

Insights

COLLABORATION IN PRACTICE UNDER SINGAPORE PSSCOC OPTION MODULE E AND NEC4

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Traditional contracting has, in recent years, come under increasing criticism for being, among other things, unable to handle increasingly complex projects as there is little incentive for employers and contractors alike to innovate and to do more than what is necessary to meet the minimum contractual requirements. This is due largely to the “silo-ed” participants, processes and duties – typical characteristics of traditional contracting models which oftentimes give rise to the tendency for parties to act in their own interests and in an adversarial manner rather than in the interests of the project as a whole. Over time, this can result in delays in information dissemination, and poor communication and cooperation, which in turn negatively affect parties’ abilities to effectively manage the common construction risks that result in disputes instead of managing risks proactively and developing mutually acceptable solutions. These implications indisputably reduce productivity by contributing to projects finishing over-schedule, over-budget and being of a lower quality.

It is therefore unsurprising to see a growing trend towards the adoption of more collaborative forms of contracting, which are said to improve project delivery efficiency^[1], improve project performance^[2], and have been found to be the most effective and efficient form for delivering complex public infrastructure projects^[3] where the complexity of the project makes it difficult for parties to exhaustively identify and allocate all risks up front.

Collaborative contracting, at its core, encourages a mindset shift towards working collaboratively for the parties’ shared project goals, helps parties to proactively identify potential issues, promotes early resolution of these issues and provides a framework to better manage disruptions and costs fluctuations. To achieve these outcomes, it draws upon a number of common elements, such as risk sharing, open communication, and joint problem solving.

Collaboration can take many forms, including strategic alliances, partnering, relational contracting, and integrated teamwork^[4]. In Singapore, the Building and Construction Authority (“**BCA**”) has spearheaded the adoption of collaborative contracting practices through two key forms of contract – first in the form of the Public Sector Standard Conditions of Contract Option Module E for

Construction Works (“**PSSCOC Option Module E**”), and second in the development of Y clauses to align the NEC4 contract with Singapore law.

In this article, we discuss the collaboration contracting models in PSSCOC Option Module E, highlighting some of the features it shares with the NEC4 form of contract, as well as some of the unique features of the NEC4 form of contract.

PSSCOC OPTION MODULE E

On 31 May 2017, Mr. Lawrence Wong, then Minister for National Development, announced at a joint conference organized by the Board of Architects and the Association of Consulting Engineers of Singapore, that the government was looking forward to promoting more collaborative contracting models, and would be initiating plans to pilot some of the collaborative contracting models in public sector projects^[5]. Following that, at the launch of the Construction Industry Transformation Map on 24 October 2017, the Minister announced that the Singapore government would be reviewing procurement frameworks and contracting practices to explore greater collaboration between firms through collaborative contracting^[6].

These initiatives culminated, amongst others, in BCA’s development and introduction of option modules for the PSSCOC, including PSSCOC Option Module E.

In October 2018, PSSCOC Option Module E was adopted by Jurong Town Corporation (“**JTC**”) in its tender for the Punggol Digital District project^[7]. This was one of the first infrastructure projects in Singapore that embraced a version of collaborative contracting. Since then, PSSCOC Option Module E has been adopted in both public and private projects in Singapore, and its use looks set to increase in the coming years.

NEC4

The NEC suite of contracts is a suite of collaborative, flexible and clearly written contracts for built environment procurement, particularly with a view to large-scale civil projects. The aim of the contracts is to move away from the traditional adversarial approach to collaboration, with a focus on pro-active project and risk management during the course of the project based on an alignment of the parties’ commercial interests. First developed in 1993, the NEC contracts have been used by public sector agencies in the UK and Hong Kong to administer works such as the HS2 Railway, Crossrail and the London 2012 Olympic games in the former and the Hong Kong Airport third runway and public railway projects in the latter, among others. In July 2023, a Hong Kong version of the NEC4 ECC contract was published to further facilitate its use in Hong Kong. NEC has also published Y clauses to allow NEC to be used in other jurisdictions including Australia.

In 2017, the NEC4 suite was published, which reflected procurement and project management developments as well as emerging best practices, with improvements in flexibility, clarity and ease

of administration. The suite includes the Engineering and Construction Contract (“ECC”), Engineering and Construction Subcontract, Professional Services Contract, Framework Contract, Term Service Contract, Alliance Contract and Design Build & Operate Contract. For the purposes of this note, we will use the ECC as the key reference point.

The key areas of flexibility in the contract suite are in the payment options (ranging from fixed price to target cost and cost-reimbursable), and the selection of secondary clauses used to allocate risk and additional specific obligations.

Following the launch of the Construction Industry Transformation Map on 24 October 2017, the BCA announced that the Singapore government would be reviewing procurement frameworks and contracting practices through collaborative contracting. In the opening speech by Minister Desmond Lee at the opening ceremony of the International Built Environment Week on 6 September 2023, it was further mentioned that public sector developers including JTC, the Housing Development Board and the Land Transport Authority will be piloting the NEC 4 contracting form in their upcoming projects^[8].

On 29 April 2024, BCA announced the launch of NEC4 contract for construction and engineering projects in Singapore at the BuildSG Leadership Engagement and Development (LEAD) Summit 2024. In collaboration with NEC, BCA developed a set of Y clauses to align the NEC4 contract with Singapore’s laws so as to facilitate the use of the NEC4 contract in construction and engineering projects in Singapore. These optional Y clauses enable the NEC contracts to be used alongside legislation, including the Building and Construction Industry Security of Payment Act 2004^[9], the Contracts (Rights of Third Parties) Act 2001^[10], the Insolvency, Restructuring and Dissolution Act 2018^[11], the Prevention of Corruption Act 1960^[12], and the Penal Code 1871^[13].

In its press release, BCA noted that these Y clauses provide parties with the impetus to “*consider and implement solutions to address the issues identified to avoid additional costs and project delays*”^[14], and reiterated that it will work with industry partners to “*facilitate the adoption of the NEC4 contract in their projects as suitable opportunities arise*”^[15].

We have therefore addressed below the main features of the PSSCOC Module E, setting out how they operate as well as how they compare to the equivalent NEC4 provisions.

E2.0 - WORKING RELATIONSHIP

E2.0 of PSSCOC Option Module E obliges parties to “*use their best endeavours to work together in a collaborative environment and act in a spirit of mutual trust and cooperation*”^[16]. A similar obligation is found in NEC4 ECC, which requires the parties, project manager and supervisor to act in a “*spirit of mutual trust and co-operation*”.

In both PSSCOC Option Module E and NEC4, this is a contractual requirement that is placed at the second clause of the contract, establishing a collaborative working relationship and mindset from the start. There is a focus on building open and honest communication with joint management of project developments, to better manage construction risk and related disputes, thereby reaching the most favourable and cost-effective outcome for all parties.

This emphasis also brings to fore the courts' approach to a duty of good faith in contracts. In Singapore, the courts are ready to uphold an express term of a duty of good faith^[17] (although they have yet to reach a definitive conclusion on whether there is an implied duty of good faith in relational contracts). The general position is that the courts will not imply a duty of good faith into a contract from the leading authority *Ng Giap Hon v Westcomb [2009] 3 SLR (R) 518*. There may be very limited circumstances where the court would imply a duty of good faith e.g. "terms implied in fact"^[18].

It is not possible to address in this note in full how good faith is regarded under English law, save to say that while the traditional reluctance to recognise such a duty remains very much in place, the discussion is currently more focused around the concept of relational contracts. There have however been a number of decisions that addressed clause 10.1 of NEC3, which made it clear that this obligation does not mean that a party must give up any contractual rights^[19] and that such an obligation is not easy to enforce in practice^[20]. At the same time, the courts have relied on this clause as relevant context for implementing other contractual provisions^[21] and in a recent decision in 2021 it was stated that "*...clause 10.1 is not merely an avowal of aspiration. Instead it reflects and reinforces the general principle of good faith in contract...*"^[22].

E3.0 - EARLY NOTICE

This clause provides for an Early Notification Register to be prepared within 7 days of the works starting and both the contractor and the Superintending Officer ("**SO**") are required to notify each other of any matters that affect cost, time, quality or the KPIs so that the Register can be updated by the SO. The intention is that the parties then attend regular meetings (which may be attended by sub-contractors or third parties) in order to work together and discuss how to avoid or mitigate the impact of the events that have been identified in the Register. By way of example, an insolvency in the supply chain, unforeseeable ground conditions or an increase in the costs of materials are matters that one party may be liable for but both parties, and the overall project, benefit from mitigating the impact of such events.

The purpose of this clause is to facilitate pro-active risk management and to provide an opportunity for mitigating potential projects risks collaboratively regardless of which party may be responsible for such risk under the contract. Clause E3.0(10) recognises that the matters discussed may also result in entitlement to additional time or payment under other contractual provisions, but this

mechanism is very much to be regarded as a project management tool which creates a separate process from the assessment of contractual entitlement.

NEC4 has a very similar provision^[23], which provides for an early warning register to be prepared when the contract is entered into and then updated based on notices from the Project Manager and the contractor. Either party can then ask the other to attend a risk reduction meeting where they will discuss whether any steps can be taken to mitigate the notified risk. Where the contractor fails to issue an early warning, NEC4 provides that the Project Manager identifies this when instructing the contractor to submit a quotation^[24] and the compensation event is assessed as if the early warning had been given^[25]. In practice, it is important to recognise that this process is about risk management rather than contractual liabilities. The process is separate from the assessment of compensation events and a common pitfall is for a party to assume that notifying an early warning relieves it of its obligation to notify the other party of a compensation event.

E4.0 - SETTLEMENT OF DISPUTES

PSSCOC Option Module E provides users with two alternatives – one which incorporates the use of the Singapore Infrastructure Dispute Management Protocol 2018 (“**SIDP**”) to assist parties to resolve their disputes, and one which does not. The former requires the employer and the contractor to establish a Dispute Board in accordance with the SIDP within 60 days of the commencement of the works, which shall assist parties in preventing, managing and resolving differences or disputes by providing assistance or mediation, or by rendering an opinion or formal determination in accordance with the terms of the SIDP. Parties may also (but are not obliged to) make a referral to the Dispute Board if either party is dissatisfied with the decision of the SO made pursuant to clause 35.1 of the PSSCOC for Construction Works 2020 (“**PSSCOC 2020**”), or if the SO fails to give notice of his decision within the time stipulated in PSSCOC 2020 clause 35.1.

NEC4 similarly provided the parties with options. Option W1 which is intended for general use provides for disputes to be referred to the senior representatives and if not resolved then the dispute is referred to adjudication in order to provide a temporarily binding decision, which may become final unless the matter is referred to court or arbitration. In addition, parties may choose Option W4, which provides for a Dispute Avoidance Board to be set up at the start of the project, in order to assist parties to take early action to avoid disputes or to provide a non-binding recommendation when appropriate, before the parties can refer the dispute to the tribunal (court or arbitration).

E5.0 - PARTNERING WORKSHOPS

This clause provides for the key officers of the employer and the contractor, as well as key officers of their agents and sub-contractors, to attend partnering workshops aimed at enabling a collaborative environment. The cost of these workshops will be shared equally by the parties.

PSSCOC Option Module E does not identify when such workshops are to be held, but it would be ideal for them to be arranged as soon as the contract is executed and if possible before works commence on site. These workshops should continue to occur on a regular basis throughout the life of the contract. This is important in order to ensure that new key officers who join the project are part of that process but also because as the works progress, issues will come up that will need to be addressed collaboratively and such workshops provide the opportunity to share lessons learnt and embed collaborative behaviours. Indeed, challenges to collaboration often arise at the later stage of a project and this is where it is even more important to ensure that the collaborative environment is maintained and the workshops continue.

Similarly, there is no detail on what should be discussed at such workshops but in the early stages of the contract, the focus will be on ensuring that the relevant individuals understand what the contract requires in terms of collaboration and an emphasis on how that is different from other projects they have been involved with, explaining for example the objective of the early notification process, the importance of the programme and the role played by the KPIs. This will also allow individuals to meet on a personal basis and develop a closer working relationship.

In the early stages, the discussion in the workshops could use theoretical scenarios or case studies from earlier projects as a basis for discussing how collaboration could make a practical difference. By way of example, parties could look at issues that came up on earlier projects and discuss how a collaborative approach may have led to different actions and outcomes. With time the workshops could also be used to review actual events on site and any real issues that have come up, in order to agree a collaborative approach but also use such events to impart lessons about how to improve and further embed collaborative behaviours.

These workshops can be a highly effective tool in ensuring that collaboration is implemented. It is worth investing time in identifying the right contents for each stage of the project and ensuring that follow up actions are recorded and monitored and that there is a genuine and open discussion of issues at such meetings. If there is no real engagement by all parties, then the workshops will not achieve their objective.

E6.0 - KEY PERFORMANCE INDICATORS

The mechanism in E6.0 (*Key Performance Incentives*) of PSSCOC Option Module E and X20 (*Key Performance Indicators*) of the NEC4 ECC are similar insofar as KPI targets are stated in a schedule, with a positive payment (in addition to the contract sum) promised to the contractor if they meet or exceed the KPI. No penalty or 'damages' is involved if the contractor does not meet the KPI. Examples of KPIs set relate to stakeholder management, efficiency, sustainability, productivity, health and safety and quality, and they represent quantifiable measures that compare performance against objectives.

A key difference observed between the two suites of contracts is that under PSSCOC Option Module E, if targets are unlikely to be met, then the contractor should give early warning notice and follow the procedures under E3.0. Under the NEC4 Option X20, the contractor will submit proposals for improving performance and will be paid upon achievement of / improvement on the KPI but this is a separate process from the early warning process, because the early warning process applies on a more general basis whether or not Option X20 is included in the contract.

In the NEC 4 Option X21 (Whole Life Cost), the contractor may propose to the project manager that the scope is changed to reduce costs of operating and maintaining an asset. Depending on the consultation between the project manager and contractor, there may be a revised programme and the change to the scope is not considered a compensation event. This is intended to reflect the fact that it is in the employer's interest, or the ultimate user's interest, to consider the whole life cost of maintaining and operating the asset, which will substantially exceed the construction cost. There is no express provision for rewarding the contractor with coming up with such proposals, but it is in the employer's interest to encourage such proposals and it would be beneficial to share future long term savings even if there is an immediate cost increase.

There are other incentives that are embedded in some of the other options with the intention of encouraging better delivery. Option X22, which deals with Early Contractor Involvement, provides that where the client decides to proceed to stage two and the anticipated cost is less than the original budget, the contractor is entitled to an incentive based on a share of the savings (clause X22.7). Option X29 which deals with climate change takes a different approach. It includes a provision for a performance table which can be used for monitoring KPIs but also for financial incentives, which the contract makes clear can be positive or negative.

E7.0 – REVISION OF THE PROGRAMME

A comprehensive logic linked programme is essential for good project management, as is the regular updating of the programme based on actual events and progress. If that is done transparently and by agreement, it will provide all parties with an understanding of the real state of the works but will also make it easier to resolve any delay related issues as well as to identify effective mitigation measures.

Clause 9 of the PSSCOC 2020 therefore provides for programmes to be regularly submitted to the SO, so that any issues can be identified in advance and resulting in a programme that both parties accept is an accurate representation of the progress of the works. E7.0 of Option Module E expands the process for the programme to be revised, so that when it becomes clear that actual progress does not conform with the programme, the SO can instruct the contractor to provide details or revise the programme to ensure completion on time and in order to have a programme that is accepted (it is recognised that this may require a number of submissions). There are strict time periods that

govern this process, and the SO is required to provide reasons when not accepting the programme, which can then be addressed by the contractor.

NEC4 has a similar process in clause 30, which provides for a comprehensive programme to be prepared and then to be regularly submitted for acceptance by the project manager, showing what is required from all parties involved in the project, not just the contractor. That is then used to monitor the works as to assess entitlement. NEC4 does not have a specific process for dealing with delay, but that is an issue that should be discussed as part of the acceptance process or as part of the risk reduction meetings following an early warning. In addition, when submitting a revised programme under clause 32.1, the contractor shows how it plans to deal with any delays. Clause 31.3 identifies what reasons can be raised when not accepting the programme and while delay is not expressly mentioned, a programme is not accepted if the contractor's plans are not practical or realistic. In addition, there is a provision in clause 26 for acceleration by agreement.

Overall, these are useful mechanisms that encourage pro-active steps to be taken in managing delay and engaging with the contractor in order to identify what steps can be taken to avoid delay. It is important to recognise that it is not always possible to avoid delay but engaging in this process as soon as potential delay is identified should lead to a joint discussion which will help identify any mitigation measures.

E8.0 – DELAY AND EXTENSION OF TIME

One of the NEC's core clauses focuses on employer risks which entitle the contractor to additional time and money, known as "compensation events". Where a compensation event is notified and assessed, the contractor entitlement to time and costs is assessed under this single mechanism. The intention is that the impacts on time and costs are assessed as soon as the issue arises, on a prospective basis, and are not later revised to reflect the actual costs or time impact. In contrast, the PSSCOC 2020 deals with delay by two separate mechanisms – extension of time and claim for loss and expense. Depending on the drafting and event, it may be that the contractor is entitled to an extension of time but not to costs. A further distinguishing factor is that under the PSSCOC 2020 clause 14.2, the SO may assess the time impact either on a prospective or a retrospective basis.

In PSSCOC Option Module E, it is notable that the period of time that the SO is required to reply to the contractor's notice for extension of time has been amended from "*within a reasonable time*" to within 60 days of receiving sufficient information (or a longer period agreed with the contractor). On this basis, it appears that more time and flexibility has been given for the SO to consider and respond to the contractor's notice.

Another key feature that distinguishes NEC from other construction contracts is the prospective and sequential assessment of each delay event, in which each compensation event is evaluated on its own, and by the order they occur. As such, the idea of true concurrency i.e. the occurrence of two or

more delay events at the same time, will most likely never occur. There is also a useful Practice Note produced by NEC that addresses how delay is to be assessed^[26]. On the other hand, clause 14.3 of PSSCOC 2020 as amended by PSSCOC Option Module E expressly addresses concurrent delays and provides that the SO shall “*take into account any delays which may operate concurrently with the delay due to the event or events in question and which are due to acts or default on the part of the Contractor*”. Given the different approaches and complexities around assessing concurrent delay, it may be that the NEC approach provides a simpler approach when assessing delay events and accordingly, the contractor’s entitlement to extension of time. That however is still very much reliant on having a fully progressed programme which is agreed by both parties.

OTHER NEC FEATURES

As can be seen, PSSCOC Option Module E and NEC4 share a number of features that are designed to improve collaboration and improve project management. NEC4 however has a number of additional features which highlight the differences between NEC4 and traditional forms of contract. Some of these key features are summarised below.

THE DRAFTING APPROACH

Approach to drafting and use of plain English

An initial review of NEC4 will make it clear that its drafting is very different from traditional contracts. The emphasis is on the use of plain English and the drafting is concise and designed so that it can be understood by anyone using the contract. There is a marked absence of long complex clauses and the lack of cross referencing as well as the use of bullet points highlight the change from traditional drafting. Another unique feature is the use of the present tense in order to identify obligations rather than the term “shall”.

This is intended to make the contract easier to use in an international context, recognising the importance of the parties’ site teams being able to understand their contractual obligations but also the various mechanisms that NEC4 includes and which are designed to improve project management. In addition, this helps to reinforce the message that NEC4 is fundamentally different from traditional contracts, to discourage parties from assuming that it is the same as previous contracts they used and that there is no need to understand what the contract requires.

MODULAR STRUCTURE AND OPTIONS

Modular structure with options to allow risk allocation on a flexible basis

Another unique feature of NEC is that it does not present a fixed view on risk allocation, which parties may then seek to amend. Instead, parties must first choose the method of payment from six possible options, which includes the traditional lump sum or re-measurement payment options but also the innovative target cost options as well as a cost reimbursable and management contract options.

More flexibility is then provided by the X clauses, which can be selected in order to adjust the risk allocation, in recognition that the risk allocation affects the contract value and that by adjusting the risk based on the party that is better able to manage that risk or is willing to take on that risk, may result in better value. That means that parties choose who bears risks such as change in law^[27] or inflation^[28], which in other forms are fixed. Similarly, the deduction of delay damages^[29] or retention^[30], as well as the option for a bonus for early completion^[31], are all options that need to be chosen. The standard of design is also the subject of a specific option^[32], which if not used will usually result in fitness for purpose obligations.

In addition, NEC introduces more innovative options, for example with regard to incentives where KPIs can be used^[33] as well as low performance damages^[34]. There are two options which are of particular interest:

Option X21, which is designed to encourage the contractor to look at the whole life cost of the asset and make proposals that reduce the whole life cost, even if there is an increase to the construction costs. The Project Manager will then consider whether to implement such proposals.

Option X29, which is designed to provide a contractual framework for measures designed to limit the impact on climate change. The parties agree the Climate Change Requirements and the contractor has a climate change plan which is updated regularly, with reporting undertaken against a Performance Table which can also be used to include positive and negative incentives.

In practice, clients will form their own views as to how they use those options and will tend to use them consistently across their contracts, but this provides a flexibility at the tender stage for a more sophisticated commercial model that can result in better value for money by limiting the risk of high risk premiums being added for events which may not materialise.

TARGET COST CONTRACTING

The use of target cost to align commercial interest and provide collaboration

Collaboration can only occur when both parties are incentivised to collaborate and it has to be recognised that commercial incentives will have the greatest impact. Traditional fixed price contracting meant that each party was concerned with its own risks and had no reason to cooperate in ways that reduce the other party's risk.

NEC4 uses the target cost payment options^[35] in order to align the parties' commercial interests, so that they are incentivised to cooperate because all parties benefit when costs are reduced and overspend is avoided. This works by agreeing a target price at the tender stage, based on an assessment of the cost of the works, plus an allowance for profit and overheads. As the works start, the contractor is paid its actual costs (subject to a few exceptions known as disallowed costs) and the target gets adjusted for employer risk events such as change in instructions. On completion, the actual costs are compared to the adjusted target costs, and the parties share any savings or overspend based on the pre-agreed percentages included in the contract.

In practice this means that the contractor is incentivised to reduce its costs even for employer risk events such as change in instructions or extreme weather, as the contractor will receive a share of such savings. Similarly, even if the contractor is in culpable delay and delay damages are applied, the employer should cooperate in finding ways to reduce the prolongation costs as they will affect the position as against the target. The fact that payment is based on actual costs means that there is transparency as to the contractor's commercial position, which reduces some of the concerns employers have as to whether costs claimed by contractors are excessive. Disallowed costs are used to control the actual costs that are payable and mean that the contractor is not paid certain costs which cannot be justified as a shared risk.

Using a target cost contract requires both parties to understand how it operates and recognises that while the aim is to be able to share savings, it is also possible that parties will share an overspend which may be due to what would otherwise be seen as the contractor's risk. It is also important that the initial target price is set up at a realistic level and that parties use the contract mechanism, such as early warnings and the programme to ensure efficient delivery.

CONTEMPORANEOUS AND PROSPECTIVE ASSESSMENT

The need for contemporaneous and prospective assessment to avoid final account process

Construction contracts usually use a final account approach, where the various claims that may be raised during the works period become part of a final account negotiation which is either resolved by agreement or becomes the subject of formal proceedings. That approach has the benefit of ensuring that the focus is on delivery and it can be easier to reach agreement on a large number of issues than to focus in detail on a single disputed issue. The downside of this approach is that until the final account is agreed or determined in formal proceedings there is uncertainty as to the commercial outcome and whether, for example, a budget will be exceeded or a profit will be made. In addition, the availability of witnesses and the quality of documentary evidence is usually greatly reduced when a dispute takes place a number of years after completion.

NEC therefore takes a very different approach, by including a procedure for a contemporaneous assessment of compensation events, which will usually take place on a prospective basis and over a relatively short period following, for example, an instruction that changes the works. A fully inclusive quotation is provided within 3 weeks covering both cost and time, and the project manager responds within 2 weeks. Once implemented, the time or cost impact is not changed even if the actual impact is different from the one forecast.

As a result, until NEC4, the NEC forms of contract did not have a mechanism for a final account. Even within NEC4, the final statement process in clause 53 is meant to be used for the small number of issues that cannot be assessed and finalised during the life of the project. Taking this approach requires sufficient skilled resources who can prepare reliable and accurate quotations, which requires a comprehensive up to date programme as well as timely input from the supply chain. Similarly, the project manager staff who assess such quotations need to be able to do it quickly and accurately. There is however a clear benefit in finalising costs as the project progresses and that provides much more certainty as to the ultimate commercial position. Even if there are differences, the process helps to ensure that the parties present their position and it is possible to narrow down disputed areas.

CONCLUSIONS

As mentioned at the start of this note, collaborative contracting encourages a mindset shift towards working collaboratively for the shared project goals. The success of any collaborative contracting model therefore first requires a paradigm shift in mindset, which substitutes competition with trust and collaboration, which in turn leads to a more balanced relationship and better delivery overall. As the experience in Singapore demonstrates, this is most effectively achieved where the employer takes the lead in the adoption and implementation of collaborative forms of contracting. While PSSCOC Option Module E does not purport to adopt all the elements of collaborative contracting found in NEC4, it goes a long way towards promoting collaboration in the built industry. BCA's introduction of Y clauses to NEC4 is a further step in the right direction.

However, mere adoption of a collaborative contracting form is not sufficient. Care must be taken to ensure that the partnering principles are properly administered by an able team of consultants who are trained and equipped to provide the necessary project support. This will include the need to facilitate partnering workshops in a way that effectively steers the parties towards the workshop objectives, and proactively reduce and resolve disputes through the effective use of dispute boards. It is also important for employers to determine the adoption of collaborative contracting right from the onset of the project, and to ensure that the consultancy contracts for the project are properly scoped to this end.

Despite the clear benefits of collaborative contracting, it would be remiss to assume that it is a one-size-fits-all solution for all projects. Collaboration should always benefit a project but has the

potential to make the greatest impact where the complexity of the project makes it difficult or even impossible to identify and allocate all risks up front. In projects of low complexity, the traditional model of contracting may still produce good results, and the power of competition in keeping cost down should not be underestimated^[36] especially as a full collaborative contract may require additional management. Nonetheless, a move from traditional adversarial behaviours to a more collaborative environment is likely to benefit all parties and there are different levels of collaboration that can be implemented depending on the nature of each project.

FOOTNOTES

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[9] See Option Y(SG)1

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[11] See Option Y(SG)3

[12] See Option Y(SG)4

[13] See Option Y(SG)4

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[21] *Northern Ireland Housing Executive v Healthy Buildings (Ireland) Ltd* [2014] NICA 27 and *Northern Ireland Housing Executive v Healthy Buildings (Ireland) Ltd* [2017] NIQB 43

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[26] NEC4 ECC – PRACTICE NOTE 1.1 Assessing delays due to compensation events, published in 2017 and updated in 2019

[27] Option X2

[28] Option X1

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[31] Option X6

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[33] Option X20

[34] Option X17

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