGL challenged the arbitrator's decision on the burden of proof with the concept of Disallowed Cost including cost which the Project Manager decides "is not justified by the Contractor's accounts and records". SGL averred that because of the Contractor's obligation to submit accounts and records under NEC3 ECC Cl. 52.2, any

assessment of the PWDD depends on the Contractor to show the claimed sums were justified and therefore a later correction in payment with Disallowed Cost shall be proven by the Contractor. NEC3 ECC Cl. 52.2 states:

> *"The Contractor keeps these records*
> - *accounts of payments of Defined Cost,*
> - *proof that the payments have been made,*
> - *communications about and assessments of compensation events for Subcontractors and*
> - *other records as stated in the Works Information."*

SGL further submitted that the role of the Project Manager was to assess the PWDD at each assessment date and on every subsequent assessment date he could correct in that payment certificate any amount which had been assessed previously if he was of the opinion that the earlier assessment was wrong. It was for the Contactor to show that the PWDD was justified by those accounts and records kept in accordance with NEC3 ECC Cl. 52.2.

Contrary to SGL's submissions, RBG emphasized the distinction between the question of where the onus lay under the contract and the question of who had the burden of proof in arbitration. NEC3 ECC Cl. 50.5 is clearly meaning only that unless the previous assessment was found to be wrong, it shall not be changed. It has nothing to do with the onus of proof. SGL also argued that the Project Manager's obligation to carry out a payment assessment was mandatory and it did not depend on the Contractor making an application for payment (note this is amended in NEC4 ECC). It was in the interest of the Contractor to keep good records, but failing which there was no indication in the payment provisions that any onus was placed on the Contractor. The onus indeed rested on the Project Manager to decide if the accounts and records did or did not justify the claimed sums. This is the contractual onus, which differentiated from the burden in arbitration that rested on the party

seeking to establish that the Project Manager's assessment was wrong.

The court found SGL's argument with reference the Disallowed Cost was powerful, however the court concluded in paragraph 27:

> *"[27]…This is a powerful argument, but it seems to me that it ignores the process of assessment and certification which has taken place at each assessment date throughout the life of the contract. That process has led to payment certificates which are binding unless corrected. More specifically, the Disallowed Cost is that which the Project Manager decides is not justified by the Contractor's accounts and records… In the arbitration, the focus of any enquiry must focus not on the question of what happens if no records are produced to the Project Manager's in support of the claim, but on the question who has the burden on showing that the Project Manager's decision, assessment and payment certificate should be corrected."*

The appeal against the arbitrator's decision was dismissed.

Summary

Rok Building Limited v Celtic Composting Systems Limited [2009] EWHC 2664 (TCC) (30 October 2009)

NEC3 Clause W2.4(11) provides that the adjudicator's decision is binding on the parties unless and until revised by the tribunal. The appointed adjudicator under the NEC3 contract has the power to direct payment in any wordings. Whether payment of the adjudicated sum is directive or declaratory in nature shall refer to the wordings used in the decision, the parties' redress sought and the wordings in the notice of adjudication.

Hochtief (UK) Construction Limited and Volkerfitzpatrick Limited (JV) v Atkins Limited [2019] EWHC 2109 (TCC) (31 July 2019)

NEC3 ECC Option A is essentially a design and build contract where the contractor is paid under according to the descriptions in the activity schedule. The following remarks highlight how the inherent designer's liability also applies in NEC3 contract.

1. Acceptance/Approval of AIP does not mean there is an assumed responsibility for any part of the design. The designer remained responsible for preparing the AIP and the final design drawings;
2. It is crucial to express clearly the design intent on drawings and to the contractor;
3. It is important to follow industry design guidance as far as practicable, otherwise communicate an alternative design intent giving rise a reasonable and equivalent function of the work;
4. A reasonable designer should know the commonly and widely recognized industry risk and exercise professional competency in dealing with the risk including desk study and reference to international standards.

Mears Limited v Shoreline Housing Partnership Limited [2015] EWHC 1396 (TCC) (20 May 2015)

The spirit of mutual trust and cooperation under NEC3 Clause 10.1 does not create an imply term that can override an express term of a contract.

Imperial Chemical Industries Limited v Merit Merrell Technology Limited [2018] EWHC 1577 (TCC) (21 June 2018)

The court has an inherent power to revisit assessments made by the Project Manager under NEC3 contract terms when Option W dispute resolution clause is incorporated in the contract. However, the court's ability to revisit agreements reached between the parties is an evidential one.

SGL Carbon Fibres Ltd v RBG Ltd [2012] CSOH 19 (27 January 2012)

NEC3 ECC Cl. 50.5 provides a contractual burden on the Project Manager to correct a wrongly assessed amount due in a later payment certificate. Even though the Contractor is obliged under NEC3 ECC Cl. 52.2 to keep accounts and records, the Project Manager still has the burden to assess the Disallowed Cost due to the Contractor failing to submit accounts and records. If the Project Manager fails to do so, the Employer may later face difficulties in arbitration to recover overpayment even though the Contractor bears the onus to proof their entitlement to PWDD with accounts and records.

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EMERGENCE OF DISPUTE AVOIDANCE PROCEDURE VIA CONTRACTUAL MECHANISM FOR THE CONSTRUCTION INDUSTRY

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Abstract
This paper offers an insight into the emergence of dispute avoidance procedure as an alternative to the existing dispute resolution procedure in the construction industry. Dispute avoidance procedure predominantly consists of dispute review board (DRB), dispute adjudication board or dispute avoidance/adjudication board (DAB/DAAB) and combined dispute board (CDB). Unlike dispute resolution procedure, i.e., mediation, arbitration, litigation, etc., which may be referred only if there is a dispute, dispute avoidance procedure is established soon after the contract has been awarded, even before any physical work on site begins, to effectively resolve and avoid conflict from escalating into a full-blown dispute. This paper presents the development of dispute avoidance procedure via contractual mechanism, with a specific reference to dispute adjudication board (DAB) and dispute avoidance/adjudication board (DAAB) under the FIDIC forms of contract.

Introduction

Given the contribution of the construction industry to the national economy, it is important for the relevant parties to make visible efforts to ensure that the projects will be successfully implemented. Yet, it must be noted that conflict tends to happen due to the complex nature of the construction industry and the involvement of so many parties along the contractual chain, adversarial relationship, uneven risk allocation and uneven bargaining power. In relation to this, many publications in this area reported that construction dispute

is inevitable. Therefore, it is necessary to have a proper mechanism to avoid dispute in the first place, because once conflict turns into dispute it could affect project success. Although previous research and publications in this area are more focus on dispute resolution rather than avoidance, over the years, dispute avoidance procedure has emerged as an alternative to the existing dispute resolution procedure in the construction industry, owing to its potential in mitigating the negative effect of disputes on the project success. Hence, this paper aims to present the development of dispute avoidance procedure via contractual mechanism, with a specific reference to dispute adjudication board (DAB) and dispute avoidance/adjudication board (DAAB) under the FIDIC forms of contract.

Dispute Resolution vs Dispute Avoidance

In the construction industry, conflict usually occurs if the contract administrator disagrees either wholly or partly, with the claim presented by the contractor. It is worth to also highlight that the 2017 FIDIC Suite of Contracts[92] have put an effort to provide distinction between claims and disputes, i.e., a claim is an assertion of a contractual entitlement for any payment and/or additional time, and a dispute arises when a claim is rejected which may require intervention mechanism as provided for by the contract[93]. Therefore, conflict management ventures to prevent disputes from cropping up, which may unwittingly require reference to be made to some sort of dispute resolution process. In this sense, conflict management could also be termed interchangeably as dispute avoidance. Moreover, it is suggested that conflict management is mainly a non-binding process while dispute resolution includes binding and non-binding processes[94]. However, conflict management may also arguably include a binding process as an enhancement to the procedure;

[92] Clause 20 (Employer's and Contractor's Claims) and Clause 21 (Disputes and Arbitration) of 2017 FIDIC Red Book.

[93] SHLEGAL. (2018). Dispute resolution under FIDIC 2017. Retrieved from, https://www.shlegal.com/insights/dispute-resolution-under-fidic-2017

[94] Fenn, P., Lowe, D., & Speck, C. (1997). Conflict and dispute in construction. Construction Management and Economics, 15(6), 513-518.

such examples are by way of agreement between the parties and through the third party's decision as may be provided in the contract.

There are several ways of categorising dispute resolution mechanisms. For instance, it has been suggested that the mechanisms can be categorised under the theme of 'structured facilitation' or willingness to compromise, 'rough and ready' or binding but not necessarily final, and 'hybrid system' or advisory[95]. Pinnell[96] suggests a dispute management programme which is based on the common philosophy and techniques. According to Pinnel[97], dispute resolution management can be divided into pro-active and re-active techniques. Further, Ng et al.[98] develop a dispute resolution ladder which represents different categories of dispute avoidance and resolution techniques based on the increase of cost, time and hostility for both parties. Nevertheless, adopted from Brewer[99], Fenn et al.[100] and Gerber[101], it has been suggested that the proposed categorisation could be provided under two separate headings, namely, dispute avoidance or conflict management, and dispute resolution procedure[102]. This categorisation is basically based on the interception of dispute, as well as time of establishment and operation of the procedures as shown in Figure 1.0 and Table 1.0.

[95] Chan, E. H. W., To, C., Hills, M. J., & Lam, P. T. I. (2005). Pattern in the use of dispute resolution methods in the international construction industry. *Australasian Dispute Resolution Journal, 16*(1), 65-78.
[96] Pinnell, S. (1999). Partnering and the management of construction disputes. *Dispute Resolution Journal, 54*(1), 16-22.
[97] Ibid.
[98] Ng, H. S., Peña-Mora, F., & Tamaki, T. (2007). Dynamic conflict management in large-scale design and construction projects. *Journal of Management in Engineering, 23*(2), 52-66.
[99] Brewer, G. (2007). Dispute Avoidance. *Contract Journal, 437*(6611), 22.
[100] Fenn, P., Lowe, D., & Speck, C. (1997). Conflict and dispute in construction. Construction Management and Economics, 15(6), 513-518.
[101] Gerber, P. (2001). Dispute avoidance procedures ("DAPs") - The changing face of construction dispute management. *International Construction Law Review, 18*(1), 122-129.
[102] Mohd-Danuri, M. S. (2021). *Dispute Avoidance and Resolution Procedure for the Construction Industry*. Kuala Lumpur: UM Press.

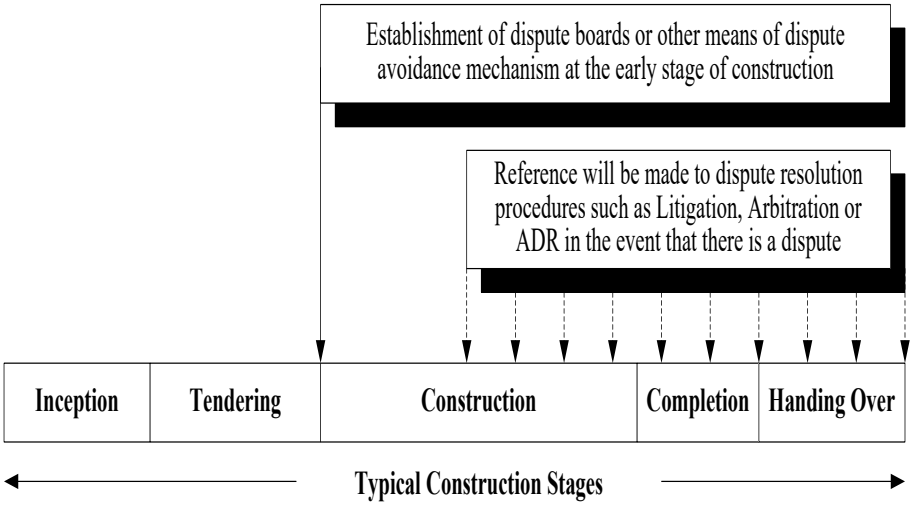

Figure 1.0: Interception of dispute[103]

Dispute Avoidance/Conflict Management	
Management methods	Non-escalation mechanisms *Non-binding* / Binding***
Quality matters • Total quality management • Co-ordinated project information • Quality assurance Choice of procurement systems • Partnering • Alliancing Bespoke contracts	• Negotiation*/** • Project mediators* • Project arbitrators** • Dispute resolution adviser (DRA)*/** **Dispute avoidance procedure (DAP)** • **Dispute review board (DRB)*** • **Dispute adjudication board (DAB)**** • **Combined dispute board (CDB)*/**** → **and DAAB (under new 2017 FIDIC)****
Dispute Resolution	
Non-binding	*Binding*
• Conciliation • Mediation • Mini-trial • Senior executive appraisal	• Litigation • Arbitration • Adjudication

Table 1.0: Proposed Categorisation[104]

[103] Ibid.

It is suggested that the fundamental difference between dispute resolution and dispute avoidance is contingent upon the time of establishment and operation of the procedures. Therefore, the main characteristic of dispute avoidance is the involvement of an independent third-party intervention, and the procedure must be established at the time the parties enter into a contract. In this respect, Table 1.0 shows the three existing dispute avoidance procedure consists of dispute review board (DRB), dispute adjudication board or dispute avoidance/adjudication board (DAB/DAAB) and combined dispute board (CDB). In this regard, the use of DRB can be traced way back in the 1960s and were widely used particularly for large civil engineering projects across the United States of America[105]. Further, the American Society of Civil Engineers introduced DRB as a complimentary provision to standard U.S. construction contract and practices[106]. As for combined dispute board (CDB), it has been introduced in the 2015 ICC Dispute Board Rules which offers an intermediate approach between the DRB and the DAB[107]. It is interesting to highlight that the DRB, DAB and CDB have also been collectively referred to as dispute boards (DB) by the ICC[108].

The Characteristics of Dispute Avoidance Procedure (DAP)

The term DAP has been frequently used by Dr. Paula Gerber in her papers[109]. In short, DRB, DAB/DAAB and CDB have in common the

[104] Ibid.

[105] Kohnke, J. R. (1993). Dispute Review Boards Rising Star of Construction ADR. *Arbitration Journal, 48*(2), 52-55; Duran, J. E., & Yates, J. K. (2000). Dispute Review Boards-One View. *Cost Engineering, 42*(1), 31-36; Gerber, P. (1999). Construction Dispute Review Boards. *Australasian Dispute Resolution Journal*, 9-17.

[106] Thompson, R. M., Vorster, M. C., & Groton, J. P. (2000). Innovations to Manage Disputes: DRB and NEC. *Journal of Management in Engineering, 16*(5), 51-59.

[107] ICC. (2021). 2015 ICC Dispute Board Rules. Retrieved from https://iccwbo.org/dispute-resolution-services/dispute-boards/rules/

[108] Ibid.

[109] Gerber, P. (1999). Construction Dispute Review Boards. *Australasian Dispute Resolution Journal*, 9-17; Gerber, P. (2000). The changing face of construction dispute

following main criteria[110]:

a. the mechanism must be preferably established soon after the contract has been awarded, even before any physical work on site begins;
b. the board must be actively involved throughout the project from the beginning, usually by attending pre-scheduled site meetings to familiarise them with the nature of the works and contractual issues pertaining to the projects;
c. the mechanism must avoid overly complicated procedure, should move promptly to resolve any conflict as quickly as possible; and
d. the board must be actively involved in the resolution of any conflict either by imposing a binding decision or, making recommendations that are not binding.

In addition, DAP can also be described as an on-site dispute management and resolution[111], and ideally should achieve as many of the following purposes as possible:

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resolution in the international arena: where to from here? *Australian Construction Law Newsletter* (73), 5-9; Gerber, P. (2001). Dispute avoidance procedures ("DAPs") - The changing face of construction dispute management. *International Construction Law Review, 18*(1), 122-129; Gerber, P., & Ong, B. (2011a). 21 Today! Dispute review boards in Australia: Past, present, future. *Australasian Dispute Resolution Journal, 22*(3), 180-191; Gerber, P., & Ong, B. (2011b). DAPs: When will Australia Jump on Board? *Building and Construction Law Journal, 27*(1), 4-29.

[110] Cheeks, J. R. (2003). Multistep Dispute Resolution in Design and Construction Industry. *Journal of Professional Issues in Engineering Education and Practice, 129*(2), 84-91; Cheung, S.-O., Suen, H. C. H., Ng, S. T., & Leung, M. Y. (2004). Convergent Views of Neutrals and Users about Alternative Dispute Resolution. *Journal of Management in Engineering, 20*(3), 88-96; Gerber, P. (1999). Construction Dispute Review Boards. *Australasian Dispute Resolution Journal*, 9-17; Gerber, P. (2000). The changing face of construction dispute resolution in the international arena: where to from here? *Australian Construction Law Newsletter*(73), 5-9; Groton, J. P., Rubin, R. A., & Quintas, B. (2001). A Comparison of Dispute Review Boards and Adjudication. *The International Construction Law Review, 18*(2), 1-16.

[111] Gerber, P. (2000). The changing face of construction dispute resolution in the international arena: where to from here? *Australian Construction Law Newsletter* (73), 5-9.

Purposes	Description
1. Availability	The process should be readily available to resolve any dispute of any kind on a construction project.
2. Speed	The process should be commenced as soon as impasse occurs, it should move promptly, and should be concluded as quickly as is reasonably possible.
3. Economy	The process should be cost-effective and economical.
4. Quality of Decision	The parties should regard any decision that is made as objective, expert, fair and entitled to respect.
5. Finality	The end result of the process should be to achieve a final resolution of every dispute, so that at the completion of the project there are no outstanding disputes.
6. Project Harmony	This system should foster a continuing atmosphere of harmony and cooperation in relationships between the participants.
7. Reduction of Disputes	The existence of the system should encourage participants to resolve their differences by themselves without having to submit them to the neutral for determination.
8. Widespread Use	The system should be widely known and used.
9. Robustness	The system should be robust enough to withstand the unusual pressures that can be exerted by the nature of the project, the participants, or by particular disputes, such as when the stakes are extremely high, a large amount of money is involved, or the economic future of a participant is at risk.

Table 2.0: The Purposes of a Job Site Conflict Resolution System[112]

The philosophy underlying the DAP concepts is to tackle any problems openly during the implementation of construction works or in other words to handle and resolve conflicts soon after they occur, before it escalates to a major disagreement (dispute) that could last

[112] Groton, J. P., Rubin, R. A., & Quintas, B. (2001). A Comparison of Dispute Review Boards and Adjudication. *The International Construction Law Review, 18*(2), 1-16.

for duration of contract or even after the project is completed[113]. In addition, to be effective, it is suggested that DAP should also avoid overly complicated procedures and promote resolution of conflicts at the lowest possible organisational and procedural level[114]. Through DAP, an independent party or a board will be involved throughout the project from the beginning, usually by attending pre-scheduled site meetings to familiarise the party or board members with the nature of the works and contractual issues pertaining to the projects. This consequently enables them to handle and detect conflict as soon as possible[115], and resolve conflict with less difficulty should it occur. In addition, it is anticipated that not only could the degree of resolution success be high[116], but that unnecessary expenditure in resolving disputes could also be avoided[117].

DAP is a creation of a contract agreed upon by the parties, e.g., between the client and the main contractor. It constitutes two principal instruments, the agreement between the contracting parties (the main contract) and the agreement between the board members and the parties to the project (or commonly referred to as tripartite agreement). Usually, the board consists of three members but could differ subject to the complexity and the nature of the project. For example, engineers may be appointed for technical matters, quantity surveyors for issues of quantum and legal members to deal with

[113] Thompson, R. M., Vorster, M. C., & Groton, J. P. (2000). Innovations to Manage Disputes: DRB and NEC. *Journal of Management in Engineering, 16*(5), 51-59.
[114] Cheeks, J. R. (2003). Multistep Dispute Resolution in Design and Construction Industry. *Journal of Professional Issues in Engineering Education and Practice, 129*(2), 84-91; Cheung, S.-O., Suen, H. C. H., Ng, S. T., & Leung, M. Y. (2004). Convergent Views of Neutrals and Users about Alternative Dispute Resolution. *Journal of Management in Engineering, 20*(3), 88-96.
[115] Harmon, K. M. J. (2003a). Conflicts between Owner and Contractors: Proposed Intervention Process. *Journal of Management in Engineering, 19*(3), 124.
[116] Ibid.
[117] Gebken, R. J., & Gibson, G. E. (2006). Quantification of Costs for Dispute Resolution Procedures in the Construction Industry. *Journal of Professional Issues in Engineering Education and Practice, 132*(3), 264-271.

matters of interpretation of contractual provisions[118]. In the event if only one member of the board was required, then he or she is to be chosen by mutual agreement of the parties[119]. Normally, if there were three members, the client makes one appointment (acceptable to the contractor), the contractor makes another appointment (acceptable to the client), and then the two appointees decide on a third person who will be the chairperson of the board[120]. Here, it must be noted that despite the first two members being the party nominations, each member is entirely independent and the appointment should not be regarded as a party representative[121]. Hence, all board members must serve both parties with total impartiality. Consistent with the above literatures, Table 3.0 provides extracts from Clause 21.1 of 2017 FIDIC Red Book on the constitution of the DAAB which outlines the timing for formation of the board, the procedure for appointment of the board members, an option to appoint either sole member or three members, etc. In addition, the 2017 FIDIC Red Book also provides for the General Conditions of Dispute Avoidance/Adjudication Agreement under its Appendix which among others stipulate the requirement for a tripartite agreement, independence and impartiality of the DAAB member, general obligations of the DAAB member and the parties, confidentiality and indemnity issue, etc.

[118] Gerber, P. (2001). Dispute avoidance procedures ("DAPs") - The changing face of construction dispute management. *International Construction Law Review, 18*(1), 122-129.

[119] Seppala, C. R. (1997). The new FIDIC provision for a Dispute Adjudication Board. *The International Construction Law Review, 14*(4), 445. Retrieved from http://www1.fidic.org/resources/contracts/seppala_dab_1997.asp

[120] Gerber, P. (1999). Construction Dispute Review Boards. *Australasian Dispute Resolution Journal*, 9-17; Harmon, K. M. J. (2003b). Effectiveness of Dispute Review Boards. *Journal of Construction Engineering and Management, 129*(6), 674.

[121] Gerber, P. (1999). Construction Dispute Review Boards. *Australasian Dispute Resolution Journal*, 9-17.

Clause 21.1 Constitution of the DAAB	Disputes shall be decided by a DAAB in accordance with Sub-Clause 21.4 [*Obtaining DAAB's Decision*]. The Parties shall jointly appoint the member(s) of the DAAB within the time stated in the Contract Data (if not stated, 28 days) after the date the Contractor receives the Letter of Acceptance. The DAAB shall comprise, as stated in the Contract Data, either one suitably qualified member (the "sole member") or three suitably qualified members (the "members"). If the number is not so stated, and the Parties do not agree otherwise, the DAAB shall comprise three members. The sole member or three members (as the case may be) shall be selected from those named in the list in the Contract Data, other than anyone who is unable or unwilling to accept appointment to the DAAB. If the DAAB is to comprise three members, each Party shall select one member for the agreement of the other Party. The Parties shall consult both these members and shall agree the third member, who shall be appointed to act as chairperson. The DAAB shall be deemed to be constituted on the date that the Parties and the sole member or the three members (as the case may be) of the DAAB have all signed a DAAB Agreement.

Table 3.0: Constitution of the DAAB

Through DAP, the existence of a board or an independent third party who will be attending the site meeting and become familiar with the project, could ensure both parties behave professionally and efficiently during the performance of contract. However, the issue that will come into play is the cost of appointing a dispute board or an independent third party, which may increase the cost for both contracting parties even though the dispute does not exist[122]. According to Gerber[123], most parties viewed the costs of DAP as 'prevention cost', that is similar to premium insurance. As the procedure will be set-up at the earlier stage of the project and will remain in place even though there is no dispute, arguably the cost of DAP could be high. The reason for this situation is the DAP will run along the contract period to the final account. Nevertheless, like other dispute resolutions, how costly such mechanism is, depends on a number of factors such as "the duration of the project, the number of disputes and the complexity of such disputes"[124]. Furthermore, the requirement for a DAP to conduct site visits/meetings should not be mistakenly viewed as an expert of everything, to the extent of providing directions to the workers on such issues as the pouring of concrete or the bending of steel[125].

The Emergence of Dispute Adjudication Board (DAB) and Dispute Avoidance/Adjudication Board (DAAB)

Dispute adjudication board (DAB) appeared in the FIDIC form of contract in response to concerns about the role of the engineer as the client's agent in resolving disputes[126]. Historically, the first edition

[122] Gerber, P. (1999). Construction Dispute Review Boards. *Australasian Dispute Resolution Journal*, 9-17.
[123] Ibid.
[124] Gerber, P. (1999). Construction Dispute Review Boards. *Australasian Dispute Resolution Journal*, 9-17.
[125] Wassenaer, A. V. (2006). The Dutch DRB Rules. *Construction Law International, 1*(2), 19-22.
[126] Seifert, B. M. (2005). International Construction Dispute Adjudication under International Federation of Consulting Engineers Conditions of Contract and the Dispute Adjudication Board. *Journal of Professional Issues in Engineering Education and Practice, 131*(2), 149; Seppala, C. R. (1997). The new FIDIC provision for a Dispute Adjudication

of FIDIC was based on the U.K. Institution of Civil Engineers 4th edition form, where it was published to assist Consulting Engineers from Europe when they were leading the development of many countries abroad during the period after the Second World War[127]. DAB is promoted by the FIDIC forms of contract and have been internationally recognised when the World Bank makes it mandatory to use the form for all their projects financing[128].

Historically, the evolution of DAB begins in 1995 when the World Bank was promoting the use of DRB for all projects financed by it[129]. The World Bank had adopted DRB in its January 1995 edition of the Standard Bidding Documents for the Procurement of Works for use on all contracts financed by it having an estimated contract price of USD10 million or more, including contingency allowance[130]. If the contract price is USD50 million or more, a DRB consists of 3 persons is required, while for a contract price between USD10 million and

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Board. *The International Construction Law Review, 14*(4), 445. Retrieved from http://www1.fidic.org/resources/contracts/seppala_dab_1997.asp

[127] Seifert, B. M. (2005). International Construction Dispute Adjudication under International Federation of Consulting Engineers Conditions of Contract and the Dispute Adjudication Board. *Journal of Professional Issues in Engineering Education and Practice, 131*(2), 149; Wade, C. (2004). FIDIC's Contracts Committee Activities Update [FIDIC Annual 2004 Conference]. Retrieved from http://www1.fidic.org/resources/contracts/cwade_16sep04.asp; Knutson, R. (2005). *FIDIC: An analysis of International Construction Contracts*. Netherlands: International Bar Association Series.

[128] Seifert, B. M. (2005). International Construction Dispute Adjudication under International Federation of Consulting Engineers Conditions of Contract and the Dispute Adjudication Board. *Journal of Professional Issues in Engineering Education and Practice, 131*(2), 149.

[129] Jaynes, G. L. (1996). Dispute Review Boards: The World Bank is Aboard. *The International Construction Law Review, 13*(1), 17; Jaynes, G. L. (2008). A DAM GOOD THING. *Paper presented at The World Bank 2008 Fiduciary Forum (Procurement: Friday, 28 March 2008)*. Retrieved from http://siteresources.worldbank.org/INTFIDFOR/Resources/4659186-1204641017785/GLJ-WB-draft.pdf; Bunni, N. G. (2000). Recent Developments in Construction Disputology. *Journal of International Arbitration, 14*(4), 105-115.

[130] E-mail from Gordon L. Jaynes <Glj4law@aol.com>, Member, FIDIC Assessment Panel for Adjudicators (November 13, 2008) (Copy on file with the author).

USD50 million, the Borrower had an option to have one person DRE (Dispute Review Expert)[131]. While in the U.S. construction industry the DRB offer just recommendations, the World Bank made an amendment and specified that if no objection was made by either party within 14 days of receipt of the recommendation, it became contractually binding[132]. However, if either party (or both parties) objected to the recommendation, it was not contractually binding, and the parties were left to negotiate a settlement or refer the dispute to arbitration. This provision is quite like Article 4(3) and 4(6) of the 2015 ICC Dispute Board Rules for DRB. For instance, the Article 4(3) states that:

> The Parties agree that if no Party has given a written notice to the other Party and the DRB expressing its dissatisfaction with a Recommendation within 30 days of receiving it, the Recommendation shall become final and binding on the Parties.[133]

In response to the World Bank's amendments on its January 1995 edition of the Standard Bidding Documents for the Procurement of Works, FIDIC has published its Conditions of Contract for Design/Build and Turnkey (referred as the 'Orange Book') some months later in the same year by providing a DAB as a condition precedent to arbitration[134]. FIDIC subsequently adopted DAB into its other forms of contract. In November 1996, FIDIC published a Supplement to the 4th Edition (1987) of the Red Book, containing an alternative wording to Clause 67 of the 1987 Red Book, Model Terms

[131] Ibid.
[132] Ibid.
[133] ICC. (2015). 2015 ICC Dispute Board Rules. Retrieved from https://iccwbo.org/content/uploads/sites/3/2015/09/icc-dispute-board-rules-english-version.pdf
[134] Seppala, C. R. (1997). The new FIDIC provision for a Dispute Adjudication Board. *The International Construction Law Review, 14*(4), 445. Retrieved from http://www1.fidic.org/resources/contracts/seppala_dab_1997.asp

of Appointment and Procedural Rules for the DAB[135]. In July 1997, FIDIC issued a Supplement to its Conditions of Contract for Electrical and Mechanical Works, 3rd Edition (1987) (referred as the 'Yellow Book') providing for a DAB which is modeled on, and very similar to, the procedure applicable to the Red Book[136]. Then, in October 1999, FIDIC published "a totally new set of standard forms of contract alongside those that were in use at that time"[137]. The new set of standard forms consists of the following four contract forms:

(a) The Construction Contract (Conditions of Contract for Building and Engineering Works, Designed by the Employer), commonly referred as the '1999 Red Book';
(b) The Plant and Design-Build Contract (Conditions of Contract for Electrical and Mechanical Plant, and for Building and Engineering Works, Designed by the Contractor), commonly referred as the '1999 Yellow Book';
(c) The EPC and Turnkey Contract (Conditions of Contract for EPC Turnkey Projects), commonly referred as the '1999 Silver Book'; and
(d) The Short Form of Contract, commonly referred as the '1999 Green Book'.

Under sub-clause 20.4 of the 1999 Red Book the DAB is required to give its reasoned decision within 84 days after it received the dispute reference, and the decision is final and binding on the parties unless either party who is dissatisfied with the DAB's decision give notice of dissatisfaction within 28 days after receiving the decision. Interestingly, although DAB is a mandatory form of dispute resolution before construction disputes can be referred to arbitration, in the event if either party is dissatisfied with DAB's decision, arbitration remains the ultimate method of dispute resolution under the FIDIC's

[135] Bunni, N. G. (2005). *The FIDIC Forms of Contract* (3rd ed.). UK: Blackwell Publishing Ltd.
[136] Seppala, C. R. (1997). The new FIDIC provision for a Dispute Adjudication Board. *The International Construction Law Review, 14*(4), 445. Retrieved from http://www1.fidic.org/resources/contracts/seppala_dab_1997.asp
[137] Bunni, N. G. (2005). *The FIDIC Forms of Contract* (3rd ed.). UK: Blackwell Publishing Ltd, p. 15.

forms. However, it has been said that the perceived excessive cost and time taken by arbitration is the reason why DAB is made condition precedent to arbitration in the FIDIC's forms of contract[138]. The significant difference in the first three new forms identified above is that sub-clause 20.2 of the 1999 Yellow and Silver Books recommended the use of DAB on an ad hoc basis, instead of what it called a standing DAB in the 1999 Red Book.

Jaynes[139] criticises FIDIC because the 1999 Yellow and Silver Books do not provide DAB to be established at the outset of the contract (or being referred to as a permanent or standing DAB). Instead, the General Conditions provide for a DAB which would only be constituted if and when a dispute arises and which would normally cease to operate once a decision on the dispute had been issued (or being referred to as an ad hoc DAB). Jaynes[140] argues that once disputes have reached the point that negotiations have failed, it is impossible for the parties to agree to establish a DAB. However, Seppala[141] responded to the critics made by Jaynes[142], by pointing to sub-clause 20.3 of the 1999 Yellow Book which allows an appropriate neutral person to be appointed by the entity or official named in the Particular Conditions as a member of DAB, if a party fails to participate in establishing a DAB within a specified date.

[138] Seifert, B. M. (2005). International Construction Dispute Adjudication under International Federation of Consulting Engineers Conditions of Contract and the Dispute Adjudication Board. *Journal of Professional Issues in Engineering Education and Practice, 131*(2), 149.

[139] Jaynes, G. L. (2000). FIDIC's 1999 Edition of Conditions of Contract for "Plant and Design-Build" and "EPC Turnkey Contract": Is the "DAB" still a Star? *The International Construction Law Review*. Retrieved from http://www1.fidic.org/resources/contracts/jaynes00.asp

[140] Ibid.

[141] Seppala, C. R. (2000). Letter to the Editor - The International Construction Law Review. *The International Construction Law Review*. Retrieved from http://www1.fidic.org/resources/contracts/seppala_letter00.asp

[142] Jaynes, G. L. (2000). FIDIC's 1999 Edition of Conditions of Contract for "Plant and Design-Build" and "EPC Turnkey Contract": Is the "DAB" still a Star? *The International Construction Law Review*. Retrieved from http://www1.fidic.org/resources/contracts/jaynes00.asp

Further, Seppala[143] had said that the choice whether to use an ad hoc or a standing DAB depends upon the cost benefit analysis which he has quoted in the following words:

> The main reason for a standing (or permanent) DAB is to deal with disputes on or related to the construction site. But, when the contract provides mainly for the design and manufacture of electrical or mechanical equipment in a factory rather than construction work on the site (as is true of many projects for which the new Plant and EPC Contracts would be used), the incidence of disputes should be much less and, hence, it is much more difficult to justify the time and expense of maintaining a standing DAB in such a case. Accordingly, FIDIC has opted for an *ad hoc* DAB in the General Conditions for these types of contracts.

According to Jaynes[144], pursuant to the Rome Declaration of intent to achieve harmonisation of the procurement practices, the Heads of the Procurement of the Multilateral Development Banks (MDBs) undertook a joint effort with FIDIC to develop a special version of the 1999 Red Book. The purpose was to introduce many changes to the General Conditions to conform to changes which the MDBs for many years had been making to those Conditions by using the Particular Conditions. This not only would harmonise the various changes of the various MDBs but also shorten, simplify, and harmonise the Particular Conditions of all MDBs. This effort eventually led to the publication in May, 2005 of the World Bank's Standard Bidding Documents for Procurement of Works (SBDW).

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[143] Seppala, C. R. (2000). Letter to the Editor - The International Construction Law Review. *The International Construction Law Review*. Retrieved from http://www1.fidic.org/resources/contracts/seppala_letter00.asp

[144] Jaynes, G. L. (2008). A DAM GOOD THING. *Paper presented at The World Bank 2008 Fiduciary Forum (Procurement: Friday, 28 March 2008)*. Retrieved from http://siteresources.worldbank.org/INTFIDFOR/Resources/4659186-1204641017785/GLJ-WB-draft.pdf

The SBDW **was revised to May 2006 edition (revised March and April 2007),** which **then revised to March 2007, followed by few other revisions, up to January 2020 edition**[145]**. Another important point to highlight is that in the beginning of May 2005 until its current May 2006 (revised March and April 2007), the SBDW provides that d**isputes shall be referred to a 'Dispute Board' instead of 'Dispute Adjudication Board' for decision. According to Jaynes[146], the word 'Adjudication' may have been removed from the **SBDW version in order** to avoid confusion with the statutory adjudication schemes in the U.K.

The DAB has evolved further when the Institution of Civil Engineers, U.K. (ICE) also introduced its first edition of Dispute Resolution Board Procedure in February 2005 to be used in its domestic contracts which has drawn upon the work of FIDIC[147]. Interestingly, because of the U.K. Housing Grants, Construction and Regeneration Act 1996 (HGCRA), construction contracts which fall within the ambit of the HGCRA may make it compulsory for the ICE dispute resolution board procedure to be conducted in accordance with the Adjudication provisions under section 108 of the HGCRA. As such, a strict time

[145] Bank, W. (2008). 2007 SBDs: Procurement of Works. *Standard Bidding Document Procurement of Works (May 2006) revised March & April 2007.* Retrieved from http://siteresources.worldbank.org/INTPROCUREMENT/Resources/Works-4-07-ev1.pdf ; Bank, W. (2020). 2020 SBDs: Procurement of Works. *Standard Bidding Document Procurement of Works (January 2020).* Retrieved from http://documents.worldbank.org/curated/en/323361581052752931/pdf/Standard-Bidding-Documents-Procurement-of-Works.pdf

[146] Jaynes, G. L. (2008). A DAM GOOD THING. *Paper presented at The World Bank 2008 Fiduciary Forum (Procurement: Friday, 28 March 2008)*. Retrieved from http://siteresources.worldbank.org/INTFIDFOR/Resources/4659186-1204641017785/GLJ-WB-draft.pdf

[147] Gaitskell, R. (2005). Adjudication: Its Effect On Other Forms Of Dispute Resolution (the UK experience) [Presentation originally given to the UK Society of Construction Arbitrators]. Retrieved from http://www.keatingchambers.co.uk/resources/publications/2005/rg_kl_adjudication_its_effect.aspx; Gunawansa, A. (2008). *The Scope for the Use of Dispute Review Boards for Resolving Construction Disputes in ASEAN Countries.* Paper presented at the COBRA 2008, The construction and building research conference of the Royal Institution of Chartered Surveyors, Dublin Institute of Technology.

limit for the adjudicator to reach a decision may apply as well as the decision of the adjudicator is binding until the dispute is finally determined by legal proceedings. More importantly, under the HGCRA, the adjudicator is not liable for anything done or omitted in the discharge of his functions as adjudicator unless the act or omission is in bad faith, and that any employee or agent of the adjudicator is similarly protected from liability. Subsequently, ICE published its latest ICE Dispute Board Procedure 2012, in which the term Dispute Board (DB) has been used to include both DAB and DRB[148]. Remarkably, ICE Dispute Board Procedure 2012 has revamped the previous Dispute Resolution Board Procedure 2005 by introducing two types of procedural rules, namely Procedure One and Procedure Two as follows[149]:

(a) Procedural Rules – Procedure One (for use on International Projects and UK Contracts which are not subject to the provisions of the UK Housing Grants Construction and Regeneration Act 1996); and
(b) Procedural Rules – Procedure Two (for use on UK Contracts which are subject to the provisions of the UK Housing Grants Construction and Regeneration Act 1996).

In 2008, FIDIC published the Gold Book, FIDIC's first edition of Design, Build Operate Contract which provides a different concept of DAB compared to the other FIDIC's standard forms of contract. Under sub-clause 20.5 of the 2008 Gold Book, it provides that:

> If at any time the Parties so agree, they may jointly refer a matter to the DAB in writing with a request to provide assistance and/or informally discuss and attempt to resolve any disagreement…The parties are not bound to act upon any advice given during such informal

[148] ICE. (2012). ICE Dispute Board Procedure 2012. Retrieved from https://www.ice.org.uk/ICEDevelopmentWebPortal/media/Documents/Disciplines%20and%20Resources/09-3-ICE-Dispute-Board-procedure-2012-04-30.pdf
[149] Ibid.

> meetings and the DAB shall not be bound in any future Dispute Resolution process and decision by any views given during the informal assistance process, whether provided orally or in writing.

Following the above clause 20.5 of the 2008 Gold Book, Baker[150] has highlighted on the similarity between DAB under the Gold Book and the dispute resolution adviser (DRA), where both mechanisms are engaged with the parties in trying to reach informal solutions to disputes and potential disputes. Originated from Hong Kong, DRA has been firstly used for the Queen Mary Hospital refurbishment project, where the mechanism has been designed by a neutral consultant (Endispute Incorporated of the United States) appointed by the Hong Kong Government's Architectural Services Department[151]. Predominantly, DRA duty is to advice the parties in choosing the most appropriate ADR technique and does not actually resolve dispute themselves.

Since then, in December 2017, the much-anticipated 2017 FIDIC Suite of Contracts have officially been launched at the FIDIC International Users' conference in London[152]. This 2017 contracts include the new versions of the FIDIC Red Book, Yellow Book and Silver Book, constitute updates of the former editions from 1999, which can still be used by the industry[153]. In 2019, the World Bank has signed five-year agreement to adopt the six major FIDIC

[150] Baker, E. (2009). *Is it all necessary? Who benefits? Provision for multi-tier dispute resolution in international construction contracts*. Paper presented at the Joint meeting of the Society of Construction Law and the Society of Construction Arbitrators in London on 1st July 2008, downloadable from www.scl.org.uk

[151] Wall, C. J. (1993). Dispute Resolution Adviser in the construction industry. *Building Research and Information, 21*(2), 122-127. Retrieved from http://www.scopus.com/scopus/inward/record.url?eid=2-s2.0-0027555642&partnerID=40&rel=R8.0.0

[152] FIDIC. (2017). Official Launch of the 2017 FIDIC Suite of Contracts. Retrieved from https://fidic.org/node/13618

[153] Ibid.

contracts, mainly include the 2017 FIDIC Suite of Contracts[154]. It is interesting to note that the 2017 FIDIC Suite of Contracts have been translated into five major languages, namely Arabic, Chinese, French, Portuguese and Spanish, to aid effective use across the World Bank and other multilateral development banks' operating countries[155].

Notably, the 2017 FIDIC Suite of Contracts has introduced DAAB, which stands for Dispute Avoidance/Adjudication Board (in contrast to the previous DAB). The following extracts from the 2017 Red Book provide some of the salient procedural requirements of the newly introduced DAAB:

1) Under sub-clause 21.1, it is stated that unless the Parties agree otherwise, the DAAB members shall be appointed within 28 days after the Contractor receives the Letter of Acceptance;
2) Sub-clause 21.3 allows DAAB to provide assistance and/or informally discuss and attempt to resolve any issue or disagreement, if jointly requested by the Parties. This sub-clause 21.3 is almost similar to sub-clause 20.5 of the 2008 Gold Book. Sub-clause 21.3 of the 2017 Red Book reads that:

> "Parties are not bound to act on any DAAB's advice given during such informal meetings, and the DAAB shall not be bound in any future Dispute resolution process or decision by any views or advice given during the informal assistance process, whether provided orally or in writing"

3) Referral of a Dispute to the DAAB is provided under sub-clause 21.4 in which:

[154] FIDIC. (2019). World Bank signs five-year agreement to use FIDIC standard contracts. Retrieved from https://fidic.org/world-bank-signs-five-year-agreement-use-fidic-standard-contracts
[155] Ibid.

a) a Party must refer a Dispute to the DAAB within 42 days after giving or receiving a Notice of Dissatisfaction (NOD) with the Engineer's determination;
b) the DAAB must give its decision within 84 days after receiving the reference, or such period as may be proposed by the DAAB and agreed by both Parties; and
c) a Party that is dissatisfied with the DAAB's decision must give a NOD to the other party within 28 days or else the decision becomes final and binding on both Parties.

4) Sub-Clause 21.4.3 states that the DAAB's "decision shall be binding on both Parties, who shall promptly comply with it whether or not a Party gives a NOD with respect to such decision under this Sub-Clause". This provision requires both parties to promptly comply with the DAAB's decision, and in the event if one of the parties issues a NOD, the DAAB's decision shall be temporary binding until finally settled by arbitration;
5) Sub-clause 21.7 allows reference to be made to arbitration if one of the parties fails to comply with the DAAB's decision. The arbitral tribunal is empowered to enforce a DAAB's decision, by way of summary or other expedited procedure, whether by an interim or provisional measure or an award; and
6) Pursuant to sub-clause 21.6, the arbitrator is given the power to take account of a party's failure to cooperate with the other party in constituting a DAAB, in any award dealing with costs of the arbitration.

Conclusion

The emergence of dispute avoidance via contractual mechanism, e.g., the formation of DAB/DAAB under the FIDIC contracts, illustrate the belief that conflict can be managed and eventually avoided it from escalating into a full-blown dispute. This belief is very much influenced by the literatures, which suggest that dispute must be resolved at site level, by effectively managing and resolving conflict to prevent them from becoming a full-blown dispute. This paper

wishes to emphasis that the paramount obligation of a construction industry practitioner is to avoid dispute arising in the first place, given its potential adverse ramifications for a particular construction project. The underlying philosophy of this obligation is derived from an established notion that 'prevention is better than cure'.

Dispute avoidance procedure has been used astoundingly in the avoidance and settlement of disputes, especially for large infrastructure projects[156]. In the case of DRB (a mechanism akin to DAB), statistics have remarkably shown that on a global scale, more than 85% construction disputes around the world were successfully settled using DRB hearings or advisory opinions without proceeding to litigation[157]. The statistics were based on comprehensive data collected until 10 April 2017, covered 2,813 projects worldwide on which there were DRBs awarded from 1975 until 2017, in which some of the projects are due to complete in 2020. Further, the world trend has also shown an increased in the adoption rate of DRB. For instance, statistics in Australia from 2011-2019 have shown a steady increase of 73 DRB projects, equivalent to about 8 projects per year[158] .

On this note, FIDIC has been consistently promoting dispute avoidance through its forms of contract since 1995. It is anticipated that the recognition given by the World Bank and other multilateral development banks' operating countries towards the adoption of FIDIC contracts could further accelerate familiarisation of the dispute avoidance concept by the construction industry at large. It is also worth to note that although until now FIDIC contracts have not been widely used in its original form by the Malaysian construction

[156] Mohd-Danuri, M. S. (2021). *Dispute Avoidance and Resolution Procedure for the Construction Industry*. Kuala Lumpur: UM Press.
[157] DRBF. (2020b). Publications and Data. *DB Project Database.* Retrieved from https://www.drb.org/publications-data/drb-database/
[158] DRBF. (2020a). Dispute Resolution Board Foundation Region 3. *Projects - Australia.* Retrieved from https://www.drbf.org.au/projects-members

industry, Datuk Sundra Rajoo[159] has highlighted that some local clients in Malaysia have utilised FIDIC contracts as the basis to develop their modified or ad hoc forms of contract. Hence, it is hoped that this paper could provide fascinating insights into the emergence of dispute avoidance procedure via DAB/DAAB as dictated under the respective FIDIC forms of contract.

[159] AIAC. (2014). IBA Tokyo: Standard Forms of Contract – The Malaysian Position. Retrieved from https://www.aiac.world/news/190/IBA-Tokyo-:-Standard-Forms-of-Contract-%E2%80%93-The-Malaysian-Position-by-Datuk-Professor-Sundra-Rajoo

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