

NEC Practice Notes for Public Works Projects in Hong Kong

VOLUME 1

Engineering and Construction Contract



Development Bureau

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Development Bureau

**NEC Practice Notes for
Public Works Projects in Hong Kong –**

**Volume 1 – Engineering and Construction
Contract (ECC)**

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Contents

1	EXECUTIVE SUMMARY	3
1.1	KEY TOPICS OF VOLUME 1	3
1.2	INTERPRETATION OF REFERENCES TO NEC CLAUSES	5
2	PRE-TENDER STAGE	6
2.1	PREPARATION OF TENDER DOCUMENTS	6
2.2	GUIDELINES FOR CHOICE OF OPTIONS	14
2.3	ORGANISATION / SET-UP OF THE TEAM FOR NEC CONTRACTS	31
2.4	GUIDELINES FOR DETERMINATION OF PAIN / GAIN SHARE MECHANISM OF TARGET CONTRACTS	33
2.5	PRE-TENDER ESTIMATE (PTE) AND CONTINGENCIES	35
2.6	PRE-BID ARRANGEMENT UNDER TARGET CONTRACTS	38
3	TENDER STAGE	42
3.1	BRIEFING TO POTENTIAL TENDERERS	42
3.2	POINTS TO NOTE FOR TENDER ASSESSMENT	42
4	CONTRACT STAGE	47
4.1	BUILDING UP A PARTNERING TEAM	47
4.2	CONTROL OF TIME	48
4.3	PAYMENT TO THE <i>CONTRACTOR</i>	61
4.4	COMPENSATION EVENTS	85
4.5	CONTROL OF QUALITY	104
4.6	SUBCONTRACTING	107
4.7	COST SAVINGS DESIGN	116
4.8	INNOVATION & TECHNOLOGY (I&T) PROPOSAL	117
4.9	NEC PERFORMANCE MONITORING	117

4.10	NEC HEALTH CHECK	118
4.11	RISKS / LIABILITIES AND INSURANCE	120
5	KNOWLEDGE SHARING AMONG NEC USERS	121
5.1	KNOWLEDGE SHARING AMONG NEC USERS	121
APPENDIX A – EXAMPLE OF UTILITY SCHEDULE AND INTERFACING REQUIREMENTS SCHEDULE.....		122

1 EXECUTIVE SUMMARY

1.1 KEY TOPICS OF VOLUME 1

1.1.1 Volume 1 of these Practice Notes focuses on common challenges encountered by the Project Offices at pre-tender and tender stages, and the practical issues in managing NEC ECC projects during construction, with due considerations to the prevailing Government guidelines and procedures. Of the comprehensive coverage in Volume 1, the following are key topics that warrant special attention of the Project Offices:

(a) Option selection

Considerations in the detailed evaluation of the main Options are included in Section 2.2 for reference by the Project Offices.

(b) Pain / gain share mechanism for target contracts

50:50 split of pain / gain for the first 10% of over-spending (i.e. the *Client's* expenditure is normally capped at 105% of the final target cost) and for all range of under-spending is recommended. Nevertheless, the Project Offices may adjust the recommended mechanism to suit their project situations as detailed in Section 2.4.

(c) Contractor's proposals and Cost Savings Design

For Options C and D, regardless of whether a *Contractor's* proposal is treated as a Cost Savings Design under ACC Clauses VII:1 and VII:2 or as a proposal under NEC Clause 16.1, the target cost should remain unchanged.

In the case of a Cost Savings Design, any *Project Manager's* cost or addition in future operation and maintenance (O&M) cost arising from the Cost Savings Design will be deducted from the sum due to the *Contractor*. For all main Options, upon Completion of the whole of the works, the *Contractor's* share in the agreed construction cost savings due to the Cost Savings Design, after the deduction of the total of the *Project Manager's* cost and any addition in future O&M cost, will be paid to the *Contractor*.

(d) Preparation of pre-tender estimates, contingency sums and provisional sums for NEC contracts

Guidelines on preparing pre-tender estimates (PTEs), contingency sums and provisional sums for NEC contracts are outlined in Section 2.5. The guidelines try to unify the approach to derive the PTEs, contingency sums and provisional sums for different main Options.

(e) Facilitating healthy financial management under target contracts

Under the standard NEC4 ECC, the *Project Manager* forecasts the total Defined Cost that will have been paid by the *Contractor* "before the next assessment

date” for the purpose of assessing interim payments under Options C and D. In NEC ECC Hong Kong Edition, with reference to previous standard amendments made to NEC4 ECC, this period is extended to “before one week after the next assessment date” (see NEC Clause 11.2(34) to alleviate potential “negative cash flow” for the *Contractor* under Options C and D.

The forecast Defined Cost includes payments due to people, Plant and Materials, Equipment etc. (i.e. the cost components in the Schedule of Cost Components (SoCC)) and needs to be substantiated by proof, such as invoices at the payment application, and evidence of payment made as forecast in the following payment application. Sections 4.3.4.1, 4.3.8.7 and 4.3.8.8 refer.

(f) Payment checking for target contracts

An enhanced sample checking mechanism embracing a risk-based approach is introduced to ensure that adequate control of payment is in place, while keeping the resource requirement from the Project Offices on payment checking to a more reasonable level. Section 4.3.8.13 refers.

(g) Equitable risk allocation and management of compensation events

Grounds for compensation events, including the recommendation on whether the events should be compensated with both time and money, or time only, are included in Section 4.4.1. In general, we consider that the time and money entitlement of the default NEC principle may be adopted if appropriate, except for events such as weather events (excluding severe weather events for Options C and D), utility interference, prevention events, shortage of labour, etc. as amended in the Library of Standard *additional conditions of contract* for use with NEC ECC Hong Kong Edition.

(h) Building up a partnering culture

Good practices adopted in previous NEC projects, such as the setting up of joint site office, champion group meetings, mission room meetings, organization of partnering workshops, etc. are introduced in Sections 2.3.1.3, 2.3.1.4 and 4.1.

(i) Drafting of tender documents

The set of standard amendments to the *conditions of contract* including the *additional conditions of contract*, General and Special Conditions of Tender, Notes to Tenderers, and sample templates of Contract Data Part one and Part two, Grand Summary of the *activity schedule / bill of quantities*, Scope provided by the *Client* including Preambles to the Specifications, Preambles to the *activity schedule*, General Preambles to the *bill of quantities*, Form of Tender and Articles of Agreement are posted on the Development Bureau (DEVB)’s website under the heading “NEC – Engineering and Construction Contract (ECC) Documents” in “Standard Contract Documents” of the “Publications” section.

(j) Effective project management

Guidelines on project management, including management of time, cost, risks and quality, are included in Sections 4.2 to 4.5. Issues such as proactive management of project risks, assessment of NEC-compatible programme, period for reply, etc. are addressed.

(k) Performance benchmarking

The Project Offices are required to submit returns to DEVB or update the relevant parts of the Public Works Project Information System (PWPIS) regularly to provide key performance information for the purpose of benchmarking NEC performance in a longer term.

(l) Effective knowledge sharing

The Inter-departmental Working Group on NEC Projects has been set up as a knowledge exchange platform for further development or refinement of the Practice Notes in a medium term.

(m) Cost control and corruption prevention for subcontracting

There may be concerns on subcontract prices being inflated intentionally by the *Contractor* to look for financial benefits, which are addressed as in Sections 4.3.10 and 4.6.

1.2 INTERPRETATION OF REFERENCES TO NEC CLAUSES

1.2.1 Unless otherwise specified, references in these Practice Notes to NEC Clauses shall be construed as references to the corresponding provisions under NEC ECC Hong Kong Edition, which shall also be deemed to include any amendments incorporated through the Library of Standard *additional conditions of contract* posted on the DEVB's website under the heading "NEC – Engineering and Construction Contract (ECC) Documents" in "Standard Contract Documents" of the "Publications" section.

2 PRE-TENDER STAGE

2.1 PREPARATION OF TENDER DOCUMENTS

2.1.1 Tender documentation

2.1.1.1 The standard amendments to the *conditions of contract* including *additional conditions of contract*, General and Special Conditions of Tender and Notes to Tenderers, sample template of Contract Data Part one and Part two, etc. are posted on the DEVB's website under the heading "NEC – Engineering and Construction Contract (ECC) Documents" in "Standard Contract Documents" of the "Publications" section for reference. If the Project Offices wish to develop any amendments to the *conditions of contract* including *additional conditions of contract*, or Special Conditions of Tender for their repeated use or placing in the respective library for use by others, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who may consult the Inter-departmental Working Group on NEC Projects, the Steering Committee on NEC Projects and / or the Conditions of Contract Committee where appropriate. For other non-standard amendments to the *conditions of contract* including *additional conditions of contract* to suit specific needs of individual contracts, the Project Offices should seek approval from the Head of Department / Office or its delegate at D2 rank or above unless otherwise specified in these Practice Notes and may seek legal advice from LAD(W), DEVB in case of doubt. Similarly, for other non-standard Special Conditions of Tender, Notes to Tenderers, Contract Data Part one and Part two, Form of Tender, Articles of Agreement, Scope provided by the *Client* including Preambles to Specifications, General Preambles to the *bill of quantities*, Preambles to the *activity schedule*, and Grand Summary of the *activity schedule / bill of quantities* for individual contracts, they should seek approval from a public officer at D2 rank or above unless otherwise specified in these Practice Notes and may seek legal advice from LAD(W), DEVB in case of doubt. For non-standard amendments involving the requirement for essential submissions to be Digitally Signed in General and Special Conditions of Tender, Project Offices should also submit their proposal with justifications to DEVB for agreement. For other parts of the tender documents, approval procedures in the Project Administration Handbook for Civil Engineering Works (PAH) published by the Civil Engineering and Development Department or equivalent guidelines of the Architectural Services Department and the Electrical and Mechanical Services Department should be followed. For the avoidance of doubt, the requirements in these Practice Notes are imposed for contracts adopting NEC form without prejudice to the legal vetting requirement mentioned in DEVB's memo ref. DEVB(W) 510/30/01 dated 29 March 2019 which was promulgated following the requirement of the Stores and Procurement Regulations (SPR). In other words, if a works contract has an estimated value exceeding \$500 million, the departments must send all the non-standard components of the tender documents to LAD(W), DEVB for vetting before the tender documents are issued to potential tenderers.

2.1.1.2 While a sample Scope (together with Specifications) is not provided in these Practice Notes, the Project Offices should bear in mind the characteristics of NEC when drafting the Scope. In accordance with NEC Clause 11.2(19), Scope is "information which specifies and describes the *works* or states any constraints on how the *Contractor* Provides the Works...". It should represent a complete, clear and precise statement of the *Client's* requirements to be undertaken by the *Contractor* in Providing the Works, together with any constraints governing how the *Contractor* is required to Provide the Works. More guidance on

preparation of the Scope can be found in relevant User Guides published by Thomas Telford Limited.

2.1.1.3 Particular care should be taken in defining utility-related obligations and interfacing requirements within the Scope. Utilities and interfaces frequently have significant implications on access, sequencing, working methods, programme and risk allocation, and are a common source of compensation events and disputes if not properly addressed. The Scope should therefore clearly identify, as appropriate, the responsibilities of the *Contractor* in relation to utility protection, diversion, removal, reinstatement, coordination and liaison, any utility-related constraints, and the interfacing requirements with Others. The objective is to provide tenderers with sufficient clarity to understand their obligations, assess the associated risks and price the *works* on an informed basis.

2.1.1.4 In applying the above principles, Project Offices should note that constraints on how the *Contractor* Provides the Works should be fully and clearly reflected in the Scope. Such constraints include, in particular, requirements relating to access arrangements, environmental restrictions, traffic restrictions, utility constraints, interfacing requirements, stakeholder coordination requirements, working hour restrictions and other limitations affecting the execution of the *works*.

2.1.1.5 To facilitate clarity and consistency in documenting utility-related obligations and interfacing requirements, example templates of a utility schedule and an interfacing requirements schedule are provided at **Appendix A** for reference. The example templates are illustrative only and may be adapted by Project Offices to suit the specific circumstances of individual projects. Where adopted, the utility schedule and interfacing requirements schedule should form part of the Scope.

2.1.1.6 Utility schedule and interfacing requirements schedule are intended to improve the clarity, transparency and communication of utility-related requirements, responsibilities, interfaces and assumptions. Where adopted, they may assist tenderers in understanding utility-related requirements, responsibilities, interfaces and assumptions, and facilitate contract administration upon contract award. The utility schedule and interfacing requirements schedule should be read together with the *conditions of contract*, the Scope, the Site Information and other contract documents in determining the Parties' respective rights and obligations and the allocation of risks under the contract.

2.1.1.7 Some of the important points to note in preparing the Scope are:

(a) Clarity and effective project management

In drafting the Scope, the Project Offices should bear in mind the need to state the requirements as clear as possible to avoid misinterpretation and unnecessary disputes. For example, the expressions such as “in the opinion of the *Project Manager*”, or “to the satisfaction of the *Supervisor*” should be replaced by more definitive standards or requirements as far as possible.

(b) Payment methodology

Specifications in conventional contracts are drafted based on a price-based contract. However, for Options C and D which are cost-reimbursable based (i.e. Defined Cost plus the Fee basis), some of the commonly used terms such as “...at the *Contractor*’s own cost”, or “...deemed to be covered by the *bill of quantities*...”, etc., are no longer applicable.

(c) Time for reply

As the *Project Manager*, the *Supervisor* and the *Contractor* are required to reply within the *period for reply* unless otherwise stated in the contract according to NEC Clause 13.3, the use of expressions such as “... within a reasonable time...” should be avoided.

Site Information

2.1.1.8 Site Information forms part of the contract under the NEC ECC Hong Kong Edition. In accordance with NEC Clause 11.2(21), Site Information is “information which describes the Site and its surroundings...”. Site Information should generally be used to describe the existing conditions at the Site and its surroundings, and to provide factual information relevant to the physical conditions which may be encountered in Providing the Works. For projects involving substantial geotechnical or subsurface risks (such as lack of adequate ground investigation), it is considered good practice to include relevant geotechnical reports as much as practicable in the Site Information. Section 4.4 of the ECC User Guides – Volume 2 identifies information such as geotechnical data reports (GDRs), which contain factual ground investigation data, and geotechnical baseline reports (GBRs), which establish contractual baselines for anticipated ground conditions, as information that may be included within the Site Information. Inclusion of such reports enhances transparency, assists tenderers in forming a reasonable understanding of expected physical conditions, and facilitates transparent risk allocation and assessment of compensation events.

2.1.1.9 Particular care should be taken in determining whether utility-related information should be included in the Scope or the Site Information. In general, Site Information should be used to describe existing utilities and utility-related physical conditions, whilst requirements relating to utility protection, diversion, removal, reinstatement, coordination, liaison, interfacing requirements with Others and other constraints on how the *Contractor* Provides the Works should generally be included in the Scope. Clear separation between the Scope and the Site Information is important in facilitating transparent risk allocation, effective administration of the contract and proper assessment of compensation events.

2.1.1.10 Regarding the site information commonly marked with “for information only” in traditional GCC form, attention should be drawn to NEC Clauses 60.2 and 60.3 as further elaborated in Sections 2.1.1.11 and 2.1.1.12 below.

2.1.1.11 NEC Clause 60.2 lists the information, including the Site Information, which the *Contractor* is assumed to have taken into account for the physical conditions within the Site for the purpose of assessing a compensation event. As such, the *Client* cannot specify in the Site Information that the information is provided “for information only”. Where geotechnical reports (i.e. GDRs or GBRs), existing utilities records or other information

relating to physical conditions are included, they should be presented clearly so that the factual information and any contractual baselines can be understood together for the purpose of forming reasonable tender assumptions. Where appropriate and subject to suitable justifications and requisite approvals, a structured geotechnical baseline arrangement may also be considered (e.g. Level 1 deviation range priced in the tender, Level 2 deviation range recoverable as actual Defined Cost plus Fee without time, and Level 3 recoverable with both time and cost entitlements), with such deviation ranges defined by reference to deviations from the contractual baselines stated in the relevant GBRs. Where a structured geotechnical baseline arrangement is intended to be adopted which departs from the standard entitlement position under NEC Clauses 60.1(12), 62.2 and 63.6 such that not all compensation events arising from unforeseen physical conditions would entitle the *Contractor* to both time and cost (e.g. where recovery under a Level 2 deviation range is limited to actual Defined Cost plus Fee without time entitlement), prior approval shall be sought from DEVB who may, where appropriate, consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects.

2.1.1.12 Furthermore, in accordance with NEC Clause 60.3, where there is an ambiguity or inconsistency within the Site Information (including the information referred to in it), the *Contractor* is assumed to have taken into account the physical conditions more favourable to doing the work. This highlights the importance of ensuring that any information included in the Site Information, including GDRs, GBRs, existing utilities records and other documents describing physical conditions, is presented clearly and properly. In particular, where GBRs establish contractual baselines for anticipated physical conditions, any ambiguity or inconsistency within or between the GBRs, GDRs and other parts of the Site Information may undermine the effectiveness of such contractual baselines in allocating risk, as the *Contractor* is entitled to rely on the physical conditions more favourable to doing the work. Project Offices should therefore ensure that the various documents forming the Site Information are prepared and coordinated in a manner that avoids ambiguity and inconsistency, and expressly state within the Site Information that the contractual baselines established in the GBRs prevail over the underlying GDRs and other geotechnical information for the purposes of assessing physical conditions and compensation events.

2.1.1.13 The Site Information plays an important role in assessing compensation events. In preparing tender documents, the Project Offices are reminded to include as much relevant information as possible, including GDRs, GBRs, site investigation records, land contamination assessments, aerial photographs, existing utilities records, as-built records etc. for tenderers to prepare their tender submissions. Other examples may include provision of explanation on the borelog or other site investigation information and data provided (e.g. assumed rock head profile, ground water level, estimated locations and quantity of soft materials, anticipated thickness and properties of various soil layers, etc.). The Site Information will form one of the bases in judging the physical conditions for the purpose of assessing a compensation event. This may also include comprehensive utility-related records to support realistic pricing, clarify risk allocation and, in the event of deviations, facilitate the assessment of compensation events. Details will be further discussed in Section 4.4.1.

Alternative contractual approach to GBRs

2.1.1.14 While the ECC User Guides identify GBRs as information that may be included within the Site Information, Project Offices should recognise that alternative approaches to the use of GBRs and geotechnical risk allocation also exist for projects involving substantial

geotechnical uncertainty. In all cases, GBRs serve as contractual baseline documents for anticipated physical conditions and are intended to facilitate tender pricing, transparent risk allocation and assessment of compensation events.

2.1.1.15 As an alternative approach for projects involving very complex underground works such as major tunnelling operations, Project Offices may refer to the guidance jointly published by NEC and the International Tunnelling and Underground Space Association (ITA) entitled “Guidance on NEC and Underground Works”. Under the alternative approach highlighted in this guidance, a GBR may be treated as a standalone contractual baseline document identified separately in the Contract Data rather than forming part of the Site Information. Such an approach is intended to support alternative geotechnical risk allocation mechanisms where significant geotechnical uncertainty exists and substantial consequences may arise from deviations from anticipated physical conditions.

2.1.1.16 Adoption of the alternative approach will require non-standard amendments, including amendments affecting the interaction between the Site Information and the GBRs, and the compensation event provisions relating to unforeseen physical conditions. Prior approval shall be sought from DEVB who may, where appropriate, consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects.

Activity Schedule / Bill of Quantities

2.1.1.17 In accordance with the User Guides, the *activity schedule* should be prepared and priced by the tenderers under Options A and C. It is not part of the Scope and should not be used to describe the *works*. The prices entered by the tenderers for each activity are normally lump sums, not unit rates as in the *bill of quantities*, except for those remeasurement items to suit specific needs in some contracts. To facilitate the tender assessment, the Project Offices should specify any particular key activities which the *Contractor* should include in the *activity schedule* in the guideline or sample form for the preparation of *activity schedule*. Where appropriate, the Project Offices should define principal activities (e.g. individual major parts of the structures, systems, components, etc.) and invite the tenderers to subdivide each into activities in more details, including allowance for early payment for Plant and Materials or Equipment within the Working Areas before incorporation into the *works* or using to Provide the Works to improve the *Contractor*’s cash flow under Option A. The Project Offices should also remind the tenderers to include establishment and administrative activities, safety and health activities, design activities, testing and commissioning, etc. Activity descriptions should be clear and complete so that the work included in each activity can be identified and the completion of each activity can be easily recognised. Subject to the rules in the General Conditions of Tender, the tenderers can decide how to break up their work into activities, enter and price them in the *activity schedule*.

2.1.1.18 Since Options A and C do not require *bill of quantities* to be issued to tenderers or to be used subsequently, the tenderers have to calculate quantities from the Scope where they need to know a quantity in order to estimate the cost of the work. For many contracts, this may be a significant task consuming the tenderers’ resources. In order to reduce the cost and time involved during the tender preparation, the Project Offices may calculate quantities before inviting tenders and then issue a copy of the quantities list to all tenderers if appropriate. However, it must be made clear that the tenderers will have used the quantities and relied upon them entirely at their own risk of the inaccuracy or incompleteness of the information.

2.1.1.19 The *bill of quantities* used under Options B and D is to be priced and extended by tenderers so as to produce the tendered total of the Prices (for Option B) / tendered Total of the Prices (for Option D). The Project Offices should identify the *method of measurement*, on which the *bill of quantities* is based, in the Contract Data Part one. The Project Office should subdivide the principal item(s) into different items in the *bill of quantities* for the better financing of the Plant and Materials or Equipment before they are incorporated into the *works* or used to Provide the Works.

Marking Scheme

2.1.1.20 This section applies if the Marking Scheme Approach is adopted in accordance with DEVB Technical Circular (Works) (TCW) No. 4/2014 and 4/2014A.

2.1.1.21 The Project Offices should consider including an assessment criterion taking into account relevant NEC experience possessed by proposed managerial staff in Section (3) – Tenderer’s technical resources where applicable.

2.1.1.22 In addition to the relevant professional qualifications, the following requirement should be added in the contract such that relevant *key persons* of the *Contractor* should possess the required experience:

“a minimum of [*insert number*] years of relevant post-qualification experience and

- (i) have a minimum of [*insert number, normally 1*] year(s) of proven experience as Construction Manager or Site Agent in the use of NEC contracts,
- (ii) be an accredited or certified NEC *Project Manager* or *Service Manager* recognised by an international or local construction-related professional institution / institute, or
- (iii) have successfully completed a recognised training course for NEC *Project Manager* or *Service Manager*.

A recognised training course for NEC *Project Manager* or *Service Manager* refers to a training course that enables participants to be regarded as having acquired the required standard necessary to act in the respective role upon successful completion of the training course, as recognised by an international or local construction- related professional institution / institute.

[For tenders invited from Group A or Group B contractors, include the following paragraph] If Construction Manager or Site Agent does not have the required qualification under (i), (ii) or (iii) above, he is required to attain such qualification within six months from the *starting date*. The *Project Manager* may extend the six-month period.”

The relevant experience of the concerned *key persons* should be required to input in the Contract Data Part two.

Programme

2.1.1.23 If the Project Offices wish to understand more on whether the tenderers have fully understood their obligations and whether they are likely to be able to complete the work within the stated time by using their proposed methods and resources (in particular for multi-disciplinary or complex projects), they should consider requiring tenderers to submit a programme by adopting the standard Special Conditions of Tender Clause SCT 1 – Programme of works.

2.1.1.24 The Accepted Programme is a crucial document for managing the contract and enabling the *Project Manager* and the *Contractor* to monitor the progress of the project and assess the effect of compensation events under the NEC.

2.1.1.25 The *Project Manager* should pay attention to the following issues commonly identified in the management of programme under the NEC:

- There is no Accepted Programme. Therefore, the *Project Manager* assesses a compensation event using its own assessment of the programme for the remaining work.
- The programme is not updated and does not reflect the latest development of construction activities on the Site. Therefore, the *Project Manager* assesses a compensation event using its own assessment of the programme for the remaining work.
- Lack of focus on planning and programming in the programme submitted by the *Contractor* which makes it difficult to understand what considerations have been taken into account in float, time risk allowances, order and timing of the operations, how it plans to do the work, the principal Equipment and other resources which it plans to use for each operation, etc.

2.1.1.26 If a programme is required to be submitted at the tender stage, tenderers need to start the planning process and prepare a practical and carefully designed programme at an earlier stage. Where a programme may not be required and yet the Project Offices would like to ensure that the *Contractor* should be capable of identifying and managing the complexities, tenderers should be asked to submit with their tender submissions the information on how such complicated sequencing could be tackled during construction. The requirements on the programme to be submitted at tender stage may make reference to similar requirements in NEC Clause 31.2 where appropriate.

2.1.1.27 The programme submitted by tenderers, or information related to sequencing of the works, will form part of the tender submission. However, it should be noted that such programme or information should not be considered as a programme identified in the Contract Data Part two nor be regarded as the Accepted Programme under NEC Clause 11.2(1) under normal circumstances. The *Contractor* should submit the first programme for acceptance by the *Project Manager* after contract commencement. As such, the standard provision in the Contract Data Part two “If a programme is to be identified in the Contract Data” is normally suggested to be deleted.

Dispute Resolution Advisor

2.1.1.28 For NEC contracts, as they already entail partnering spirit and associated project management tools to facilitate early resolution of problems, the adoption of Dispute Resolution Advisor (DRA) System is **NOT** mandatory. It will be up to the procuring departments to adopt the DRA System in individual contracts if the engagement of DRA would offer additional merits in facilitating dispute avoidance and resolution. (Ref.: SDEV's memo ref. () in DEVB(W) 510/83/03 dated 11 February 2021)

Setting of fee percentage

2.1.1.29 A cap has been imposed on the *fee percentage* (see *cap of fee percentage* in the Contract Data Part two). This is to avoid tenderers to submit a disproportionately high percentage figure. According to the latest tender evaluation mechanism, the calculation of forecast total / Total of the Prices including contingency sums would take into account the *fee percentage* so that any unreasonably high *fee percentage* would reflect in the tender price used in the tender evaluation.

2.1.1.30 In setting the *cap of fee percentage*, the Project Offices should have due regard to the distinction between costs to be included within Defined Cost and those to be recovered through the *fee percentage* under NEC. In particular, the people cost of the *Contractor's* site management and supervisory staff is included within Defined Cost in accordance with the SoCC, and is not to be recovered through the *fee percentage*. The *cap of fee percentage* should therefore be set at a level commensurate with covering the *Contractor's* overheads, risks and profit etc., without incorporating such people cost of the *Contractor's* site management and supervisory staff. Careful consideration should also be given to factors such as the project scale, site establishment requirements, programme and duration, so that the resulting *cap of fee percentage* appropriately reflects the segregation between Defined Cost and Fee and supports fair and effective pricing.

2.1.1.31 For the purpose of setting up the *cap of fee percentage* and cost estimation, Works Departments (WDs) should keep a database of *fee percentage* for different contracts under different main Options for reference by the Project Offices.

2.1.1.32 A *minimum fee percentage* of 5% should be set for NEC works contracts. If Project Offices propose to specify a *minimum fee percentage* other than 5%, DEVB's prior agreement should be sought.

Compiling contract documents

2.1.1.33 According to the Licence Agreement for NEC documents which can be found in the NEC Knowledge Management Platform in the Works Group Intranet Portal of DEVB, authorised users are permitted to print out the NEC documents for their own business purposes. Nevertheless, the Project Offices are reminded to observe the provisions in the Licence Agreement when using the Licensed Materials, in particular the provisions related to copyright. Owing to the copyright of NEC documents, the Project Offices should not make copies of the NEC documents for inclusion in the tender or contract documents since the contractors may not be other authorised users as specified in the Licence Agreement.

2.1.1.34 Further information on purchase of NEC contracts, guidelines or relevant publications can refer to www.neccontract.com.

2.1.2 Comparison of terminologies used in GCC and NEC ECC Hong Kong Edition

2.1.2.1 The common terminologies used in GCC and NEC ECC Hong Kong Edition are compared in the table below:

GCC	NEC ECC Hong Kong Edition
extension of time	change to the Completion Date and/or Key Dates
variation	change to the Scope
claim for extension of time and/or additional payment	notification of compensation event
Bills of Quantities / Schedule of Rates	Bill of Quantities / Activity Schedule
Architect / Engineer / Surveyor / Supervising Officer	<i>Project Manager / Supervisor</i>
Site	Site / Working Areas
Contract Sum	the Prices
date for completion of the Works	<i>completion date</i>
extended date for completion of the Works	Completion Date
estimated value of works	Price for Work Done to Date (PWDD)
Maintenance Period	the period between Completion and the <i>defects date</i>

2.2 GUIDELINES FOR CHOICE OF OPTIONS

2.2.1 Main Options

2.2.1.1 The six main Options of the ECC comprise:

- Option A – Priced contract with activity schedule;
- Option B – Priced contract with bill of quantities;
- Option C – Target contract with activity schedule;
- Option D – Target contract with bill of quantities;
- Option E – Cost reimbursable contract; and
- Option F – Management contract.

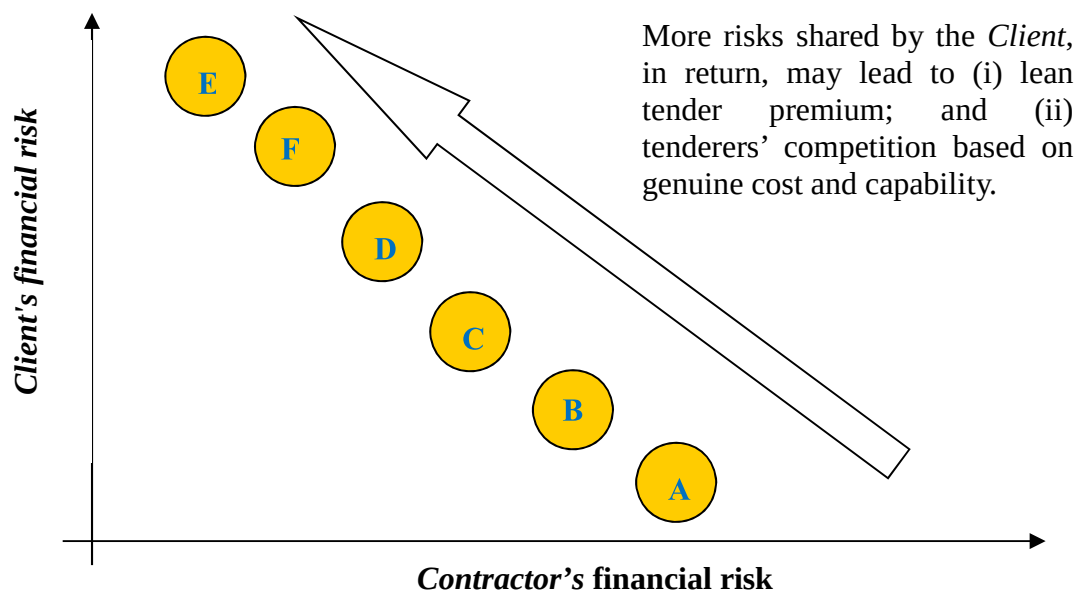
2.2.1.2 The six main Options each:

- use a different payment arrangement; and
- allocate risk differently.

2.2.1.3 The core clauses are used for definition of the contractual relationship. They apply to each of the six main Options and therefore do not influence the selection of the most appropriate main Option.

2.2.1.4 Amongst those six main Options available in the ECC, at least one of them has to be selected for the payment mechanism and the risk sharing approach suitable for the project, followed by the selection of the Option for resolving and avoiding disputes (Option W4 applicable in Hong Kong) and the secondary Options.

2.2.1.5 In general, the *Contractor* carries the greatest financial risk under Options A and B and the least under Options E and F. A graphical risk presentation showing financial risk allocated between the *Client* and the *Contractor* is shown below:



2.2.1.6 In selecting an appropriate main Option for the project, the Project Offices should always take the project specific requirements into account in addition to the general features of the main Options. These Practice Notes mainly focus on the four main Options (Options A, B, C and D) which have been applied extensively in Hong Kong and their principle attributes are compared as follows.

2.2.2 Option selection considerations

2.2.2.1 The main Options under the ECC cover most arrangements used in engineering and building projects. The table under Section 2.2.2.3 compares the four main Options (Options A, B, C and D) commonly used in public works projects in Hong Kong in terms of risk allocation and other factors affecting the final tendered amount.

2.2.2.2 Two of the main Options (Options A and B) are priced contracts and the other two are target contracts (Options C and D). Two of these contract forms use *activity schedule* (Options A and C) and the other two use *bill of quantities* (Options B and D).

2.2.2.3 Time, cost and risks are generally considered to be the most important factors when selecting an appropriate main Option for the project. All four main Options include similar time provisions and the essential differences between them are the risk sharing and payment mechanisms. Analysis and comparison of the characteristics of these main Options contribute to the considerations for selecting the appropriate main Option. Emphasis of the analysis should be placed on the suitability of the concerned main Options to the project taking into account the factors including but not limited to cost certainty, quantity certainty, risk allocation and sharing, completeness of design, potentials to drive more efficient project delivery and cost savings, and resources available for open book accounting for target contracts.

	Option A	Option B	Option C	Option D
Opportunity for cost savings	Less incentive is provided to the <i>Contractor</i> to submit Cost Savings Design under ACC Clauses VII:1 and VII:2, and proposal under NEC Clause 16.1.	Less incentive is provided to the <i>Contractor</i> to submit Cost Savings Design under ACC Clauses VII:1 and VII:2, and proposal under NEC Clause 16.1.	More incentive is provided to the <i>Contractor</i> to submit Cost Savings Design under ACC Clauses VII:1 and VII:2, and proposal under NEC Clause 16.1.	More incentive is provided to the <i>Contractor</i> to submit Cost Savings Design under ACC Clauses VII:1 and VII:2, and proposal under NEC Clause 16.1.
Comparison with GCC	Similar to GCC lump sum contracts as the tendered total will only be amended if changes are instructed.	Similar to GCC remeasurement contracts as the quantities are remeasured.	Dissimilar to any GCC structure as the tendered total only provides the “target”.	Dissimilar to any GCC structure as the tendered total only provides the “target” subject to the remeasurement of the <i>works</i> .

	Option A	Option B	Option C	Option D
The <i>Contractor</i> is paid for	Completed activities at tendered prices.	Quantities actually executed at tendered prices and/or rates.	Defined Cost incurred in Providing the Works plus Fee. The total amount to be paid to the <i>Contractor</i> is subject to the <i>Contractor's</i> share (i.e. the pain / gain share mechanism).	Defined Cost incurred in Providing the Works plus Fee. The total amount to be paid to the <i>Contractor</i> is subject to the <i>Contractor's</i> share (i.e. the “pain / gain” share mechanism).
Financial risk	The financial risk of being able to carry out the <i>works</i> at the agreed price is largely borne by the <i>Contractor</i> .	The financial risk of being able to carry out the <i>works</i> at the agreed price is largely borne by the <i>Contractor</i> .	The financial risk is shared by the <i>Client</i> and the <i>Contractor</i> in an agreed proportion.	The financial risk is shared by the <i>Client</i> and the <i>Contractor</i> in an agreed proportion.
Risk allowance and the tendered total / Total of the Prices	Risk allowance is included by the <i>Contractor</i> in the tendered Prices. The tendered total of the Prices therefore reflects the <i>Contractor's</i> assessment of risks, which are largely borne by the <i>Contractor</i> unless compensation events arise.	Risk allowance is included by the <i>Contractor</i> in the tendered Prices. The tendered total of the Prices therefore reflects the <i>Contractor's</i> assessment of risks, which are largely borne by the <i>Contractor</i> unless compensation events arise.	Risk allowance is not required to be fully priced into the tendered total of the Prices, which serves as a “target”. The <i>Client</i> pays the Defined Cost of work done, and the financial effect of risks is ultimately shared between the <i>Client</i> and the <i>Contractor</i> through the pain / gain share mechanism in an agreed proportion.	Risk allowance is not required to be fully priced into the tendered Total of the Prices, which serves as a “target”. The <i>Client</i> pays the Defined Cost of work done, and the financial effect of risks is ultimately shared between the <i>Client</i> and the <i>Contractor</i> through the pain / gain share mechanism in an agreed proportion.

	Option A	Option B	Option C	Option D
Preparation of the <i>activity schedule</i> / <i>bill of quantities</i>	The <i>activity schedule</i> is prepared by the <i>Contractor</i> and the <i>Contractor</i> carries the risk of errors in quantities, missing items, etc.	The <i>bill of quantities</i> is prepared by the <i>Client</i> and the <i>Client</i> carries the risk of errors in quantities, missing items, etc.	The <i>activity schedule</i> is prepared by the <i>Contractor</i> and the <i>Contractor</i> carries the risk of errors in quantities, missing items, etc. The “target” is not subject to adjustment for the <i>Contractor’s</i> errors.	The <i>bill of quantities</i> is prepared by the <i>Client</i> and the <i>Client</i> carries the risk of errors in quantities, missing items, etc. The “target” is subject to adjustment for the <i>Client’s</i> errors.
Changes to the Prices and price adjustment for inflation	Adjusted for compensation events and inflation.	Adjusted for errors in quantities, missing items, compensation events and inflation.	Adjusted for compensation events and inflation.	Adjusted for errors in quantities, missing items, compensation events and inflation.

2.2.2.4 In choosing the main Option, a two-step approach should be adopted, with guidelines given below:

(a) Step 1 – select either a priced contract or a target contract

- (i) Priced contracts are used where the extent of the *works* to be done is relatively well defined or where the level of uncertainty and risk is in a normal range. Target contracts are used where the extent of the *works* to be done cannot be fully defined or where the level of uncertainty and risk is greater. To facilitate the option selection, the Project Offices may assess the risk level¹ by performing the Estimating using Risk Analysis (ERA) as promulgated in WBTC No. 22/93².
- (ii) The Project Offices should note that more manpower resources from the *Client* and the *Contractor* are required for administration of a target contract. In this connection, the Project Offices should evaluate the availability of resources, including those in the market, before deciding to adopt a target contract.

¹ As a general guideline, if the estimated total value for the risk of the proposed contract calculated by ERA is equal to or more than 20% of the estimated value of the *works* excluding provisional and contingency sums, target contracts should be used. WDs are allowed to set other thresholds for adoption of target contracts to suit the specific nature of works or to meet a policy intention as steered by DEVB. In any cases, the Project Offices should document their decision making process as set out in Section 2.2.3.2.

² Subsumed in the Project Administration Handbook for Civil Engineering Works.

- (iii) In cases where the estimated value of all works / items subject to pre-bid arrangement (regardless of optional or mandatory) under a target contract exceeds 40% of the estimated tendered total of the Prices (for Option C) / estimated tendered Total of the Prices (for Option D) as mentioned in Section 2.6, the Project Offices should carefully evaluate the effectiveness of the target contract in realising its benefits, e.g. room for achieving gains, etc. and where suitable, consider using a priced contract instead. The Project Offices should seek prior agreement from DEVB for using a target contract if they wish to allow more than 40% of the works / items for pre-bid arrangement as mentioned in Section 2.6.

(b) Step 2 – select the pricing document either in the form of *activity schedule* or *bill of quantities*

- (i) If a priced contract is selected, Option A should normally be adopted for (1) design and build contracts, (2) contracts with substantial value of the *works* to be designed by the *Contractor*, or (3) contracts with the quantity of the *works* being relatively certain (as a reference, the value of the *works* with firm quantities exceeds 80% of the estimated value of the *works* excluding provisional and contingency sums)³. Option B should be adopted when it is considered suitable to allow the quantity of the *works* to be subject to remeasurement.
- (ii) If a target contract is selected, Option C should normally be adopted. If Option D is proposed to be used, the Project Offices should consider additional resources required for remeasurement of the Total of the Prices.

2.2.3 Justifications and approval for selected main Option

2.2.3.1 In choosing the main Option, considerations peculiar to the project as mentioned in Section 2.2.2 above should be thoroughly evaluated.

2.2.3.2 For the four main Options (Options A, B, C and D) commonly adopted in public works projects, the Project Offices should submit their option evaluation and justifications for the selected main Option to a public officer at D2 rank or above for approval. If the Project Offices intend to conduct a trial of Option E or F for their projects, they should submit the proposal with justifications for seeking approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and / or the Steering Committee on NEC Projects where appropriate.

2.2.4 Secondary Options

2.2.4.1 The secondary Options can generally be used with all of the main Options although there are some exceptions (e.g. Option X1 “Price adjustment for inflation” is not used

³ WDs are allowed to set other thresholds for adoption of main Option A to suit the specific nature of works or to meet a policy intention as steered by DEVB. In any cases, the Project Offices should document their decision making process as set out in Section 2.2.3.2.

with Options E and F).

2.2.4.2 Similarly, the majority of the secondary Options may be used with one another in the same contract, although there is an exception for Option X20 “Key Performance Indicators” which is not used if Option X12 “Multiparty collaboration” is included in the contract.

2.2.4.3 The core clauses, which apply to all six main Options, and the main Option clauses for the main Option selected are mandatory and should be included in the contract unless express provisions are incorporated into the contract to amend or omit these clauses.

2.2.4.4 The secondary Option clauses are included at the discretion of the *Client* and none of them may need to be included in the contract, although this situation would be very unusual.

2.2.4.5 The following considerations should be taken into account for inclusion of any secondary Options:

- whether it should be recommended for inclusion in the contract to achieve any project objectives or suit any project situations;
- whether there is any impediment to include it with the main Option recommended; and
- whether there is any impediment to it being included due to other secondary Options recommended.

2.2.4.6 In general terms, the recommendation of secondary Options should consider the prevailing Government procedures (e.g. requirements stipulated in the SPR, the PAH, or equivalent guidelines of the Architectural Services Department and the Electrical and Mechanical Services Department, etc.) adopted for GCC contracts (e.g. selection of Option X1 “Price adjustment for inflation”, Option X7 “Delay damages” and Option X16 “Retention” etc.) and project specific needs and current practice (e.g. selection of Option X5 “Sectional Completion”, Option X15 “The *Contractor*’s design” and Option X20 “Key Performance Indicators”).

2.2.4.7 The secondary Options are designated as:

- “W” Options;
- “X” Options; and
- “Z” Options

Note: “Y” Options are not applicable in NEC ECC Hong Kong Edition.

2.2.4.8 The NEC provides dispute resolution procedures via “W” Options. In Hong Kong, Option W4 is applicable.

2.2.4.9 The “X” Options are set out in the NEC contracts but are not mandatory. They may be selected and included in the contract if appropriate.

2.2.4.10 The “Z” Options are the *additional conditions of contract*. A Library of Standard *additional conditions of contract* (Z clauses) has been developed by DEVB and posted on DEVB’s website under the heading “NEC – Engineering and Construction Contract (ECC) Documents” in “Standard Contract Documents” of the “Publications” section.

“X” Options

2.2.4.11 The common secondary Options under NEC ECC Hong Kong Edition used in contracts for public works projects in Hong Kong include:

- Option X1 – Price adjustment for inflation;
- Option X2 – Change in Law
- Option X5 – Sectional Completion;
- Option X7 – Delay damages;
- Option X11 – Termination by the *Client*;
- Option X14 – Advanced payment to the *Contractor*;
- Option X16 – Retention;
- Option X20 – Key Performance Indicators; and
- Option X30 – Innovation and Technology.

Option X1 – Price adjustment for inflation

2.2.4.12 This secondary Option:

- is used when the *Client* accepts the risk of inflation;
- requires a table of *schedule of proportions* to be used for calculation of the Price Adjustment Factor in the Contract Data Part two for tenderers to complete;
- is calculated in a similar manner to contract price fluctuations with reference to the “Index Numbers of the Costs of Labour and Materials used in Public Sector Construction Projects (April 2021=100)” and “Average Daily Wages of Workers Engaged in Public Sector Construction Projects as Reported by Main Contractor (2021 Edition of Data Series)” compiled by the Census and Statistics Department.

- For Options A and B, the amount calculated for inflation is paid to the *Contractor*.
- For Options C and D, the amount calculated for inflation is added to the “total of the Prices” (for Option C) / “Total of the Prices” (for Option D).
- the assessed value of compensation events is first adjusted to base date level (similar to the principle adopted for GCC contracts) before the price adjustment for inflation under this secondary Option. Also, some items are not subject to price adjustment for inflation.

2.2.4.13 The Project Offices should determine whether to include this secondary Option in accordance with the prevailing Government guidelines (e.g. DEVB TCW No. 4/2021).

Option X2 – Change in Law

2.2.4.14 This secondary Option:

- is used when the *Client* accepts the risk of a change in the law; and
- provides that a change in any enactment, regulations, by-laws or rules in the *list of enactments*, which is made (i) on or after the Reference Date (being 10 days before the *tender closing date*) or (ii) before the Reference Date and the commencement date is not known on the Reference Date and the contract does not include an obligation to comply with the change in law on its commencement, is a compensation event.

2.2.4.15 Under this arrangement, the *Contractor* is not at risk if a material change in the law occurs and has no need to include a risk allowance in this respect in its tender when the concerned law is covered by any enactment, regulations, by-laws or rules in the *list of enactments*.

2.2.4.16 This arrangement is similar to the Special Condition of Contract included in GCC contracts entitled “risk allocation with respect to changes in the law” to provide a fair allocation of risk and the accompanying appendix lists out the relevant enactments.

Option X3 – Multiple currencies

2.2.4.17 This secondary Option:

- is used when the *Contractor* is to be paid in more than one currency and the *Client* accepts the risk of a change in the exchange rate; and
- is only used with Options A and B since under Options C and D the *Contractor* is paid in the currency in which it pays but its Fee and the share are paid in the currency of the contract unless otherwise specified in the Contract Data Part one.

2.2.4.18 This secondary Option was not included in the projects.

2.2.4.19 In any event the Contract Data Part one should stipulate that the *currency of the contract* is the Hong Kong Dollar and this provision has no relevance. As such, inclusion of this secondary Option should not be required.

Option X4 – Ultimate holding company guarantee

2.2.4.20 This secondary Option:

- is used when the *Client* requires additional security from the ultimate holding company of the *Contractor*.

2.2.4.21 The Government has a very comprehensive technical and financial evaluation system for vetting the tenderers' capability before award of contract.

2.2.4.22 The Project Offices are reminded to refer to the prevailing guidelines (e.g. paragraph 9.21 of Chapter 5 of the PAH, etc.) for measures to reduce the risk of contract forfeiture.

2.2.4.23 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects in particular for time critical contracts and/or large-scale contracts, and where the contract conditions impose a substantially higher degree of risk than normal on the *Contractor*, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X5 – Sectional Completion

2.2.4.24 This secondary Option:

- is used when the *Client* requires any *section* of the *works* to be completed early; and
- requires that *completion date* for each *section* is stated in the Contract Data Part one.

2.2.4.25 Delay damages and bonuses for early Completion can be related to sectional Completion Dates.

2.2.4.26 This secondary Option was included in the projects where sectional Completion was required. Also, this secondary Option should be included in the NEC contracts requiring sectional Completion.

Option X6 – Bonus for early Completion

2.2.4.27 This secondary Option:

- is used when the *Client* wants Completion as early as possible and wishes to provide an additional incentive to the *Contractor* to achieve this target;

- is used for a *section* of the *works* or the whole of the *works*; and
- requires the bonus rates to be stated in the Contract Data Part one.

2.2.4.28 This secondary Option may be used in association with Option X5 “Sectional Completion”.

2.2.4.29 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X7 – Delay damages

2.2.4.30 Delay damages are liquidated damages paid by the *Contractor* if it fails to complete the *works* or a *section* of the *works* by the *completion date* or, as the case may be, the Completion Date.

2.2.4.31 The term “delay damages” is used as there are also liquidated damages for low performance (Option X17 refers).

2.2.4.32 The daily rate for delay damages should be stated in the Contract Data Part one. This secondary Option may be used in association with Option X5 “Sectional Completion”.

2.2.4.33 This secondary Option is similar to GCC clause “Liquidated damages for delay” and therefore the inclusion of this secondary Option should be required. If the Project Offices wish to conduct trial to include this secondary Option covering special damages as well in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X8 – Undertakings to the *Client* or Others

2.2.4.34 This secondary Option:

- is used when the *Client* requires the *Contractor* and/or its Subcontractors to provide formal undertakings to the *Client* or Others in relation to the *works*.

2.2.4.35 This secondary Option was not included in the projects although the *Client* may, under certain circumstances, require the *Contractor* and/or its Subcontractors to provide warranties to the *Client* in relation to parts of the *works*.

2.2.4.36 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X9 – Transfer of rights

2.2.4.37 This secondary Option:

- is used when the *Client* requires the rights to use and rely on design materials prepared by the *Contractor* and its Subcontractors to be transferred to the *Client*.

2.2.4.38 This secondary Option was not included in the projects. However, similar outcomes in respect of the *Client*'s rights to use and rely on design materials have been achieved through the intellectual property provisions in the standard *additional conditions of contract* including ACC Clause IV:8.

2.2.4.39 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X10 – Information modelling

2.2.4.40 This secondary Option:

- is used when the *Client* requires the use of an Information Model (e.g. Building Information Modelling (BIM)) for the creation, management and sharing of project information among the *Contractor* and other information providers.

2.2.4.41 This secondary Option was not included in the projects. However, requirements relating to the creation, management and sharing of project information (e.g. BIM) have generally been specified in the Scope, which under NEC Clause 11.2(19) specifies and describes the *works* and states any constraints on how the *Contractor* Provides the Works.

2.2.4.42 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X11 – Termination by the *Client*

2.2.4.43 This secondary Option is used to cover termination by the *Client* for a reason not specified in NEC Clause 91.

2.2.4.44 The Project Offices should refer to the Library of Standard *additional conditions of contract* for adoption of this Option.

Option X12 – Multiparty collaboration

2.2.4.45 This secondary Option is used for partnering between more than two parties who are all not in contract with each other.

2.2.4.46 It is anticipated that majority of public works projects will mainly involve two Parties, the *Client* and the *Contractor*, in the contract. This being the case this secondary Option is normally not required.

2.2.4.47 If this secondary Option is adopted, the *Promoter's objective*, the Partnering Information and the Schedule of Partners should be included in the Contract Data Part one. The Schedule of Partners and the Schedule of Core Group Members may be updated from time to time by the Core Group in accordance with NEC Clause X12.2(5).

2.2.4.48 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X13 – Performance bond

2.2.4.49 This secondary Option:

- is used when the *Client* requires additional security on the *Contractor's* performance; and
- is generally used when the contract stipulates desired tolerances or includes a performance specification (e.g. the output of an electricity generating station).

2.2.4.50 The provision of a performance bond would have a cost implication and this additional cost would not be recoverable if the *Contractor* achieved the necessary performance.

2.2.4.51 This secondary Option is anticipated to be included in time critical contracts and/or large-scale contracts, and where the contract conditions impose a substantially higher degree of risk than normal on the *Contractor*. Similar to the use of Option X4 “Ultimate holding company guarantee”, the Project Offices should refer to the prevailing guidelines (e.g. paragraph 9.21 of Chapter 5 and Appendix 7.62 of Chapter 7 of the PAH, etc.) for the measures (e.g. performance bond) to reduce the risk of contract forfeiture and the bond required for off-site manufacture of major prefabrication items.

2.2.4.52 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications on performance bond amount to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X14 – Advanced payment to the *Contractor*

2.2.4.53 This secondary Option has been used for arrangement of special advance payment to assist the construction industry amidst the epidemic situation, e.g. SDEV’s memo ref. DEVB(W) 510/33/02 dated 5 March 2021.

2.2.4.54 If the Project Offices wish to conduct trial to include this secondary Option for advanced payment to the *Contractor* for other purposes in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X15 – The *Contractor*’s design

2.2.4.55 Except for design and build contracts, since promulgation of DEVB TCW No. 3/2014, the Project Offices have implemented in the tendering process for invitation of alternative designs for those parts of the *works* where opportunities for value for money or buildability enhancement exist. Tenderers’ designs have also been invited for those parts of the *works* where the Project Offices consider the contractors are better placed to undertake the design. In addition, alternative designs for achieving further cost savings or better value for money are also permissible when situation warrants after contract award.

2.2.4.56 DEVB TCW No. 3/2014 sets out the policy intent in respect of the *Contractor*’s design (including the *Contractor*’s Design and Cost Savings Design) set out in ACC Clause VII:3, in particular that the *Contractor* is not generally required to warrant that its design is fit for purpose, save that where the *Client* relies on the *Contractor* to select equipment, plant, materials and goods, such items should be reasonably fit for their intended purpose and of good quality.

2.2.4.57 The above policy intent is reflected in the standard ACC Clause VII:3(2)(a) which stipulates that:

“The *Contractor* has in respect of any defect or insufficiency in the *Contractor*’s design the like liability to the *Client*, whether under statue or otherwise, as would an appropriate professional designer holding itself out as competent to take on the *Contractor*’s design, provided always that:

- (i) where the *Client* has relied upon the *Contractor* to select equipment, plant, materials and goods required by the *Contractor*’s design to be incorporated into the *works* the *Contractor* ensures that all such equipment, plant, materials and goods are reasonably fit for the purpose for which they are intended and of good quality, and
- (ii) subject to sub-clause (2)(a)(i) above, in no circumstance the *Contractor* is obliged to ensure that the *Contractor*’s design is fit for the purpose for which it is intended.”

2.2.4.58 With the inclusion of such requirement under ACC Clause VII:3(2)(a), inclusion of this secondary Option is not required.

Option X16 – Retention

2.2.4.59 This secondary Option operates in a similar way to GCC clause “Interim and final payments, Retention Money and interest” and therefore that the inclusion of this secondary Option is normally required in the NEC contracts for public works projects subject to the requirements in other Government guidelines. The *retention percentage*, the *retention free amount* and, where applicable, the *limit of amount retained* should be stated in the Contract Data Part one.

2.2.4.60 The ECC User Guides highlighted that this secondary Option does have an effect on the *Contractor’s* cash flow, which it will make allowances for its tendered Prices (for Options A and B), or its Fee (for other Options). However, it should have no effect on the cash flow until the PWDD exceeds the *retention free amount*. The effect on the *Contractor’s* cash flow will also depend upon the amount of work it subcontracts. The *Contractor* will normally hold an equivalent retention on its Subcontractors, thus improving its cash flow. In order to ensure there is no double-deduction of retention, the Defined Cost for Options C and D are calculated using the gross payment made to Subcontractors, i.e. before deduction of their retention (see item 41 of the SoCC). Also, this secondary Option is not normally required where Option X13 “Performance bond” is used.

2.2.4.61 The *retention free amount* has been set as “HK\$0.00” in the projects. If the Project Offices wish to conduct trial to include this secondary Option with a non-zero *retention free amount* in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X17 – Low performance damages

2.2.4.62 This secondary Option:

- is used when the contract includes a performance specification and liquidated damages are stated for degrees of under-performance; and
- applies low performance damages to the *Contractor* when a Defect listed in the Defects Certificate shows low performance with respect to a performance level stated in the Contract Data.

2.2.4.63 This secondary Option was not included in the projects. However, if the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X18 – Limitation of liability

2.2.4.64 Generally the Government does not accept any limitation of the *Contractor’s* liability and it is not anticipated that this secondary Option will be used in the NEC contracts for public works projects.

2.2.4.65 This secondary Option was not included in the projects.

Option X20 – Key Performance Indicators

2.2.4.66 This secondary Option:

- is used to monitor and measure the *Contractor*'s performance against the Key Performance Indicators (KPIs) in the Incentive Schedule;
- is intended to incentivize the *Contractor* to meet the *Client*'s objectives; and
- is not used when Option X12 is used since Option X12 includes “KPIs”.

2.2.4.67 This secondary Option has been used for “Pay for Safety Performance Merit Scheme (PFSPMS)” in the projects and this practice should continue in appropriate NEC contracts for public works projects according to the Government guidelines. The incentive payments do not count towards the PWDD. If the Project Offices wish to conduct trial to include this secondary Option for other new KPIs in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X21 – Whole life cost

2.2.4.68 This secondary Option:

- is used when the *Client* wishes to encourage the *Contractor* to propose changes to the Scope, with an aim to reduce the cost of operating and maintaining an asset.

2.2.4.69 With the inclusion of the provisions for Cost Savings Design under ACC Clause VII:2, inclusion of secondary Option X21 is not required.

Option X22 – Early *Contractor* involvement

2.2.4.70 This secondary Option:

- may be used when early *Contractor* involvement is required so that the *Contractor* can contribute during an initial stage to the development of the design, programme and cost of the project, including influencing the Project Cost against an agreed Budget before proceeding to implementation.

2.2.4.71 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X29 – Climate change

2.2.4.72 This secondary Option:

- is used when the *Client* wishes to include specific Climate Change Requirements and/or performance targets for the *Contractor* in relation to the delivery of the *works*; and
- provides a mechanism for monitoring and incentivising the *Contractor's* performance against such requirements or targets through a Performance Table, including financial adjustments where the targets are not achieved or are exceeded.

2.2.4.73 If the Project Offices wish to conduct trial to include this secondary Option in appropriate projects, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Option X30 – Innovation and Technology

2.2.4.74 This secondary Option:

- is used in Hong Kong public works contracts to facilitate the submission and development of Innovation & Technology (I&T) Proposals by the *Contractor* and the *Project Manager* to change the Scope in order to adopt an innovation or technology which is additional to or more advanced than the requirements in the Scope, and could enhance Site safety, Site supervision efficiency or decarbonisation; and
- provides a structured mechanism for the notification, consideration and implementation of such I&T Proposals through an I&T Register and innovation and technology meetings, including assessment of their potential benefits and implications on cost and time.

2.2.4.75 This secondary Option should be included in NEC contracts for public works projects in Hong Kong, as its adoption is mandated under the prevailing Government guidelines. See SDEV's memo ref. DEVB(W) 506/30/07 dated 20 April 2023.

“Z” Options

2.2.4.76 Further details on the “Z” Options – *additional conditions of contract* are available in the Library of Standard *additional conditions of contract* posted on DEVB's website under the heading “NEC – Engineering and Construction Contract (ECC) Documents” in “Standard Contract Documents” of the “Publications” section. If the Project Offices propose to use new *additional conditions of contract* not shown in the standard library, they should submit their proposal with justifications to seek legal advice from LAD(W), DEVB and comments/consent from DEVB if appropriate.

2.3 ORGANISATION / SET-UP OF THE TEAM FOR NEC CONTRACTS

2.3.1 Roles and responsibilities

2.3.1.1 NEC sets out the roles and responsibilities of the *Client*, *Project Manager*, *Supervisor* and *Contractor*.

2.3.1.2 The duties of these parties are subject to amendments due to alternations or additions to the default contract provisions made in various parts of the contract documents, e.g. *additional conditions of contract* (Z clauses), etc.

2.3.1.3 Under the spirit of NEC, these parties are encouraged to work in a collaborative way. An effective communication channel has to be established as it is fundamental to joint and prompt problem solving when matters arise. Therefore, the *Project Manager* may consider drawing up a joint project organization chart with the *Contractor* at the beginning of the contract, with continuous updating by all parties, so that all project staff can identify easily the right person of the other parties whom it can discuss with when problems arise. Such practice can enhance the cooperation of the project team, and improve the efficiency in tackling problems.

2.3.1.4 In addition, it may be desirable to combine the site accommodation for the *Project Manager / Supervisor* and the *Contractor* if such arrangement is reviewed to suit the project needs and situations. This has been proved to be a successful arrangement in some projects in which project team members of different parties could communicate with each other directly, and could realize the benefits of joint problem solving more easily, which turns out to be an effective means to build up trusting relationship. For more information, the Project Offices may refer to the details in the following video on the first NEC pilot project in Hong Kong:

<https://www.youtube.com/watch?v=3-S-GgZM4T4>

2.3.2 In-house contracts

2.3.2.1 Project teams are set up to stimulate good management and to deliver projects effectively and efficiently.

2.3.2.2 For target contracts (Options C and D) managed by in-house resources, the Project Offices should review whether suitable in-house quantity surveying staff would be available for conducting checking on payments, which may require relatively more resources compared with priced contracts (Options A and B) during the contract stage.

2.3.2.3 For some in-house projects adopting Options C and D, quantity surveying consultants have been appointed for the contracts after reviewing the availability of in-house quantity surveying staff. The Project Offices may consider engaging quantity surveying consultants to take up the appropriate duties if in-house quantity surveying staff are not available for the projects.

2.3.2.4 With regards to the *Project Manager*, the *Supervisor* and their delegates, it is recommended that they should be aware of the difference between GCC form and NEC form

well before they take up the respective roles for administering the contract. In particular, they should have a good understanding on the characteristics of NEC, that the contract focuses on partnering, and that the contract itself sets out effective project management tools for managing risks, changes, programme and costs.

2.3.2.5 For target contracts (Options C and D), site supervisory staff will be required to conduct checking on the ownership of Equipment (for identifying the item under the Defined Cost which payment should be made), people working within the Working Areas, Plant and Materials delivered for the *works*, percentage of completed work for checking reasonableness of the amount of payment due to Subcontractors and determining any Disallowed Cost, etc. which they may not have such experience in conventional contracts. It is therefore recommended that site supervisory staff should be given adequate NEC training, including site visits to suitable target contracts, to enhance their understanding on the characteristics and the points to note for running such contracts.

2.3.2.6 Another issue is that the *Project Manager* has to make quick decisions according to the time for reply in the contract. For matters involving variation of contracts as specified in Section 520 and Appendix V(B) of the SPR, the *Project Manager* needs to seek the approval from the appropriate rank of public officers or authority before replying to the *Contractor* for making such commitment. Please refer to Section 4.2.1.11 for points to note on achieving the requirement of the period for reply.

2.3.3 Consultant-administered contracts

2.3.3.1 Similar to in-house contracts, the *Project Manager*, the *Supervisor* and/or their delegates employed by the consultants should have a good understanding on the characteristics of NEC as discussed in Section 2.3.2 above. For resident site staff (RSS), they are encouraged to go through NEC training before working for the contracts adopting NEC.

2.3.3.2 For target contracts (Options C and D), considerations should be given on whether appropriate quantity surveying staff should be included in the RSS establishment in order to take up the duties of checking of payments which may require more resources than priced contracts (Options A and B).

2.3.3.3 Taking into account the characteristics of NEC form, the Project Offices should determine suitable notional RSS establishment prior to the invitation of technical and fees proposals for the consultancy agreements. Before the commencement of NEC contracts, the consultants should propose the appropriate scale of RSS establishment to the departmental RSS establishment committee (RSSEC) or equivalent for approval. WDs should establish a database of RSS establishment for NEC contracts with different project nature and scale for reference by the Project Offices.

2.3.3.4 For consultants-administered contracts, the consultants taking up the roles of the *Project Manager*, the *Supervisor* and/or their delegates should obtain the prior approval of the Director's Representative (DR) for any variation of the contract or other expenditure commitment exceeding the sum (normally \$1,400,000) as specified in the consultancy brief, or the estimated final PWDD exceeding the recommended forecast total / Total of the Prices specified in the tender report. Please refer to Section 3.2.6 for the details of the recommended forecast total / Total of the Prices in the tender report. Subject to the authorisation in Section

520 and Appendix V(B) of the SPR, the DR may consider to further delegate its power to the rank of senior professional and/or public officers at D1 rank for vetting and approval of such submissions if appropriate.

2.3.3.5 Please refer to Section 4.2.1.11 for points to note on achieving the requirement of the period for reply.

2.3.4 Delegation and replacement of personnel

2.3.4.1 NEC Clause 14.2 requires the *Contractor* to be notified before the *Project Manager* or the *Supervisor* delegates any of their actions if necessary.

2.3.4.2 It is recommended to notify the effective period of time in which the action is delegated.

2.3.4.3 Delegation needs to be in compliance with the prevailing Government guidelines (e.g. WBTC No. 20/92). A sample delegation letter can be found in the NEC Knowledge Management Platform in the Works Group Intranet Portal of DEVB, and the Project Offices should make necessary amendments to the sample delegation letter to suit the specific project needs.

2.4 GUIDELINES FOR DETERMINATION OF PAIN / GAIN SHARE MECHANISM OF TARGET CONTRACTS

2.4.1 *Share range and Contractor's share percentages*

2.4.1.1 The completed and on-going projects have adopted a simple 50:50 split for gain share and pain share allocation of the respective under spending and over spending for the *share range* up to 110% of the final target cost. For the *share range* less than or equal to 110%, the *Client* inserted 50% into each of the *Contractor's share percentages* in the Contract Data Part one which results in every unit of under / over spending being equally shared between both Parties. This method is chosen if the *Client* intends to share the risk of under / over spending equally between both Parties.

2.4.1.2 The sliding scale of percentages model can be done by altering the simple 50:50 model whereby the *Client* allocates increasing percentages of pain share / gain share between the Parties. There can be a number of different versions of this model. The most common is for the *Client* to split the first 10% of over and under spending equally between the parties, and then alter the allocation above and below these percentages. Normally the *Client* will increase the *Contractor's* pain share percentage in the bands above 110% of the final target cost to give the *Contractor* a greater share of the overspent, and similarly, the *Client* will increase or decrease the *Contractor's* percentage gain share in the bands below 90% of the final target cost depending on the *Client's* incentive approach in sharing the cost savings with the *Contractor*.

2.4.1.3 Some employers have reversed this approach and have actually increased their exposure to pain share in increasing overspend brackets (i.e. over 110% of the final target cost). This is unusual but the rationale is that some larger employers are better capable of bearing the financial risk of overspent against the target cost and so would rather carry this risk than

allocate it to the *Contractor*, who will seek to cover this risk somewhere in their target cost and/or *fee percentage*. However, since further review and more experience are required, this “reversed” approach is not recommended for the time being.

2.4.1.4 The commonly adopted 50:50 split for gain share and pain share allocation of the respective under spending and over spending for the *share range* up to 110% of the final target cost is considered a fair approach. The advantages of the 50:50 model with pain *share range* cap at 110% of the adjusted final target cost are:

- Limited financial risk for the *Client*;
- Greater incentive for the *Contractor* to mitigate costs due to the final pain cap; and
- More incentive is thus provided for the *Contractor* to innovate and to achieve more gain share.

2.4.1.5 Nevertheless, the Project Offices may adjust the recommended *share percentages* and/or the *share ranges* to suit their project needs. For any proposed pain / gain share mechanism deviating from the recommended 50:50 split with pain *share range* cap at 110% of the final target cost, the Project Offices should submit their proposal with justifications to seek approval from DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

2.4.1.6 Below is a worked example of the 50:50 split with pain *share range* cap at 110% of the final target cost. No Cost Savings Design is assumed in this example.

Worked example

The relevant information in the Contract Data Part one is extracted below.

Contractor’s share ranges and share percentages:

<u>share range</u>	<u>Contractor’s share percentage</u>
less than or equal to 110%	50%
greater than 110%	100%

The total / Total of the Prices (after taking into account all compensation events) at the Completion of the whole of the *works* is assumed as **\$100k**. The *Contractor’s* share and final amount due for different scenarios are illustrated as follows:

a)	Final PWDD	= \$75k
Saving	under the total / Total of the Prices	= \$25k
	Comprising one increment:	
	\$75k to \$110k	= \$25k @ 50% = \$12.5k
	<i>Contractor’s</i> share (paid by Client)	= \$12.5k
	Final amount due	= \$87.5k
b)	Final PWDD	= \$95k
Saving	under the total / Total of the Prices	= \$5k

Comprising one increment:

\$95k to \$110k

= \$5k @ 50% = \$2.5k

Contractor's share (paid **by Client**)

= **\$2.5k**

Final amount due

= **\$97.5k**

c) Final PWDD

= **\$115k**

Excess over the total / Total of the Prices

= \$15k

Comprising two increments:

\$100k to \$110k

= \$10k @ 50% = \$5k

Greater than \$110k

= \$5k @ 100% = \$5k

Contractor's share (paid **to Client**)

= **\$10k**

Final amount due

= **\$105k**

2.5 PRE-TENDER ESTIMATE (PTE) AND CONTINGENCIES

2.5.1 Similar to conventional contracts, it is necessary to derive the PTE for NEC contracts based on the rates of previous similar contracts and other relevant market information. Where the reference contracts used for deriving the PTE are based on conventional contract forms, the Project Offices may need to make necessary adjustments in the PTE to consider that the Prices may be allowed to be changed for compensation events such as severe weather conditions (for Options C and D) and unforeseen physical conditions under NEC (subject to amendments in individual contracts). In conventional contracts, contractors may have included in the tender prices the risk allowance for some of such events.

2.5.2 Likewise, in estimating the contingencies for NEC contracts, the Project Offices may need to take into account the difference in allocation of financial risks for the above-mentioned events between conventional contracts and NEC.

2.5.3 In general, the amount of compensation events due to weather events ranges from 2% to 4% of the original target cost. For compensation events due to unforeseen physical conditions, the amount may differ considerably due to the project nature. The Project Offices should make reference to the relevant information and take into account the project circumstances when estimating the contingencies for their projects.

2.5.4 Unlike conventional contracts, the default NEC does not have any term about "contingency sum" and "provisional sum".

2.5.5 There are three different figures when preparing the PTE for NEC contracts:

"Pre-tender estimate using conventional approach":

It is derived using rates of previous similar contracts and other relevant market information as in conventional contract form.

"Pre-tender estimate for tendered total / Total of the Prices":

It is the "Pre-tender estimate using conventional approach", with adjustment made for difference in treatment of compensation events under NEC compared with conventional contract form, and

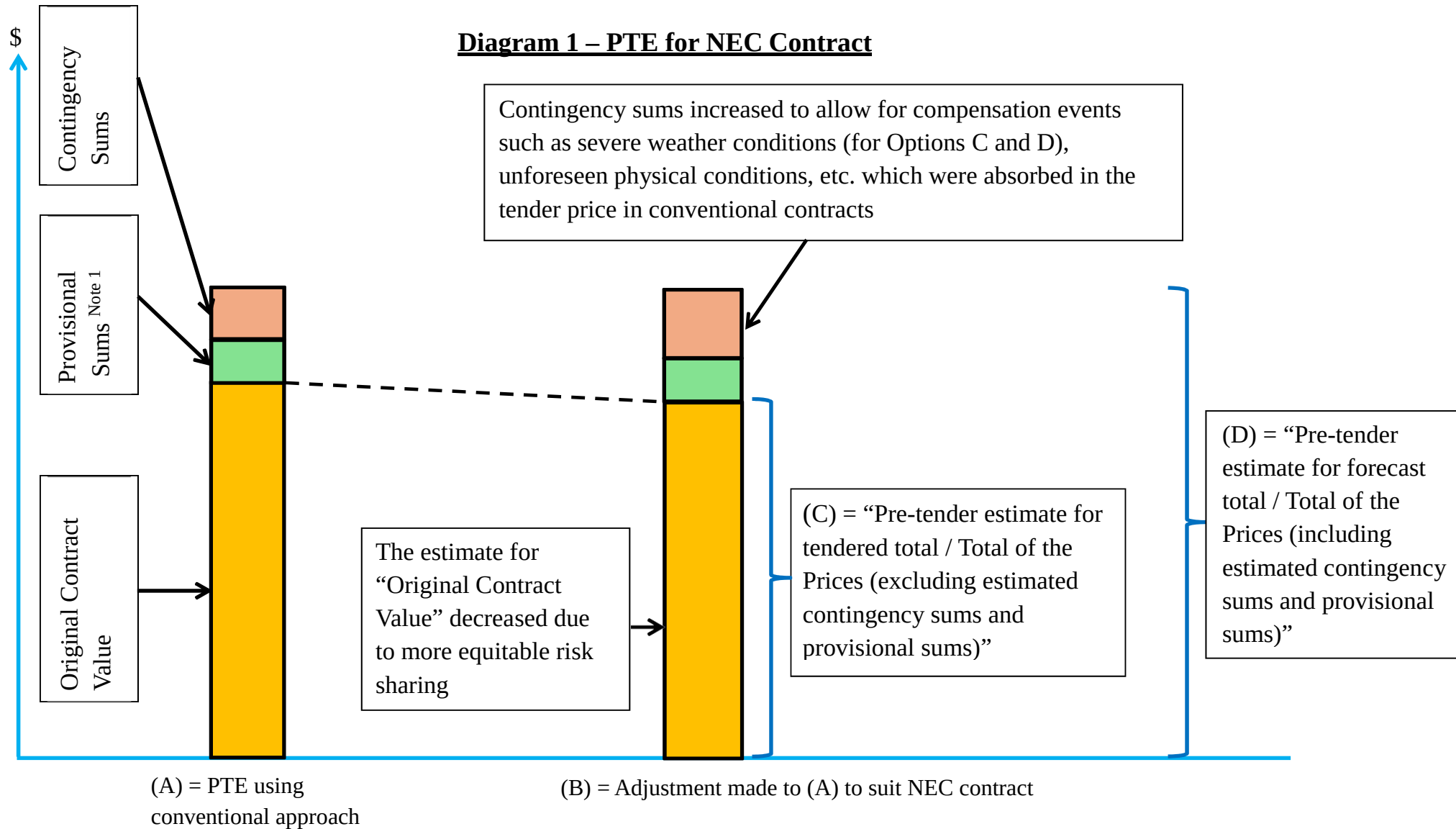
excluding estimated “contingency sums” and “provisional sums”.

“Pre-tender estimate for forecast total / Total of the Prices”: It is the “Pre-tender estimate for tendered total / Total of the Prices”, plus estimated “contingency sums” and “provisional sums”.

2.5.6 The “Pre-tender estimate for tendered total / Total of the Prices” and “Pre-tender estimate for forecast total / Total of the Prices” shall be subject to vetting by the departmental committee for vetting project estimates as in conventional contracts. While the “Pre-tender estimate using conventional approach” may contain some reference figures for deriving the “Pre-tender estimate for tendered total / Total of the Prices”, these figures may serve the purpose of comparison between the estimated prices using rates in conventional contracts and the tender return prices procured using NEC form.

2.5.7 A diagrammatic representation of the above figures is shown on the following page.

2.5.8 The terms “contingency sums” and “provisional sums” have been introduced to the NEC contracts so as to align with the current practice stipulated in the SPR to enhance the administrative efficiency and to take into account *fee percentage* inserted in the Contract Data Part two (which would have impact on the future assessment of compensation events) to improve the tender evaluation process. Enhancement to introduce the terms “contingency sums” and “provisional sums” for project administration and tender evaluation as well as unification of approaches for different main Options are set out in Section 3.2.

Diagram 1 – PTE for NEC Contract

Note 1: It may include price adjustment for inflation, performance-tied payment item under Pay for Safety Performance Merit Scheme, etc.

2.6 PRE-BID ARRANGEMENT UNDER TARGET CONTRACTS

2.6.1 Generally, for subcontracting of works / items under target contracts, the *Project Manager* and the *Contractor* should follow the tender requirements stipulated in ACC Clauses VI:1 to VI:5 of the standard *additional conditions of contract*. For some target contracts, Project Offices may introduce pre-bid arrangement such that the Subcontractors / suppliers for certain works / items can be firmed up at the tender stage. Depending on the need of the projects, optional or mandatory pre-bid arrangement can be used.

2.6.2 Optional pre-bid arrangement

2.6.2.1 When Project Offices consider it beneficial, in respect of time and cost certainty, better coordination, etc., to allow flexibility for tenderers to propose their Subcontractor(s) / supplier(s) at the tender stage for certain works / items, Project Offices may include optional pre-bid arrangement in the tender documents for such works / items.

2.6.2.2 Under the optional pre-bid arrangement, tenderers may elect to propose Subcontractor(s) / supplier(s) at the tender stage but it is not mandatory for the tenderers to make such proposal.

2.6.2.3 Examples of works / items that warrant the adoption of optional pre-bid arrangement may include:

- Ground investigation and laboratory testing;
- Tree survey;
- Site clearance;
- Procurement of insurance as required by the contract;
- Provision of digitisation of construction site supervision system;
- Provision of site accommodation;
- Provision of temporary traffic arrangement; and
- Laying of pipes by trenchless method.

2.6.3 Mandatory pre-bid arrangement

2.6.3.1 When Project Offices consider it necessary to request tenderers to propose their Subcontractor(s) / supplier(s) at the tender stage for certain works / items, so as to ensure the security of services / materials supply or continuous engagement of key Subcontractor(s) at the construction stage, Project Offices may include mandatory pre-bid arrangement in the tender documents for such works / items.

2.6.3.2 Under the mandatory pre-bid arrangement, each tenderer shall propose Subcontractor(s) / supplier(s) to undertake the works / items concerned in its tenders unless it opts to undertake such works / items by itself⁴.

2.6.3.3 Examples of works / items that warrant the adoption of mandatory pre-bid arrangement may include:

- Design work of design and build contracts;
- Design work associated with alternative design, if alternative design is invited in the tender under standard Special Conditions of Tender Clause SCT 2;
- Design work associated with tenderer's design, if tenderer's design is invited in the tender under standard Special Conditions of Tender Clause SCT 3; and
- Design work for temporary works, if temporary works design is invited in the tender under standard Special Conditions of Tender Clause SCT 4.

2.6.4 Points to note for pre-bid arrangement

2.6.4.1 Project Offices should critically review the scope of works / items subject to pre-bid arrangement, which shall be clearly defined in the tender documents and covered by specified works / items in the *activity schedule* / *bill of quantities*. The scope of works / items subject to pre-bid arrangement and the qualification / experience requirements of the Subcontractor(s) / supplier(s) concerned shall be endorsed by an officer at D2 rank or above. As a good practice, Project Offices are strongly encouraged to conduct market sounding at an early stage to better understand prevailing trade practices, market capacity and availability of suitable Subcontractor(s) / supplier(s), and to inform the appropriate identification and scoping of works / items subject to pre-bid arrangement. In any case, the identification and handling of works / items subject to pre-bid arrangement should take into account all technical requirements in the Scope and the prevailing trade practices.

2.6.4.2 If Project Offices wish to include works / items subject to mandatory pre-bid arrangement other than those mentioned in Section 2.6.3.3 above in appropriate projects, the endorsing officer as mentioned in Section 2.6.4.1 above should be satisfied that it is necessary to firm up the Subcontractor(s) / supplier(s) for the works / items concerned at the tender stage.

2.6.4.3 For projects involving engagement of designers as Subcontractors as mentioned in Section 2.6.3.3 above, Project Offices shall adopt the mandatory pre-bid arrangement for the design work concerned unless DEVB's prior agreement is obtained.

2.6.4.4 As a general requirement, the estimated value of all works / items subject to pre-bid arrangement (regardless of optional or mandatory) under a contract should not exceed 40%

⁴ Where a tenderer indicates in the tender that the work(s) / item(s) subject to pre-bid arrangement is/are to be undertaken by itself, it shall provide evidence to demonstrate that it meets the qualification / experience requirements as specified in the tender documents.

of the estimated tendered total / Total of the Prices. If Project Offices wish to adopt a higher percentage of works / items subject to pre-bid arrangement, they shall seek prior agreement from DEVB. In this connection, DEVB may consult the Inter-departmental Working Group on NEC Projects or the Steering Committee on NEC Projects.

2.6.4.5 Project Offices should be careful in setting the qualification / experience requirements of Subcontractor(s) / supplier(s), particularly for works / items subject to mandatory pre-bid arrangement. In general, if the works / items subject to pre-bid arrangement are required to be undertaken by contractors / specialist contractors / suppliers on the List of Approved Contractors for Public Works or the List of Approved Suppliers of Materials and Specialist Contractors for Public Works (Approved Lists), such requirement should be stipulated in ACC Clause V:5 of the standard *additional conditions of contract*. Where there is no need to engage contractors / specialist / suppliers on the Approved Lists, Project Offices are free to set the qualification / experience requirements of Subcontractor(s) / supplier(s) that suit the nature of works / items subject to pre-bid arrangement, but such requirements should not be discriminatory and overly restrictive. Project Offices are also reminded to observe the requirements of WTO GPA and avoid imposing requirements that may arouse bid challenges. In case of doubts, Project Offices may consult DEVB and/or LAD(W) for advice.

2.6.4.6 Project Offices should also take particular care in formulating the Pricing Information for Pre-bid Arrangements to ensure that the items and quantities included align fully with the intended scope of the pre-bid works as described in the Scope and other parts of the tender documents. Failure to ensure such alignment may lead to ambiguity over the extent of the pre-bid arrangement and expose the *Client* to risks of compensation events (e.g. under NEC Clause 60.6 arising from the correction of mistakes or inconsistencies in the Bill of Quantities including the Pricing Information for Pre-bid Arrangements). In developing the Pricing Information for Pre-bid Arrangements, Project Offices should review the Scope, prevailing trade practices, typical subcontracting boundaries for the trade concerned, and the Pricing Information holistically, so that only the works genuinely intended to be undertaken by the pre-bid Subcontractor are included, and inadvertent inclusion or omission of work items in the Pricing Information is avoided, thereby ensuring clarity, completeness and consistency in the pre-bid arrangement.

2.6.4.7 Pre-tender meetings should be organised to facilitate tenderers' understanding of the submission requirements related to the pre-bid arrangement. Project Offices should also allow sufficient time for tenderers to prepare their tenders.

2.6.4.8 For works / items subject to pre-bid arrangement, be it undertaken by the Subcontractor(s) / supplier(s) or by the *Contractor* itself in the case of mandatory pre-bid arrangement, the *Contractor* is not allowed to alter its pre-bid proposals made at the tender stage after the commencement of the contract unless they are accepted by the *Project Manager*. Pursuant to ACC Clause VI:1 of the standard *additional conditions of contract*, the *Contractor* may only alter its pre-bid proposals made at the tender stage after the commencement of the contract in unforeseen circumstances or when such change is necessary because the relevant Subcontractor is not accepted by the *Project Manager* pursuant to NEC Clause 26.2. In assessing such alterations proposed by the *Contractor*, the *Project Manager* should assess the *Contractor's* justifications with due regard to the impact of the proposal on the time, cost and quality of the project. In deciding whether to accept such proposals, the *Project Manager* should exercise professional judgement and should not unduly withhold acceptance, particularly where the proposed change would better safeguard the *Client's* interests (e.g. by

enhancing cost efficiency under target contracts, improving programme certainty or achieving better quality outcomes). In this connection, an alteration of the scope of works / items subject to pre-bid arrangement due to, for example, cost saving proposals, which may produce outcomes more favourable to the project and thereby better protect the *Client's* interests, may, depending on the circumstances, constitute a valid unforeseen circumstance for the *Contractor* to justify submitting a proposal for alteration of pre-bid Subcontractor(s) / supplier(s).

3 TENDER STAGE

3.1 BRIEFING TO POTENTIAL TENDERERS

3.1.1 Tender briefings have been held in some projects to facilitate tenderers' understanding of the NEC contracts, and points to note when preparing tenders.

3.1.2 Tender briefings should be organised to facilitate tenderers' understanding of the submission requirements and the key features for the NEC contracts if considered appropriate. At the tender briefings, tenderers' attention should be drawn to:

- How to fill in tender submissions;
- Points to note in the pricing documents (*bills of quantities* or *activity schedule*);
- Tender documentation;
- For target contracts, what the target cost and the Fee are to cover; and
- Tender evaluation methodology.

3.2 POINTS TO NOTE FOR TENDER ASSESSMENT

Tender correction rules

3.2.1 For Option A with *activity schedule* for all project types, the tendered total of the Prices stated in the Form of Tender should normally remain unchanged irrespective of any corrections made. If there is a discrepancy between the amount in “words” and in “figures” for the tendered total of the Prices in the Form of Tender, the one that agrees with the figure stated in the Grand Summary of the *activity schedule* should be taken as the tendered total of the Prices. If neither one agrees with the figure stated in the Grand Summary, the amount in “figures” should be taken as the tendered total of the Prices. Where either the amount in “words” or the amount in “figures” is left blank or illegible, the remaining one should be taken as the tendered total of the Prices. If the amount in “words” and the amount in “figures” for the tendered total of the Prices in the Form of Tender are both left blank or illegible, the tender is invalid. Subject to the conditions above-mentioned, the tendered total of the Prices stated in the Form of Tender should take precedence over the tendered total of the Prices stated in the Contract Data Part two and the Grand Summary and the same figure should be correctly reinstated in the latter two documents for any discrepancy. Specific tender correction rules similar to those for conventional lump sum contracts have been developed in the previous projects adopting this main Option.

3.2.2 For most previous engineering projects adopting Options B, C and D, the tender correction rules followed those adopted for conventional remeasurement contracts. However, the tender correction rules similar to those for conventional lump sum contracts might be preferred for building projects adopting these main Options after reviewing the resources involved in the correction of tender errors by some Project Offices.

3.2.3 For cases where the *fee percentage* inserted in the Contract Data Part two exceeds the *cap of fee percentage* in the Contract Data Part two, the *fee percentage* inserted in the Contract Data Part two should be corrected to the *cap of fee percentage*. Where there is no or illegible *fee percentage* inserted or the *fee percentage* inserted is a negative figure or lower than the *minimum fee percentage* as stated in the Contract Data Part two, the *fee percentage* would then be corrected to the *minimum fee percentage*.

3.2.4 A library of standard correction rules for tender errors for different contract types with reference to Appendix A to the ETWB TCW No. 41/2002 and characteristics of NEC contracts in Hong Kong has been developed by DEVB and available in the NEC Knowledge Management Platform in the Works Group Intranet Portal of DEVB. If the Project Offices wish to propose correction rules not in the standard library, they should seek approval from a public officer at D2 rank or above unless otherwise specified in this Practice Notes and may seek legal advice from LAD(W), DEVB in case of doubt. In cases where the proposed correction rules deviate from the policy promulgated under the aforementioned technical circular, the Project Offices should seek approval from DEVB who may consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate.

Preparation of tender report

3.2.5 In preparation of the tender report, it should be noted that the forecast total / Total of the Prices taking into account the tendered total / Total of the Prices, contingency sums and provisional sums should be used for tender evaluation purpose.

3.2.6 Referring to the standard tender report format in Appendix III(I) of the SPR, the Project Offices should note the following when preparing the tender report:

“Recommended tendered total / Total of the Prices”	The original field “Recommended tender sum” is renamed as “Recommended tendered total / Total of the Prices”.
“Contingencies specified in the tender recommended for acceptance and allowed for the operation of the contract terms”	This is a new field which is equal to the total of the contingency sums and the provisional sums specified in the concerned tender.
“Recommended forecast total / Total of the Prices”	This is a new field which is equal to the total of the recommended tendered total / Total of the Prices, the contingency sums and the provisional sums specified in the concerned tender.
“Sum allowed for this contract in the approved project estimate”	It should include the “Pre-tender estimate for forecast total / Total of the Prices including estimated contingency sums and provisional sums” plus any other allowances for the contract within the APE as appropriate.

“Pre-tender estimate for tendered total / Total of the Prices” The original field “Pre-tender estimate” is split into two separate for “tendered total / Total of the Prices” and “forecast total / Total of the Prices” for clarity.

“Pre-tender estimate for forecast total / Total of the Prices” The original field “Pre-tender estimate” is split into two separate for “tendered total / Total of the Prices” and “forecast total / Total of the Prices” for clarity.

3.2.7 When conducting tender price assessment, the Project Offices should take the “forecast total / Total of the Prices” as the “tender price” when adopting the Formula Approach and the Marking Scheme Approach promulgated in DEVB TCW No. 4/2014 and 4/2014(A) and assessing the competitiveness of the tenders.

3.2.8 Sample template of Grand Summary of the *activity schedule / bill of quantities* in tender documents and a worked example for deriving the “forecast total / Total of the Prices” for NEC contracts is illustrated below:

Sample format of Grand Summary in tender documents

Page	Description	Amount
...	...	
	Sub-total of above (A)	
	Tendered total / Total of the Prices = (A) (To be carried to the Form of Tender and the Contract Data Part two subject to the correction rules for tender errors as set out in Clause GCT11 of the General Conditions of Tender)	
	Contingency sum for Defined Cost for compensation events* (B)	<i>Insert by project office before tender invitation</i>
	Contingency sum for Fee for compensation events* (C) = (B) x <i>fee percentage</i> inserted by the tenderer in Contract Data Part two	
	Provisional sum for price adjustment for inflation under secondary Option X1* (D)	<i>Insert by project office before tender invitation</i>
	Provisional sum for provision of Assistant Clerical Officer (Labour Relations)* (E) (if applicable)	<i>Insert by project office before tender invitation</i>
	Provisional sum for performance-tied payment item under Pay for Safety Performance Merit Scheme (PFSPMS) under secondary Option X20* (F) (if applicable)	<i>Insert by project office before tender invitation</i>
	Sub-total of all contingency sums and provisional sums above* (G) = (B) + (C) + (D) + (E) + (F)	To be completed by the <i>Project Manager</i> designate after receipt of tender
	Forecast total / Total of the Prices for tender evaluation purpose* (H) = (A) + (G)	To be completed by the <i>Project Manager</i> designate after receipt of tender

Remarks:

* All contingency sums and provisional sums are regarded as “contingencies” for the purpose of internal administration of the *Client* under the SPR only. The forecast total / Total of the Prices is included for tender evaluation purpose only and will not affect the tendered total / Total of the Prices which shall remain contractually binding. All contingency sums, provisional sums and the forecast total / Total of the Prices shall not form part of the contract. The *Contractor* shall not rely on any information supplied to it on the contingency sums, provisional sums or forecast total / Total of the Prices as the estimated changes to the Prices due to the effect of compensation events and other estimated payments under the contract.

Worked example for deriving the “forecast total / Total of the Prices”

	Description	Value (\$M)
Pre-tender estimate for NEC contract (Referring to Diagram 1)		
(a)	Pre-tender estimate for tendered total / Total of the Prices (excluding estimated contingency sums and provisional sums)	100.00
(b)	Estimated provisional sums	12.00
(c)	Estimated contingency sums	15.00
(d)	Pre-tender estimate for forecast total / Total of the Prices (including estimated contingency sums and provisional sums)	127.00
Calculation of forecast total / Total of the Prices		
(e)	Tendered total / Total of the Prices	95.00
(f)	Contingency sum for Defined Cost for compensation events	12.00
(g)	<i>fee percentage</i>	20%
(h)	Contingency sum for Fee for compensation events	2.40
(i)	Provisional sums for price adjustment for inflation, performance-tied payment item under Pay for Safety Performance Merit Scheme	11.50
(j)	Forecast total / Total of the Prices for tender evaluation purpose	120.90

4 CONTRACT STAGE

4.1 BUILDING UP A PARTNERING TEAM

4.1.1 Under NEC, parties are required to work in mutual trust and collaborative manner. Good partnering spirit of the project team has to be built up gradually during construction through joint efforts in resolving site problems and developing ideas for the project. This is the most difficult yet an essential element for a project to succeed.

4.1.2 At the commencement of contract, the Project Offices are encouraged to arrange with the *Contractor* a joint partnering workshop for establishing an effective communication channel, and setting up project common objectives. During the workshop, parties may also suggest some cost savings or innovative ideas to achieve the project objectives, making it another suitable occasion for adding value to the project, albeit other value management workshops may have been conducted in planning / design stage as per ETWB TCW No. 35/2002 (now subsumed under paragraph 1.4.2 of Chapter 1 of PAH).

4.1.3 In order to monitor and maintain the partnering relationship throughout the course of contract, parties may also set up a “Champion Group”, comprising members of management level of the project team, to regularly review the working relationship of their staff, and to propose improvement measures if any problem is identified.

4.1.4 Good communication is the key to build up trust and teamwork. It is considered a good practice that the project team members consisting of the working level staff from the *Project Manager*, *Supervisor*, *Contractor*, and perhaps the Subcontractors of key subcontract packages, can have frequent discussions on site conditions, works progress, and foreseeable problems. This enhances cooperation among the team and can be a quick way to resolve site problems with all relevant parties sitting together.

4.1.5 The partnering workshops are normally covered by the services of consultancy agreements (including NEC advisory services). For in-house projects without engaging separate NEC consultants, the Project Offices may charge the cost of partnering workshops shared by the *Client* to the project vote subject to funding availability. The costs incurred for organising the partnering workshops (e.g. engagement of facilitator, provision of catering service, etc. unless otherwise specified in the contract) should normally be equally shared between the *Client* and the *Contractor*. The Project Offices should prevent excessive and unjustified payments of expenditures and avoid over-socializing with the staff of the *Contractor* / Subcontractors for partnering activities from corruption prevention viewpoint.

4.1.6 In addition to partnering workshops, champion group meetings and regular communication channels, the project team may also make use of mission room meetings to strengthen collaborative problem-solving on both works-related and financial matters, to avoid drag on and to enable quick joint decision making so as to reduce / mitigate risks. Mission room meetings are regularly convened at the working level including designer(s), representatives from major Subcontractors / subconsultants / suppliers. When the project team encounters significant or time-critical issues that cannot be resolved and require prompt attention, senior representatives of the *Client*, the *Project Manager* and the *Contractor* should be invited to join the mission room meetings. These meetings focus on addressing the most

urgent matters affecting progress, cost, or key interfaces, allowing the parties to collectively identify practical solutions and remove barriers in a timely manner.

4.1.7 Although mission room meetings are often associated with crisis management, they may also be used proactively as part of good partnering practice. By bringing together key decision-makers, the project team can deal with emerging issues more efficiently, reduce prolonged debate, and maintain project momentum. Their use reinforces the NEC ethos of mutual trust and co-operation by promoting open communication, transparency and joint ownership of challenges. Project Offices are encouraged to consider whether convening such meetings would assist in resolving issues requiring early intervention or cross-departmental support.

4.1.8 Pursuant to NEC Clauses 18.2 and 18.3 as well as Clause 9.1 of the Scope provided by the *Client* for NEC ECC Hong Kong Edition, the *Contractor* is required to take action to prevent and stop “Corrupt Act” of its Tier Subcontractors and suppliers which it is or should be aware of. The *Contractor* may contact the Corruption Prevention Advisory Service of ICAC for advice on procedural corruption prevention controls. The *Contractor* could report corruption through one of the following means:

- by phone to ICAC hotline: 24 hours a day 2526 6366;
- by letter to The Commissioner, Independent Commission Against Corruption, GPO Box 1000, Hong Kong; or
- in person to the ICAC Report Centre: 24 hours a day at G/F, 303 Java Road, North Point, Hong Kong, or ICAC Regional Offices (Address of the Regional Offices can be found at <http://www.icac.org.hk/en/rc/channel/ro/index.html>).

4.2 CONTROL OF TIME

4.2.1 Guidelines for NEC project management in time and risk

Communications

4.2.1.1 NEC has a discrete provision (NEC Clause 13) that defines the requirements on communication. Key points on the related requirements are given below:

- (a) Each communication which the contract requires is communicated in a form which can be read, copied and recorded. Writing is in the *language of the contract*.
- (b) In essence, the use of mobile instant messaging (MIM) can be recognized in NEC contracts if it is so expressly specified in the Scope (NEC Clause 13.2). However, as the authenticity and integrity of the communication are crucial for public works projects, the policy intent is not to accept MIM as a valid form of communication under public works contracts. In case Project Offices wish to accept MIM as a valid form of communication, they should seek policy support from DEVB and legal advice from LAD(W), DEVB. In handling daily contract administration and management work, Project Offices and their consultants should be careful in using MIM (e.g. WhatsApp) as a communication means

with the *Contractor* so as to avoid the situation that the messages conveyed to the *Contractor* by MIM are taken as formal instructions from the *Client* or *Project Manager* by conduct. To prevent unnecessary disputes, any important messages (e.g. messages with time and cost implications, acceptance / rejection of works, etc.) conveyed to the *Contractor* by MIM should be followed by formal records in writing.

- (c) A communication has effect when it is received.
- (d) To ensure timely responses to a communication by the *Project Manager*, the *Supervisor* or the *Contractor*, the parties are required to reply to a communication within the *period for reply* unless otherwise stated in the contract. This requirement will be further addressed in the “Period for Reply” section below.
- (e) A notification or certificate which the contract requires is communicated separately from other communications. Under the ECC User Guides, the intent for separated notification is to avoid overlooking of important information and easy tracking of the communication.

Correspondence

4.2.1.2 All communications are to be as clear and concise as possible. To avoid loss or confusion regarding written correspondence, all letters, faxes, reports, etc., should be referenced chronologically. They should be dated and addressed for the attention of an identified individual. Sub-titles identifying the subject of the correspondence are to be used as appropriate.

4.2.1.3 Notification which the contract requires is communicated separately from other communications (NEC Clause 13.7). Thus, the project team is encouraged to develop proformas for communication (e.g. instructions and notifications). The project team is reminded to state relevant NEC clauses in the communication, so that the recipient would be able to understand at once the context and authority under the contract for the action to be taken.

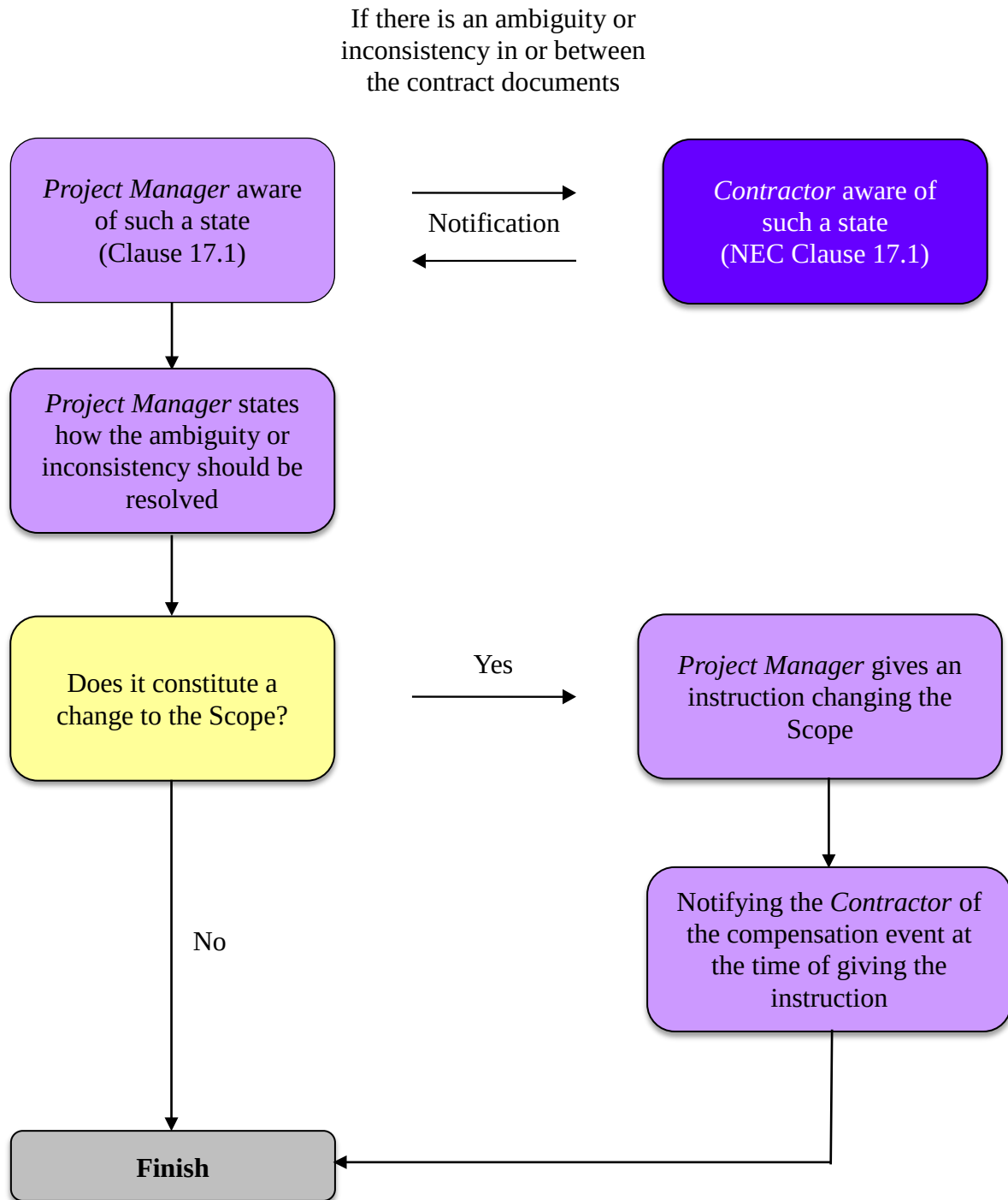
4.2.1.4 Generally, all project correspondence should be retrievable and should be filed using a comprehensive filing register and be electronically backed up.

Ambiguities and inconsistencies

4.2.1.5 There is no stated precedence of documents under NEC. If there are any ambiguities or inconsistencies in or between the contract documents, the *Project Manager* or the *Contractor* should notify the other as soon as possible. The *Project Manager* has the responsibility of resolving the ambiguity or inconsistency in the documents (NEC Clause 17.1).

4.2.1.6 The *Project Manager* may instruct a change to the Scope to resolve the ambiguity or inconsistency. Such an instruction is a compensation event provided it is covered by NEC Clause 60.1(1).

4.2.1.7 The process for resolving ambiguities and inconsistencies is summarised below:



Period for reply

4.2.1.8 To ensure timely communication, NEC has requirements on the response time from the parties.

4.2.1.9 Under NEC Clause 13.3, if the contract requires the *Project Manager*, the *Supervisor* or the *Contractor* to reply to a communication, it replies within the *period for reply* unless otherwise stated in the contract. Each party shall be aware of the *period for reply* as specified in the Contract Data Part one as such requirement cover types of communication stipulated under NEC Clause 13.1, unless there is a specific response time stated in the contract including the amendments made in the *additional conditions of contract* clauses to suit the specific need of the project.

4.2.1.10 Under NEC Clause 13.4, the *Project Manager* replies to a communication submitted or resubmitted to it by the *Contractor* for acceptance. If its reply is not an acceptance, the *Project Manager* states its reasons and the *Contractor* resubmits the communication within the *period for reply* taking account of these reasons. A reason for withholding acceptance is that more information is needed in order to assess the *Contractor's* submission fully. The *Project Manager* may withhold acceptance of a submission by the *Contractor*. Withholding acceptance for a reason stated in the contract is not a compensation event (NEC Clause 13.8).

4.2.1.11 The Project Offices should establish effective procedures to facilitate the timely discharge of contract obligations stipulated in the contract, particularly where obtaining confirmation and/or seeking views from the *Client* and/or appropriate ranks of public officers or authority is required. Some of the typical examples would be meeting the time requirements under the contract (i) to reply to the *Contractor* on validity of the notified compensation event (NEC Clause 61.4) and (ii) to reply to quotations submitted by the *Contractor* (NEC Clause 62.3). For (i), the *Project Manager* may need to allow time for obtaining the *Client's* confirmation on the validity of the notified compensation event after initial review by the *Project Manager* and/or its delegates. For (ii), the *Project Manager* may need to allow time in seeking the view of the *Client* and/or appropriate ranks of public officers or authority on the assessment of compensation events that have time and/or cost implications, particularly for cost significant compensation events (e.g. for consultant-administered contracts, any variation of the contract or other expenditure commitment exceeding the sum (normally \$1,400,000) as specified in the consultancy brief, or the estimated final PWDD exceeding the recommended forecast total / Total of the Prices specified in the tender report). The Project Offices should ensure that necessary governance and approval procedures are in place to comply with the relevant contractual period for reply. Under NEC Clause 61.4, the *Project Manager* is required to reply to the *Contractor's* notification of compensation event within three weeks after the *Contractor's* notification or, if confirmation of no objection is required from the *Client*, six weeks after the *Contractor's* notification. Under NEC Clause 62.3, the *Project Manager* is required to reply to a quotation submitted by the *Contractor* within three weeks of the submission or, if confirmation of no objection is required from the *Client*, six weeks of the submission.

4.2.1.12 For urgent compensation events which any delay of implementing it would inevitably affect the project time and cost, the Project Offices are reminded to accord priority to it and to alert the senior management the time frame requirements under NEC when seeking views / obtaining approvals of such compensation events.

4.2.1.13 Where necessary, the *Project Manager* may extend the period for reply to a communication if the *Project Manager* and the *Contractor* agree to the extension before the reply is due. The *Project Manager* shall inform the *Contractor* of the extension which has been agreed (NEC Clause 13.5). The parties should also be aware of the provision on extension of time allowed for responses in individual sections, such as reply to quotations submitted by the *Contractor* under NEC Clause 62.5.

4.2.1.14 While NEC allows the *Project Manager* to extend the period for reply in accordance with the relevant provisions, Project Offices should ensure that such extensions are used judiciously and for genuine reasons, and are not relied upon as a routine means of deferring submissions, assessments, actions or, as the case may be, decisions. Resorting to repeated extensions of the period for reply, while technically compliant with the contract, may undermine the timely operation of NEC processes and is inconsistent with the collaborative and proactive management principles underpinning NEC. The Project Offices should therefore avoid procrastination tactics and should seek to respond substantively within the original or, where genuinely necessary, reasonably extended period for reply, with a view to facilitating timely decision-making, maintaining project momentum and giving effect to NEC's "sort-it-now" philosophy.

Early warning

4.2.1.15 Early warning mechanism is one of the key procedures in the NEC to stimulate good project management. It encourages both the *Project Manager* and the *Contractor* to raise any event which may cause an impact to the project to the other party as soon as it is noticed. The successful implementation of the early warning mechanism hinges on the trusting relationship, and openness developed within the project team, which drive the parties to achieve their common project goals. If followed properly, the early warning mechanism gives an early opportunity for all parties to devise mitigation measures jointly and to select the best option.

4.2.1.16 When risks are identified, either party shall alert another by giving an early warning. The processes begin and instead of fault-finding, the parties shall focus on resolving the risk, and take appropriate follow-up actions after early warning meeting. The question as to the responsibility or owner of the risk, which should be adequately set out in the contract, should not be the focus of discussion during the meeting. The contract mechanisms have been designed to ensure that:

- (a) The project team actively takes forward rigorous risk management, and
- (b) The parties are financially motivated to manage risks successfully.

The general procedure of risk management under NEC is set out below.

Start-up of risk management procedure

4.2.1.17 Before executing the contract, both Contract Data Part one and Part two have to be completed by the *Client* and the *Contractor* respectively. A section within both Contract Data Part one and Part two require a list of matters to be identified, that will be included in the Early Warning Register.

4.2.1.18 The matters will be collated by the *Project Manager*, who will in turn transfer these onto the Early Warning Register. It is from this first Early Warning Register that all parties should proactively seek to manage and update should issues arise throughout the duration of the project.

Early warning notice

4.2.1.19 Under NEC Clause 15.1, the *Contractor* and the *Project Manager* should give an early warning by notifying the other as soon as either becomes aware of any matter which could:

- (a) increase the total of the Prices;
- (b) delay Completion;
- (c) delay meeting a Key Date; or
- (d) impair the performance of the *works* in use.

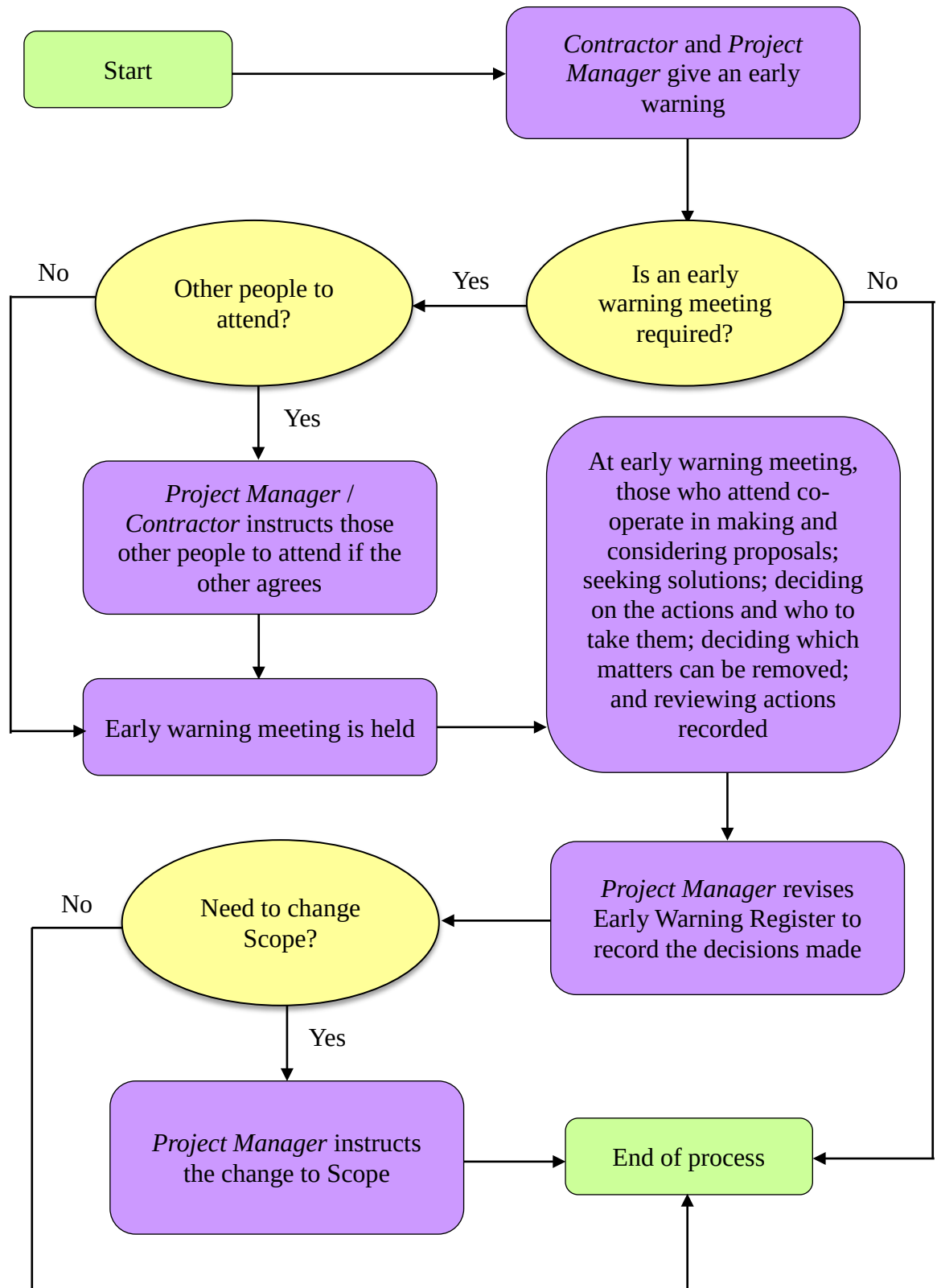
The *Contractor* may also give an early warning on any other matter which could increase its total cost.

4.2.1.20 The purpose of the early warning is to maximize the time available for both the *Contractor* and the *Project Manager* to consider the implication of the matter and to take necessary actions to mitigate any potential consequences.

4.2.1.21 It is important to note that an early warning notice is a contractual requirement. In accordance with the ECC User Guides, early warnings may allow actions to be taken to reduce costs and save time. Should the *Contractor* fail to comply with this requirement, the *Project Manager* should notify the *Contractor* its decision that the early warning should have been given (NEC Clause 61.5) so that the *Contractor* knows the correct basis for its assessment including the sanction imposed for its failure to give early warning under NEC Clause 63.7. For Options C and D, the *Project Manager* may, at its discretion, disallow the cost which the *Project Manager* decides it was incurred because the *Contractor* did not give an early warning which the contract required it to give (NEC Clause 11.2(30)).

4.2.1.22 Under any compensation event, if the *Project Manager* decides that the *Contractor* failed in giving an early warning that it could have given, the *Project Manager* informs the *Contractor* of its decision when it instructs the *Contractor* to submit quotations (NEC Clause 61.5). The *Project Manager* will assess the compensation event as if the *Contractor* had given early warning (NEC Clause 63.7). This is to ensure that the *Contractor's* failure in not notifying an early warning matter does not prejudice the *Project Manager* in its management of the project.

4.2.1.23 After receipt of an early warning notice, the *Project Manager* may respond according to the process map shown as below:



Early warning meeting

4.2.1.24 NEC Clause 15.2 states either the *Project Manager* or the *Contractor* may instruct the other to attend early warning meeting (except the first early warning meeting). Each may instruct other people to attend if the other agrees.

4.2.1.25 Depending on the potential consequence of the risks, the early warning meeting will be chaired by the *Project Manager* or its delegates and the attendees will include the *Contractor's* representatives and other people, who may be able to assist in solving the problem.

4.2.1.26 In public works projects, early warnings frequently relate to matters requiring input, coordination or timely approval from Subcontractors (including the *Contractor's* designers), other Tier Subcontractors, suppliers, interfacing parties, utility undertakings or other government departments. Pursuant to NEC Clause 15.2, Subcontractors attend early warning meetings if their attendance would assist in deciding the actions to be taken. While attendance by other parties (e.g. Tier Subcontractors (except Subcontractors), suppliers, interfacing parties, utility undertakings or other government departments) at early warning meetings is subject to the *Project Manager's* and the *Contractor's* agreement in accordance with NEC Clause 15.2, Project Offices should, where appropriate, proactively facilitate and encourage their participation, or otherwise engage them through suitable coordination arrangements. Early involvement of relevant parties can assist in clarifying constraints, expediting decision-making and jointly identifying practical solutions at an early stage, thereby enhancing the effectiveness of the early warning mechanism and reducing the risk of delay, cost uncertainty or disputes, in line with NEC's collaborative and proactive management principles.

4.2.1.27 If a decision needs a change to the Scope, the *Project Manager* instructs the change at the same time as it issues the revised Early Warning Register (NEC Clause 15.4). If an early warning notice is considered to be a compensation event, the *Project Manager* will notify the *Contractor* of a compensation event and instruct the *Contractor* to submit a quotation, unless the event arises from a fault of the *Contractor* or the event has no effect upon Defined Cost, Completion or meeting a Key Date (NEC Clause 61.2).

Early Warning Register

4.2.1.28 NEC Clause 15.4 states that the *Project Manager* revises the Early Warning Register to record the decisions made at each early warning meeting and issues the revised Early Warning Register to the *Contractor* within one week of the early warning meeting. The Early Warning Register is both a specified component of the NEC contractual framework and an output of risk management process.

4.2.1.29 The Early Warning Register typically summarises the following key matters in tabular form:

- (a) Identified risks;
- (b) Mitigating measure(s); and
- (c) Action party.

4.2.1.30 The Early Warning Register is a “live” working document, used as a tool to manage the project pro-actively with a view to minimising the impact of risks on the project objectives. It is intended to be updated continually throughout the life of the project. This updating includes both the inclusion of new risk items and the review of previously identified risks. Risk items shall be reviewed periodically and in every early warning meeting, and they should be marked as “closed” if the risk items have been removed or resolved, if appropriate actions have been agreed, or if it has been concluded that no further action is required. They should be marked as “open” if further review, assessment or agreement on actions is required. New risk items are added to the Early Warning Register by the *Project Manager* when the *Project Manager* or the *Contractor* give early warning of a potential risk event in accordance with NEC Clause 15.1 each time.

4.2.1.31 The Early Warning Register is an important tool for all the members of the project team as it affords all relevant parties an opportunity to make informed decisions on the project and make appropriate decisions on events which may have time and/or cost implications.

4.2.1.32 To ensure the effective use of the Early Warning Register, it should be regularly reviewed and updated through the participation of all parties.

4.2.1.33 The following illustrates a sample format of an Early Warning Register:

Item no.	Date of receipt	Issued by	Date of early warning meeting(s)	Potential problem(s) and risk(s)	Action to be taken to avoid / reduce the risk(s)	Action taken	Action by	Status (open / closed)

Proactive risk management

4.2.1.34 NEC encourages early identification of problem and resolution of it in a collaborative manner. Therefore, the Project Offices should take a proactive approach in working with the contractors when risks are identified. Below sets out some recommended practices for proactive risk management:

- (a) The parties should embrace the spirit of mutual trust and co-operation in dealing with early warnings. As long as the matter falls under the four bullet points described in NEC Clause 15.1, the *Contractor* and the *Project Manager* should deal with the early warning in a collaborative manner.
- (b) In addition to being called following notification of early warning in respect of any newly identified risks, early warning meeting should be held at no longer interval than the interval stated in the Contract Data until Completion of the whole of the *works* (interval in the Contract Data to suit the specific project situations) to check whether risks can be closed or re-rated, and to review the

status of mitigation measures or risk treatment action plans. During such meetings, Subcontractors (including the Contractor's designers), other Tier Subcontractors, suppliers, interfacing parties, utility undertakings or other government departments can also be invited to join, as the parties may capitalise on various expertise in tackling site problems identified and minimizing the impact of the risks.

- (c) The parties should bear in mind that during early warning meeting, they should focus on discussing viable solutions to avoid / reduce the risk, and to assign suitable party to carry out follow-up actions as required. To ensure good monitoring and timely completion of these follow-up actions, the parties should agree in the meeting a tentative action completion date.
- (d) If the early warning leads to a change to the Scope, the *Project Manager* should notify the *Contractor* of a compensation event if covered by NEC Clause 60.1(1) and instruct the *Contractor* to submit a quotation, unless the event arises from a fault of the *Contractor* or the quotation has already been submitted.
- (e) The parties should maintain a clear line of communications, and establish highly efficient communication channels, such as the use of common mobile communication applications, so that risks or problems can be communicated in an effective way and solved as early as possible.

4.2.2 Programme

Information to be included in the programme

4.2.2.1 NEC makes programme a significant document in the contract that imposes contractual obligations upon the parties to follow. The *Contractor* needs to include information on the programme as required under NEC Clause 31.2.

4.2.2.2 The *Contractor* should provide sufficient information to allow the *Project Manager* to make a decision whether to accept the programme. The *Project Manager* should exercise its own discretion in vetting the *Contractor's* programme thoroughly and in a pragmatic manner.

4.2.2.3 Notwithstanding the above, it is recommended that discussion between the *Project Manager* and the *Contractor* should be facilitated before submission of programme by the *Contractor*. As a result, the parties will be aware of the key elements to be included in the submitted programme and will work collaboratively in the programme submission and acceptance processes.

Programme submission and acceptance

4.2.2.4 The Accepted Programme is either (i) the programme identified in the Contract Data Part two or (ii) the latest programme accepted by the *Project Manager* (NEC Clause 11.2(1)).

4.2.2.5 When Marking Scheme Approach is adopted for tender assessment, it may be useful to require the tenderers to submit a programme / sequence of works for tender assessment. However, it should be noted that such programme should normally not be regarded as the Accepted Programme under NEC Clause 11.2(1). The *Contractor* is obliged under NEC Clause 31.1 to submit a first programme to the *Project Manager* for acceptance. The programme submitted under tender may be made reference to when the *Contractor* prepares the first programme.

4.2.2.6 The *Contractor* should within the period required under the Contract Data Part one submit a first programme for acceptance and the *Project Manager* should either accept the programme or notify the *Contractor* of its reasons for not accepting it (NEC Clause 31.3). The *Project Manager* should note that a non-acceptance of the programme for reasons other than those listed in NEC Clause 31.3 is a compensation event under NEC Clause 60.1(9).

4.2.2.7 If no programme is submitted, one quarter (25%) of the PWDD is retained in assessments of the amount due until the *Contractor* has submitted a first programme to the *Project Manager* for acceptance (NEC Clause 50.5). This clause is only applicable to the first programme. Great care must be exercised in accepting a programme which fall short of the information required and the *Project Manager* should ensure that it is satisfied with all relevant aspects of the programme before accepting a programme.

4.2.2.8 If the programme does not satisfy the requirements under the contract, the *Project Manager* should refuse to accept the programme for reasons stated in NEC Clause 31.3. The information required to be shown on each programme is extensive, comprehensive and generally acknowledged to be onerous. It is very common to note the following pitfalls regarding the process of submission and vetting of a programme:

- (a) The *Contractor's* submitted programme is not up to the requirements in the contract; and
- (b) The time allowed for the *Project Manager* to assess the programme may not be adequate for it to make the decision, even if the submitted programme satisfies NEC Clause 31.2.

4.2.2.9 If, after several rounds of correspondence, the programme is still considered to be substandard, this would become an issue to project management as an Accepted Programme is not in place. To deal with this, the *Project Manager* may:

- (a) Arrange joint meeting or workshop among the key staff who prepare and assess the programme. In the meeting or workshop, the key requirements in the programme should be highlighted, and the logic or sequencing of the programme should be elaborated to enhance understanding by the other party. The definitions of terms namely “float” and “time risk allowances” and their provisions in the programme should also be elaborated to ensure mutual understanding of their importance.
- (b) Carry out the assessment of the programme with due consideration to the stages of the *works*. In large projects spanning across a considerable period of time, or complicated projects which design input from the *Contractor* may be required, it may not be practical for the *Contractor* to schedule a detailed plan and submit

its “statements of how the *Contractor* plans to do the work” for all activities, especially those in the later stage which the subcontracting package or the design is yet to be prepared. In this case, the *Project Manager* or its delegates may take a pragmatic approach in assessing the programme. The *Project Manager* may request for a sub-programme showing detailed planning and programming of activities for a period, say, for coming three months to a year, and with other later activities shown with a minimum required level of details. If such sub-programme is considered practicable and realistic, the *Project Manager* may accept this sub-programme with condition(s) for separate submission and acceptance of detailed planning and programming of later activities and the full programme may be accepted first and taken as an Accepted Programme if no major observation is identified.

- (c) Identify certain key changes in an updated programme. For instance, if the programme is updated for compensation events having time impact only, information relevant to time aspects (i.e. planned Completion, float, time risk allowances, etc.) as required under NEC Clause 31.2 would become essential changes to the programme. If there is a new compensation event having both time and cost impact, in addition to information on time listed under NEC Clause 31.2, the programme has to cover more detail on how the *Contractor* plans to do the work that includes resources planned to be used.

4.2.2.10 It should be noted that acceptance of a programme does not mean an acceptance of the quotation of a compensation event. For non-implemented compensation events, the *Contractor* should also show any effect due to these events in the programme. The *Contractor* may revise the planned Completion due to such non-implemented compensation events, and the *Project Manager* assesses whether the *Contractor*’s programme is realistic or practicable. Acceptance by the *Project Manager* of the programme is not construed as the acceptance of the change to the Completion Date and/or the Key Date(s), which can only be changed after implementation of the said compensation events.

4.2.2.11 It should also be noted that, without an Accepted Programme, the *Project Manager* will assess a compensation event by its own assessment as per NEC Clause 64.2.

4.2.2.12 If the *Project Manager* chooses not to accept the programme for reasons not listed under NEC Clause 31.3, or if it does not reply within the stipulated time frame, then that would become a compensation event under NEC Clause 60.1(9) or NEC Clause 60.1(6).

Timely acceptance of programmes

4.2.2.13 Project Offices should recognize that the Accepted Programme is a fundamental project management tool under NEC and forms the basis for effective control of time and the prospective assessment of compensation events. Timely review and acceptance of programmes is therefore critical to the proper operation of NEC contracts.

4.2.2.14 Under NEC Clause 31.3, the *Project Manager* may only not accept a programme if:

- (a) the *Contractor*’s plans which it shows are not practicable;

- (b) it does not show the information which the contract requires;
- (c) it does not represent the *Contractor*'s plans realistically; or
- (d) it does not comply with the Scope.

4.2.2.15 The *Project Manager* should not withhold acceptance of a programme for reasons other than those set out above, and should avoid non-acceptance based on minor or immaterial issues which do not fall within the grounds in NEC Clause 31.3. Where a programme broadly complies with the contract requirements, acceptance should not be unreasonably delayed, and any minor issues should be addressed through proactive dialogue and subsequent updates rather than repeated non-acceptance.

4.2.2.16 While the responsibility for preparing and submitting programmes rests with the *Contractor* under the contract, the project team (including RSS) has an inherent responsibility to facilitate and support the timely acceptance of programmes. Where differences, uncertainties or unresolved issues arise that may hinder timely acceptance, the project team (including RSS) should take a proactive role in engaging with the *Contractor*, facilitating clarification and alignment, and working collaboratively to resolve such matters, with a view to enabling programme acceptance in accordance with the contract.

4.2.2.17 In this regard, pre-submission discussions and post-submission meetings between the project team (including RSS) and the *Contractor* are encouraged to promote alignment, manage expectations and avoid misunderstandings. Such engagement supports NEC's "no-surprises" principle and may assist in addressing potential issues early, thereby facilitating timely programme acceptance.

4.2.2.18 Prolonged absence of an Accepted Programme may undermine effective time management, hinder the prospective assessment of compensation events and increase the risk of disputes. Failure to achieve timely acceptance of programmes will be reflected in the NEC Health Check outcomes, and where acceptance of programmes remains unresolved beyond the prescribed time thresholds, the escalation requirements under the NEC Health Check shall apply, including intervention from project officers at D1 rank for issues unresolved for more than three months and escalation to project officers at D2 rank or above where issues remain unresolved for more than six months, in accordance with Section 4.10.

Programme register

4.2.2.19 As a good practice, it is recommended to develop a programme register for the project to record all programmes submitted by the *Contractor* during the course of the contract, the changes to planned Completion and the Completion Date, and the acceptance status. It is primarily used for recording purposes and does not represent any formal acceptance or rejection of the programme.

Acceleration

4.2.2.20 Under NEC Clause 36.1, both the *Project Manager* and the *Contractor* may propose to the other an acceleration. This is a mechanism under the contract that will bring the Completion Date forward. If the *Project Manager* and the *Contractor* are prepared to consider

the proposed change, the *Project Manager* instructs the *Contractor* to provide a quotation. The instruction states changes to the Key Dates to be included in the quotation.

4.2.2.21 The *Contractor* provides a quotation within three weeks of the instruction to do so. The *Project Manager* should notify the *Contractor* on whether the quotation is accepted or not within three weeks.

4.2.2.22 There is no remedy if the *Contractor* does not produce such quotation or if the *Contractor's* quotation is unacceptable. Acceleration cannot be imposed on the *Contractor* without its agreement or consent. Unlike compensation event, the *Project Manager* cannot ask the *Contractor* to submit a revised quotation or make its own assessment of the *Contractor's* acceleration quotation.

4.2.2.23 If the *Project Manager* wishes to bring a delayed Completion Date (due to compensation events) forward, the *Project Manager* should request the *Contractor* to submit quotation for compensation event and acceleration separately and assess the quotations in two-stages:

- (a) Assess the *Contractor's* compensation event quotation based on the reasonable additional resources and time to complete the work under the compensation event. The *Contractor* is obliged to mitigate the effect of a compensation event, e.g. to reschedule work at no cost or inefficiency to itself to optimise planned Completion, but not to accelerate. The *Project Manager* should make its own assessment for compensation event quotation as per NEC Clause 64.
- (b) Assess the *Contractor's* acceleration quotation. The *Project Manager* could only accept or reject the *Contractor's* quotation for acceleration. If the quotation is accepted, the Prices, the Completion Date and the Key Dates will be changed accordingly as per NEC Clause 36.3.

4.3 PAYMENT TO THE CONTRACTOR

4.3.1 In every engineering and construction contract, the *Project Manager* should certify a reasonable amount of interim payment due to the *Contractor* so as to maintain an adequate cashflow to meet the progress of works on site. While the *Contractor* is responsible for ensuring the factual correctness of its payment application and the sufficiency of supporting documents, the *Project Manager* should perform verification check on the submission. Excessive manpower input on payment checking should be avoided. This Section 4.3 is intended to provide practical guidelines for processing payment applied by the *Contractor*.

4.3.2 Payment application

4.3.2.1 The first assessment date is decided by the *Project Manager* according to NEC Clause 50.1, preferably after discussion with the *Contractor*. The *Contractor* is required to submit to the *Project Manager* a payment application two weeks before each assessment date. Under NEC Clause 51.1, the *Project Manager* certifies a payment within two weeks of each

assessment date. Then each certified payment should be made within three weeks of the assessment date in accordance with NEC Clause 51.2⁵.

4.3.2.2 For priced contracts (Options A and B), the *Contractor* is required to specify the activities in the Activity Schedule or the quantities of the work item in the Bill of Quantities that have been completed in its payment application. For target contracts (Options C and D), the *Contractor* is required to show the breakdown of the Defined Cost applied and the corresponding item no. of SoCC in the payment application statement.

4.3.3 Start-up procedures – preparatory work

4.3.3.1 Before preparation of the first interim payment, agreements have to be made between the *Project Manager* and the *Contractor* on the following (not exhaustive):

- (a) Format and presentation of the *Contractor*'s payment application (usually in the form of Microsoft Excel spreadsheets);
- (b) Procedures and site record template for frontline staff of *Project Manager*, *Supervisor*, *Contractor*, Subcontractors' site representative, etc. to signify the works provided; and
- (c) Personnel authorised for confirmation and amendment of records and handling of restricted or sensitive information (if applicable).

4.3.4 Assessment and certification of payment

4.3.4.1 In assessing the amount due, the *Project Manager* considers a payment application the *Contractor* has submitted before the assessment date pursuant to NEC Clause 50.2. Methods of assessment of the amount due for different main options are shown as follows:

⁵ The guidelines in Section 7.2 of Chapter 7 of the PAH stipulating that the payment to the *Contractor* has to be effected within 25 calendar days from the date of receipt of interim payment application should not be applicable to NEC forms of contracts.

Option	A	B	C and D
PWDD	is the total of the Prices for • each group of completed activities; and • each completed activity which is not in a group.	is the total of • the quantity of the work which the <i>Contractor</i> has completed for each item in the Bill of Quantities BQ multiplied by the rate; and • a proportion of each lump sum which is the proportion of the work covered by the item which the <i>Contractor</i> has completed.	is the total Defined Cost which the <i>Project Manager</i> forecasts will have been paid by the <i>Contractor</i> before one week after the next assessment date plus the Fee.
Payment to the <i>Contractor</i>	• will only be made if the activity is completed. • Unless there is an individually itemised activity in the Activity Schedule, part payment for an activity will not be made*.	• will only be made if the work for the item is completed. • Save for lump sum priced item in the Bill of Quantities, part payment for an item of work will not be made*.	• comprises: ○ actual costs incurred by the <i>Contractor</i> up to each assessment date; and ○ estimated costs to be incurred by the <i>Contractor</i> before one week after the next assessment date after the <i>Contractor</i> submitted its payment application; • is based on Defined Cost plus Fee; and • is based on a cost reimbursable approach with a pain / gain share mechanism.

Option	A	B	C and D
The amount due is	- the PWDD; - plus Advance Payment for Plant and Materials[^]; - plus Special Payment[#]; - plus other amounts to be paid to the <i>Contractor</i>; - in respect of any item included in the assessment of the PWDD, less Advance Payment for Plant and Materials and Special Payment already made in respect of that item, if any; and - less amounts to be paid by, retained from or deducted from the <i>Contractor</i>.		- the PWDD; - plus other amounts to be paid to the <i>Contractor</i>; - less amounts to be paid by, retained from or deducted from the <i>Contractor</i>; and - less the <i>Project Manager's</i> interim assessment of the <i>Contractor's share deduction</i> as at the <i>share assessment date</i>.

* Except for Relevant Plant and Materials on site and Relevant Imported Item when the relevant optional clauses (i.e. NEC Clauses 50.2A and 50.2B) are adopted.

[^] To enable Advance Payment for Plant and Materials on site under NEC Clause 50.2A.

[#] To enable Special Payment for Relevant Imported Item under NEC Clause 50.2B. The “Special Payment for Imported Item” is an interim relief measure to combat the COVID-19 pandemic promulgated in 2022 and is extended until further notice according to SDEV’s memo ref. DEVB(W) 510/33/02 dated 22 November 2023.

4.3.4.2 For target contracts (Options C and D), the target cost (i.e. total / Total of the Prices respectively) is used for assessment of the *Contractor's* share.

Option	C	D
Target cost	The Activity Schedule is used to establish the total of the Prices.	The Bill of Quantities is used to establish the Total of the Prices.
Prices	The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with the contract (e.g. compensation events).	The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities. At completion of the contract, the quantities of the work should be remeasured to obtain the final Total of the Prices.

Option	C	D
<i>Contractor's share</i>	- is the difference between total of the Prices and the PWDD; - interim assessment is made using forecasts of the final PWDD and the final total of the Prices on each <i>share assessment date</i>; and - interim assessment of the <i>Contractor's share deduction</i> is deducted from the amount due in interim payment.	- is the difference between Total of the Prices and the PWDD; - interim assessment is made using forecasts of the final PWDD and the final Total of the Prices on each <i>share assessment date</i>; and - interim assessment of the <i>Contractor's share deduction</i> is deducted from the amount due in interim payment.

4.3.5 Payment arrangement for pre-priced or provisional items

4.3.5.1 The payment arrangement for pre-priced or provisional items (such as safety, environmental management, site cleanliness, payment in relation to Assistant Clerical Officer (Labour Relations), etc.) is shown as follows:

Option	A and B	C and D
Pre-priced or provisional items	Payment arrangement is similar to the conventional contracts and will be paid in accordance with the pre-priced rates or stipulated mechanisms in the relevant schedule(s) in the Activity Schedule or bill(s) in the Bill of Quantities containing such items.	The spending on these items is generally paid on a reimbursable basis.
Points to note	Due to the fact that the payment for such items may deviate from the general principles (i.e. payment based on completed activities or work), a preamble for such items needs to be prepared and incorporated into the contract to elaborate the breakdown of such items and associated payment mechanism.	Although the payment is based on actual spending, corresponding section(s) within the pricing document (i.e. Activity Schedule or Bill of Quantities) still need to be set up so as to allow for pricing of these items in the target cost.

4.3.6 Major secondary Option clauses

4.3.6.1 Option X1 – Price adjustment for inflation

4.3.6.1.1 While the prevailing policy for the use of contract price fluctuation system is stipulated in DEVB TC(W) No. 4/2021, the most updated provision for price adjustment for inflation in NEC ECC is NEC Clause X1 used for Options A, B, C and D and the standard libraries of documents in DEVB's webpage for NEC ECC Hong Kong Edition documents.

4.3.6.1.2 For Options A and B, the amount due for compensation events will be all on *base date* level and will then be adjusted under NEC Clause X1.3. For compensation events under Options C and D, the target cost will be adjusted for price adjustment for inflation under NEC Clause X1.4. It should be noted that under NEC Clause X1.5, for compensation events, except for agreed rates in the Contract Data, the “current” Defined Cost including actual and forecast Defined Cost (NEC Clause 63.1) assessed for the compensation events will be adjusted to *base date* level by dividing by one plus the Price Adjustment Factor for the last assessment of the amount due before the dividing date.

4.3.6.2 Option X14 – Advanced payment to the Contractor

4.3.6.2.1 The *Contractor* prepares an Advanced Payment Statement in the form stated in the Scope and submits it to the *Project Manager*. The statement includes the amount of the advanced payment and a declaration signed by the *Contractor* that it has complied with its obligations on ethical commitment and confidentiality in the contract. The *Project Manager* certifies the amount within one week of submitting the Advanced Payment Statement and payment is made within three weeks of the *Project Manager*’s certificate.

4.3.6.2.2 The advanced payment is repaid in instalments set out in the Contract Data Part one in each amount due after the period stated in the Contract Data Part one. This is dealt with by the *Project Manager* as part of the calculation for the amount due at each assessment date.

4.3.6.3 Option X16 – Retention

4.3.6.3.1 For the purpose of imposing retention, the *Project Manager* should adopt the following procedures:

- (a) determine the amount retained by applying the *retention percentage* to the excess of the PWDD above the *retention free percentage*; and
- (b) check that the amount retained does not exceed the limit of amount retained.

4.3.6.4 Option X20 – Key Performance Indicators

4.3.6.4.1 Pay for Safety Performance Merit Scheme (PFSPMS)

- (a) The PFSPMS is included in the contract with the aim of encouraging the *Contractor* through payment for the performance-tied payment items for achieving better safety performance.
- (b) Pursuant to NEC Clause X20.4 and ACC Clause IV:6(3), the *Project Manager* assesses the amounts for the performance-tied payment items submitted in each Monthly Report in accordance with:
 - the Assessment Rules for the Performance-tied Payment Items of the PFSPMS; and
 - the *incentive schedule* for the Performance-tied Payment Items of the PFSPMS in the relevant Appendix to the Contract Data Part one.

The *Project Manager* notifies the *Contractor* of the assessed amounts. The *Contractor* includes the assessed amounts in its next application for payment statement submitted in accordance with NEC Clause 50.2.

- (c) Further to NEC Clause 50.6 and ACC Clause IV:6(4), the *Project Manager* has the power to correct any incorrectly assessed amount due in a later payment certificate of the amounts previously certified for the performance-tied payment items if it is for the time being dissatisfied with the documentary proof for those items submitted by the *Contractor*.
- (d) As given by the definition of NEC Clauses 11.2(32), 11.2(33) and 11.2(34), incentive payments to the *Contractor* do not form part of PWDD and are not subject to price adjustments.

4.3.7 Guidelines on Short Schedule of Cost Components (SSoCC) (for Options A and B)

4.3.7.1 The SSoCC is a simpler form of the SoCC and mainly used in Options A and B for assessment of compensation events. Following NEC Clause 63.1, the effect of a compensation event is assessed adopting the Defined Cost plus the resulting Fee approach, unless the relevant optional amendment to NEC Clauses 63.1 and 63.2 under the Library of Standard *additional conditions of contract* is adopted. For Options A and B, the Defined Cost refers to the cost of the components in the SSoCC as set out in NEC Clause 11.2(27).

4.3.7.2 For Option B, if there is a difference between the stated quantity of a Bill of Quantities item and its final quantity, it is a compensation event as per NEC Clause 60.4 if the conditions stated in the three bullet points are all satisfied. The cost of the components in the SSoCC may also be used to determine whether there is a change to unit cost when there is a change in quantity and thus give rise to a compensation event.

4.3.7.3 The first paragraph of the SSoCC sets out the overriding principle that an amount is included only in one cost component and only if it is incurred in order to Provide the Works.

4.3.7.4 In respect of people, the SSoCC includes the cost of people either directly employed or not directly employed but paid for by the *Contractor* and the amounts paid by the *Contractor* including those for meeting the requirements of the law. It also includes the cost of operatives of Equipment if such cost is not included in the relevant rates of Equipment.

4.3.7.5 For Equipment, the SSoCC includes the amounts at competitively tendered or open market rates multiplied by the time for which the Equipment is required. The purchase price of Equipment which is consumed and the associated costs of transporting, erecting, etc. of Equipment are also included in the SSoCC. For the purpose of preparing a quotation or assessment of cost for compensation events, the ownership of Equipment is not important.

4.3.7.6 For Plant and Materials, the SSoCC includes their purchase costs and all associated costs of delivery, removal, packaging, sampling and testing, but any payment received for disposal of Plant and Materials should be deducted in assessment of compensation events.

4.3.7.7 The SSoCC covers payments to Subcontractors for work which is subcontracted. The *Contractor* should state clearly in the payment application if any part of the *works* in a compensation event falls within subcontracts.

4.3.7.8 For charges, manufacture and fabrication, design, insurance and insurance premium, the SSoCC is the same as the SoCC used in target contracts.

4.3.8 Payment for target contracts (for Options C and D)

4.3.8.1 Payment to the *Contractor* under target contracts is based on Defined Cost plus Fee. According to NEC Clause 11.2(28), Defined Cost is the cost of the components in the SoCC less Disallowed Cost. Over several years of practical use of target contracts, it is found that Project Offices generally spent considerable amount of time and effort in the payment checking process, with some projects devoting significant manpower input on verification of payment records to ensure that every single cost item fully complies with the definition of Defined Cost. Upon review, a unified and strategic approach should be adopted to streamline payment checking for target contracts while the total Defined Cost is finalised progressively to facilitate the final assessment with minimum duplication of effort. It is expected that manpower in payment checking can be minimised while reasonable accuracy is maintained.

4.3.8.2 Accounts and records for payment of Defined Cost

4.3.8.2.1 The *Contractor* is responsible for ensuring the factual correctness of its payment application and the sufficiency of supporting documents. In the *Contractor's* payment application, each item of applied costs should be properly codified and well-organised under appropriate headings and/or sub-headings according to SoCC, payment schedules given in the relevant subcontracts and/or other management measures as agreed with the *Project Manager*. A neat and tidy presentation of payment application and relevant supporting information certainly facilitates future audit and verification by others as required by the *Client*.

4.3.8.3 Records

4.3.8.3.1 NEC Clause 52.2 states the types of records to be kept by the *Contractor*. These records should be made easily retrievable for inspection by the *Project Manager* when required. There is no exhaustive list of accounts and records to show that an applied cost is free from concern, as each cost may be subject to a number of terms and conditions under a procurement agreement. Also, there are site records to be produced jointly by the *Contractor* and the *Project Manager* (e.g. measurement records for the agreed quantity of works completed). The amount of accounts and records kept by the *Contractor* should be sufficient to show that the applied cost is reasonably incurred and properly justified for payment. Subject to the requirements under NEC Clause 52.2 and the Scope, the *Project Manager* has to agree with the *Contractor* on the type and the depth of the information available for the *Project Manager* for payment checking.

4.3.8.3.2 Typical records for the direct purchase of a cost item provided by the *Contractor* include the following:

- (a) invoice – shows the description and quantity of works and the corresponding price offered by the supplier to the *Contractor*;
- (b) purchase order – as the *Contractor*'s instruction of procurement to the supplier;
- (c) delivery note – confirmation of Plant and Materials or Equipment delivered to the Site;
- (d) transaction record – shows the monetary amount actually paid to the supplier; and
- (e) payment receipt – an acknowledgement of receipt of payment by the suppliers.

4.3.8.3.3 In many cases, some of the above records may be unclear or unavailable, especially for minor purchase (e.g. small value purchase made by petty cash) or verbal order for urgent situations or due to procurement custom and practice in specific trade, etc. The *Contractor* may suggest alternative arrangement (e.g. witness of material delivery by the *Project Manager*'s staff, verification of receipt of payment by phone / email). The *Project Manager* should exercise reasonable judgment to process the cost applied and not to treat it totally as Disallowed Cost when some records are unavailable.

4.3.8.3.4 The *Contractor* should provide the original or certified true copies of supporting documents for cost components to facilitate assessment by the *Project Manager*. If the *Project Manager* considers that it is not feasible for the *Contractor* to obtain the original or certified true copies for checking, it may decide to check photocopies. If so, the *Contractor* should submit a statement signed by its authorised person confirming that all submitted photocopies of invoices, receipts and the like are true and correct copies of the originals. As an alternative to paper records that may be very bulky, the *Contractor* may provide electronic copies of supporting documents to the *Project Manager*. Digital signature can be used to certify the data integrity.

4.3.8.3.5 The *Contractor* should take preventive action to ensure that there is no duplicated or overlapping invoice or invoice that is unrelated to the contract which may lead to an incorrect entry into the Defined Cost. The cost applied in this way is not justified by the *Contractor*'s accounts and records and thus is a Disallowed Cost according to NEC Clause 11.2(30). If the *Contractor*'s payment applications contain many obvious errors or repeated mistakes that are not caused by mere inadvertence or are owing to systematic failure, the matter may be reflected in the Contractors' Performance Report.

4.3.8.3.6 If the *Project Manager* considers necessary for some specific accounts and records to be prepared and maintained by the *Contractor* (e.g. information to facilitate assessment of a compensation event), the request should be made at the earliest possible opportunity such that the relevant documents can be timely arranged. As a good practice, financial meetings can be held regularly and attended by all those involved in payment processing to improve communication on payment issues and clarify misunderstanding, if any.

4.3.8.4 Inventories

4.3.8.4.1 It is important for the *Contractor* to maintain proper inventories to record the details of every batch of Plant and Materials and Equipment delivered to or removed off site

including information such as brands, models, sizes, quantities, ownership, etc. wherever practicable. An inventory should be well-organised to show the total quantities of a particular plant, material or equipment delivered (e.g. reinforcement bars, sheet-piles) with anticipated and actual delivery / removal dates and locations (if applicable) to align with relevant payment record, which may be used to assess the estimated overall quantities that will be required to Provide the Works. During the estimation, reasonable wastage should be allowed. Normally, allowable wastage should be less than 10% subject to project requirements and conditions and the nature of the material itself. If contra-charge is applicable, the relevant details should also be shown in the inventories to facilitate payment checking.

4.3.8.4.2 The inventories can assist the *Contractor* to watch out for any foreseeable shortage of stock, to make further procurement decisions, and assess if excessive wastage occurs.

4.3.8.4.3 The *Project Manager* should regularly inspect the *Contractor's* inventories to ensure that the record of Plant and Materials or Equipment delivered, used and in stock are correct and kept up-to-date for assessment of payment. The inventories also facilitate the *Project Manager* and the *Contractor* to monitor the level of consumption and wastage of different materials. The inspection should be conducted at not less than quarterly interval.

4.3.8.4.4 For residual Plant and Materials and Equipment that will no longer be used to Provide the Works, the *Contractor* should arrange for sale of them if appropriate and update their status in the inventories. The PWDD should then be adjusted accordingly with credit values from the sale.

4.3.8.5 Cost coding system

4.3.8.5.1 Cost coding system is recommended for payment documents (i.e. receipts, invoices, etc.) to enable efficient payment auditing by easy identification of relevant payment records and to avoid making mistakes in payment assessment if any payment record itself involves multiple payment items and cost components.

4.3.8.5.2 The reference cost code can be either stamped or remarked by pen on the supporting document to identify the corresponding cost component. The documents can then be categorised and filed in accordance with the assigned cost code (e.g. documents related to item 11 of the SoCC for wages, salaries and amounts paid by the *Contractor* for people can be filed in the box file for people costs).

4.3.8.5.3 Each project should have a cost coding system. The *Project Manager* may provide to the *Contractor* a cost coding system which has been effectively used and fully attested in previous projects. If the *Contractor* wishes to follow its own cost coding system, the *Contractor* submits the relevant details to the *Project Manager* for agreement. As long as the cost coding system can meet the objectives of efficient payment auditing by easy identification of relevant payment records and mitigating mistakes in payment assessment, the project teams are allowed to develop their own sets of cost codes that suit their project specific needs.

4.3.8.6 Contractor's sensitive payment information

4.3.8.6.1 The *Contractor* may have its own in-house policies or concerns in disclosing sensitive information such as employment agreements and the amount paid for their people including both staff and labour to the *Project Manager*.

4.3.8.6.2 The *Project Manager* should agree with the *Contractor* on the arrangement to check the relevant records. If these documents are only available within the *Contractor's* head office, the *Project Manager* can arrange its delegates to the *Contractor's* head office to check the payment information on rotational basis. The checking records should be signed and certified correct by the concerned delegates. If electronic documents are provided, it can be encrypted with password protection to prohibit unauthorised access.

4.3.8.7 Principles of assessment

4.3.8.7.1 In some of the previous projects, the definition of PWDD has been amended to “the total Defined Cost which the *Project Manager* assesses the *Contractor* has paid at each assessment date plus the Fee”, thus the *Contractor* only gets paid when it has demonstrated that it paid the amount. This may put the contractors in a state of “negative cash flow”. In view of the above and making reference to the “estimated work done” approach in assessing interim payment under conventional contracts, the definition of PWDD is modified such that the assessment is based on the actual payment by the *Contractor* made at each assessment date, plus an estimated amount due to the *Contractor* for the cost of components in the SoCC which will have been paid by the *Contractor* before one week after the next assessment date.

4.3.8.8 Forecasted payment

4.3.8.8.1 For estimated costs to be incurred by the *Contractor* before one week after the next assessment date, they may include regular and repetitive costs (e.g. monthly salaries of employees, telephone fees) and other one-off costs to be incurred to suit the progress of works. In respect of the latter, the *Contractor* may provide supporting documents of cost components (i.e. invoices) or scheduled payment items in subcontracts to facilitate the *Project Manager's* assessment of forecasted payment.

4.3.8.9 Open market or competitively tendered prices

4.3.8.9.1 Defined Cost of cost components should be of open market prices or obtained by competitive tendering process to ensure that they are not substantially over-priced or under-priced, or erratically priced. Unless otherwise specified elsewhere in the contract, the *Contractor* should endeavour to obtain a minimum of three up-to-date quotations for comparison. In determining the open market price of a cost component, the *Project Manager* may make reference to the prices of cost components of similar nature in a recent time period, whether under the same contract or any other works contracts, and include suitable adjustments taking into account the prevailing circumstances such as site location, inflation, market demand, stock availability, economy of scale, etc. that may affect the reference to market price. For competitively tendered price, it may be the lowest tender price returned, or the price of an offer with the highest combined tender score, subject to any express provisions otherwise stated in the contract.

4.3.8.10 Treatment of costs for Defect correction under target contracts

4.3.8.10.1 Project Offices should note that the occurrence of certain Defects before Completion and the need to correct them are considered part and parcel of Providing the Works in accordance with NEC Clause 11.2(17). The corresponding cost is therefore not, by default, treated as Disallowed Cost.

4.3.8.10.2 Under the ECC, the correction of Defects before Completion is ordinarily paid as Defined Cost. This contractual treatment is intended to provide an incentive for the *Contractor* to correct Defects as early as possible, thereby reducing the likelihood of uncorrected Defects affecting Completion or subsequent work by Others.

4.3.8.10.3 Costs associated with correcting Defects before Completion should only be treated as Disallowed Cost where the specific circumstances set out in NEC Clause 11.2(30) apply, including but not limited to:

- (a) costs not justified by the *Contractor's* accounts and records;
- (b) costs that should not have been paid to a Subcontractor or supplier under its subcontract; or
- (c) costs for correcting Defects arising from the *Contractor's* failure to comply with a constraint on how it is to Provide the Works stated in the Scope.

4.3.8.10.4 Project Offices should distinguish clearly between:

- (a) correction of Defects prior to Completion (normally Defined Cost);
- (b) correction of Defects after Completion, which is treated as Disallowed Cost; and
- (c) correction of Defects arising from non-compliance with contractual constraints, which may also fall under Disallowed Cost.

4.3.8.10.5 Notwithstanding that the correction of Defects before Completion is normally treated as Defined Cost, Project Offices should note that exceptional circumstances may arise where the cost of correcting Defects prior to Completion should instead be treated as Disallowed Cost as provided in NEC Clause 11.2(30), including where the Defects arise from the *Contractor's* failure to comply with a constraint on how it is to Provide the Works stated in the Scope. Reference should also be made to Section 4.3.9.1.3 for further guidance on the identification and treatment of such costs.

4.3.8.10.6 The above principles support the NEC's proactive project management ethos and help maintain a fair and consistent basis for payment assessment, without discouraging timely correction of Defects.

4.3.8.11 Finalisation of Defined Cost

4.3.8.11.1 NEC Clause 50.9 provides for an arrangement under which the *Contractor* has to notify the *Project Manager* when the Defined Cost for a part of the *works* has been finalised, and makes available for inspection the records necessary to demonstrate that the Defined Cost

has been correctly assessed. This provision is purported to incentivise the *Contractor* to prepare ahead the records before assessment of the final amount due such that the Defined Cost can be finalised for part of the *works* progressively. During the finalisation of Defined Cost, any Disallowed Cost found (e.g. cost not justified by the *Contractor's* accounts and records) will be deducted from the PWDD in the following interim payment. The *Contractor* should be encouraged to finalise the Defined Cost progressively, especially for those that have been fully paid by the *Project Manager*, to lessen the workload in the assessment of final amount due.

4.3.8.12 First 6 payment applications

4.3.8.12.1 The *Contractor* has to provide a full set of supporting document for what it has already paid at each assessment date in the first 6 payment applications for full checking by the *Project Manager*. During this period, the *Project Manager* and the *Contractor* will reach agreement on the amount and extent of supporting document for payment checking and develop the initial information basis for the *Project Manager's* assessment of forecasted payment. After the first 6 payment applications, the payment checking mechanism in the ensuing paragraphs shall be followed.

4.3.8.13 Payment checking mechanism

4.3.8.13.1 To relieve the payment checking burden effectively, a risk-based approach will be adopted in which some cost items⁶ with higher risk will be classified as major items in view of their value and nature. For Defined Cost applied in an interim payment (including forecast payment), full check will be conducted on all major items⁷. For remaining items that have lower risk, sample check will be conducted where a portion of the Defined Cost applied will be selected and checked by the *Project Manager*, and no checking is required for the unselected portion. For the avoidance of doubt, no further checking on unselected items in all subsequent interim payments and final payment is required.

4.3.8.13.2 Remaining cost items for sample check should be drawn on random basis to ensure unpredictability in the selection process and minimize any unnecessary manual interference. Officers responsible for selection of cost items should maintain high integrity.

⁶ A cost item is regarded as a single item of cost amount that is applied individually by the *Contractor* in its payment application. As an example, the *Contractor* applies for \$2,500 in the payment application for a set of hand tools which is regarded as one cost item in the amount of \$2,500, despite there is a detailed breakdown of the kind and cost of each hand tool as shown in the invoice. For subcontracts, a cost item is the cost amount that is applied by the *Contractor* in its payment application in relation to its payment to a Subcontractor.

⁷ A cost item can be regarded as a major item for full check if there are supporting records for some cost items of similar nature in the past that were repeatedly found to be missing or inadequate and hence poses a high risk.

4.3.8.13.3 For conducting sample check, three check levels are proposed as shown in the following table.

Check level	Level 1	Level 2	Level 3
Major items	- all cost items⁸ exceeding \$1,000,000; and - all cost items related to people (items 11, 12 & 14) and insurance (item 8) in the SoCC	- all cost items exceeding \$2,000,000; and - all cost items related to people (items 11, 12 & 14) and insurance (item 8) in the SoCC	- all cost items exceeding \$5,000,000; and - all cost items related to people (items 11, 12 & 14) and insurance (item 8) in the SoCC
Sample selection of remaining cost items	- not less than 50% of the total value of remaining cost items should be selected for sample check; and - not less than 30% of the total number of remaining items should be selected for sample check	- not less than 35% of the total value of remaining cost items should be selected for sample check; and - not less than 25% of the total number of remaining items should be selected for sample check	- not less than 20% of the total value of remaining cost items should be selected for sample check; and - not less than 20% of the total number of remaining items should be selected for sample check

4.3.8.13.4 To facilitate the random selection of remaining cost items for sample check, a tailor-made spreadsheet has been uploaded to the Works Group Intranet Portal for direct application. Nevertheless, Project Offices may devise their own sampling methods for sample check provided that the principles of unpredictability and integrity are observed.

4.3.8.13.5 The quality of *Contractor's* submission in respect of factual correctness and sufficiency of supporting document should be assessed according to the irregularities (i.e. Disallowed Cost) found in the cost applied. For the avoidance of doubt, the Disallowed Cost stated here should exclude any Disallowed Cost arising from a disagreement in principle between the *Project Manager* and the *Contractor* that is not related to the quality of *Contractor's* submission⁹. Hence, the Degree of Irregularity (“DI”) is the ratio of the Disallowed Cost found in the cost items applied to the total sum of cost items applied in the interim payment application. As a remark, it is not necessary to exclude cost items with disagreement in principle from the calculation of total sum of cost items.

⁸ For subcontracts, the total amount applied under a subcontract in an interim payment submission is regarded as a cost item.

⁹ For example, a disagreement arises from ambiguous payment terms in a subcontract where the *Project Manager* considers that the *Contractor* should not make the relevant payment to that Subcontractor.

4.3.8.13.6 In every interim payment application, the DI should be assessed.

$$\text{Degree of Irregularity} = \frac{\text{Disallowed Cost found (excl. cost items with disagreement)}}{\text{Total sum of cost items}}$$

4.3.8.13.7 After the first 6 payment applications, the payment checking of a target contract should start at Level 1 and then raise to higher levels or drop to lower levels according to the DI assessed. The following rules shall apply to the change of check levels.

- (a) If the DI is less than 5% for 3 consecutive payments, the check level shall be raised by one level which will be applicable to the next payment application. The highest level to be raised is Level 3.
- (b) If the DI is more than 15% but not more than 20%, the *Project Manager* shall lower the check level by one level which will be applicable to the next payment application. The lowest level to be dropped under this situation is Level 1.
- (c) Regardless of the current check level, if the DI is more than 20%, the *Project Manager* shall conduct full check on all major items and remaining cost items (i.e. all Defined Cost applied) in subsequent interim payment applications. The *Project Manager* can proceed to Level 1 again if the DI of any subsequent payment application is not more than 15%.

4.3.8.13.8 Where appropriate, the *Contractor's* management should be informed of any poor performance in payment application. The *Project Manager* should also reflect the *Contractor's* performance regarding the level of accuracy of applied amounts for Defined Cost in the Report on *Contractor's* Performance (e.g. items 6.14 “Attention to records” and 6.15 “Attention to submission of accounts / valuations”) as appropriate.

4.3.8.13.9 Project Offices should note that the adoption of a risk-based approach to payment checking does not mean that cost data not selected for checking are unreliable or cannot be used for other contractual purposes. Consistent with the principle of mutual trust and co-operation as intended under the NEC regime, the cost data submitted by the *Contractor* may be used for assessing prolongation costs and for the final assessment of the amount due (even they have not been checked during interim assessments) unless there is evidence that such data are incorrect. The intention is not to conduct retrospective full checking or re-checking of historical records solely because they were not examined during interim payment checks. Instead, the selective checking regime is designed to focus resources on areas of higher risk while enabling efficient administration of the contract. Any further checking should only be undertaken where justified by specific concerns or irregularities identified during the risk-based process.

4.3.8.14 Contractor's share

4.3.8.14.1 In target contracts, the *Project Manager* and the *Contractor* are responsible for its share of the difference between the total / Total of the Prices and the PWDD according to the *Contractor's share percentages* and *share ranges* as provided in Contract Data Part one. The mechanisms are stipulated under NEC Clause 54 and the *Contractor* pays / is paid for its share.

4.3.8.14.2 For target contracts with NEC Clause 54.2A (for Option C) or 54.6A (for Option D) incorporated, the *Project Manager* has a right to make interim assessment of the *Contractor's* share at the *share assessment date* and the *Project Manager* has an obligation to inform the *Contractor* of the *Project Manager's* interim assessment of the *Contractor's share deduction*. Since the *Project Manager's* forecast of the final PWDD and forecast of the final total / Total of the Prices are used in the interim assessment, the *Project Manager* should not be too conservative in making the forecasts and prepare a pessimistic assessment that results in an interim pain share and affects the *Contractor's* cash flow to Provide the Works. If an interim pain share is assessed, the *Project Manager* should actively communicate with the *Contractor* on any measures (e.g. cost control, assessment of compensation events) that may reduce or minimize the *Contractor's share deduction*. According to the additional fourth bullet point of NEC Clause 50.3 for target contracts, the *Project Manager's* interim assessment of the *Contractor's share deduction* is deducted from the amount due.

4.3.8.15 Spot checking for consultants-administered projects

4.3.8.15.1 For consultants-administered projects, checking of interim payments in accordance with the above payment checking mechanism should be conducted by the consultants. Subject to availability of in-house resources, the Project Offices may select some of the items (except unselected items) for conducting further spot checking.

4.3.8.16 Enhancement measures for checking people cost

4.3.8.16.1 Pursuant to SDEV's memo ref. () in DEVBWB WP4S-022-007-001 dated 9 January 2026, enhancement measures are required to be implemented in target contracts to strengthen the checking and verification of people costs included in payment applications, with a view to enhancing transparency, preventing duplicate or unjustified payment, and safeguarding the *Client's* interests.

4.3.8.16.2 Firstly, a Facial Recognition System (FRS) shall be adopted to record and verify the attendance of people engaged by the *Contractor* (viz. the time of entering and leaving the Working Areas). Attendance records extracted from such system shall be submitted by the *Contractor* as part of the supporting documents for payment applications. If a biometric authentication system with equivalent performance has already been implemented under the contract, separate adoption of FRS is not required. Where Project Offices consider it not appropriate to implement FRS under an ongoing target contract, approval from an officer at D2 rank or above should be obtained.

4.3.8.16.3 While attendance records extracted from the FRS form the primary basis for substantiating people cost, Project Offices should recognize that such records should not be treated as the sole basis for determining the allowability of people cost, and may not capture attendance or duties performed in all circumstances at all times. In assessing people cost, Project Offices should have regard to the relevant principles under the SoCC (see items 11 to 14), including that people cost is assessed by reference to people working to Provide the Works, and that payment of people cost is not contingent solely on continuous physical presence within the Working Areas as recorded by the FRS.

4.3.8.16.4 Accordingly, where discrepancies or gaps in the FRS records are identified, including where the FRS records indicate that the *Contractor's* personnel have left the Working Areas for a period of time, the *Project Manager* should not automatically deduct people cost

solely by reference to such FRS records while disregarding other relevant information. The *Project Manager* should first verify with the *Contractor* whether the duties undertaken during such periods were incurred in order to Provide the Works.

4.3.8.16.5 By way of illustration, people engaged by the *Contractor* may legitimately be working outside the Working Areas for a period of time (without necessarily affecting their normal place of working being the Working Areas) while still Providing the Works, including but not limited to:

- (a) hosting and/or attending meetings with utility undertakings, stakeholders, interfacing parties or other WDs in connection with Providing the Works;
- (b) hosting and/or attending training sessions necessitated as a result of Providing the Works;
- (c) hosting and/or attending sharing sessions for the best interests of the project;
- (d) carrying out inspections of Plant and Materials located outside the Working Areas; and
- (e) undertaking preparation for, and travelling to and from the above activities where such activities are carried out in order to Provide the Works.

4.3.8.16.6 In such circumstances, people cost attributable to these activities should remain payable where supported by reasonable and cogent evidence. The *Project Manager* should take into account the *Contractor's* explanations together with other available records (e.g. site diary, meeting minutes, inspection records, correspondence or other contemporaneous records), and exercise professional judgement in determining whether the people cost claimed is properly attributable to the contract.

4.3.8.16.7 Prior to the operation of the FRS, or in case of exceptional circumstances (e.g. system breakdowns), or subject to the *Project Manager's* acceptance, the *Contractor* may submit other available attendance records to prove the attendance of the *Contractor's* personnel concerned and declare that such attendance records are true, accurate and complete. The attendance records and declaration submitted should be signed by the *Contractor's* Site Agent or any of its authorized signatories.

4.3.8.16.8 Secondly, the *Contractor* is required to submit, with each application for payment, a declaration signed by its authorised signatory confirming that the people cost included in the payment application have been duly checked and verified, that no duplicate applications or duplicate payments for people costs have been made across its other existing contracts, and that all such cost comply with the contract requirements. Failure to submit the required declaration may result in withholding of payment in accordance with the contract.

4.3.8.16.9 In addition, internal audit checks on payment for people costs will be carried out by project officers in an unannounced manner to verify compliance with the above requirements and to detect any duplicate or irregular payments. These checks form part of the overall governance framework for target contracts.

4.3.8.17 Contract Payment e-Check System

4.3.8.17.1 Pursuant to SDEV’s memo ref. () in DEVBWB WP4S-022-007-001 dated 30 January 2026, the use of the Contract Payment e-Check System (CPECS) is introduced to improve work efficiency in payment checking for target contracts and to facilitate the digital handling of payment applications.

4.3.8.17.2 For target contracts to be tendered on or after 1 April 2026, CPECS shall be used unless approval from DEVB is obtained. For other new or ongoing target contracts, Project Offices are encouraged to adopt CPECS as far as practicable, which may be implemented by way of tender addendum or instructions from the *Project Manager*.

4.3.8.17.3 The CPECS enables the digital submission, checking, assessment and vetting of payment applications, and supports the handling and verification of Defined Cost, together with the associated supporting documents and records. The adoption of CPECS is intended to enhance efficiency, transparency and auditability in payment assessment, while providing full visibility of costs, records and supporting information to the *Project Manager*.

4.3.8.17.4 The detailed requirements, specifications and implementation arrangements for the CPECS shall be as set out in the Particular Specification as issued or updated by DEVB from time to time.

4.3.9 **Guidelines on SoCC**

4.3.9.1 SoCC

4.3.9.1.1 According to NEC Clause 11.2(28), Defined Cost is the cost of the components in the SoCC less Disallowed Cost. Checking is conducted according to the descriptions and principles under the respective heading in the SoCC and the ensuing paragraphs.

4.3.9.1.2 The first paragraph of the SoCC states that an amount is included only in one cost component and only if it is incurred in order to Provide the Works. Some may be confused if it should be limited to cost for works as specified in the contract documents only. The *works* (shown in italics) are works to be completed by the *Contractor* as specified in the Contract Data but not including the incidental work, services and actions which the contract requires such as temporary works. The Works (not in italics) include the *works* and all incidental work, services and actions which the contract requires. Hence, the “Works” in “To Provide the Works” (shown with capital initials but not in italics) include the *works* and all incidental work, services and actions which the contract requires.

4.3.9.1.3 Disallowed Cost is defined in NEC Clause 11.2(30). The cost of correcting a Defect not caused by the *Contractor*’s non-compliance with a constraint on how it is to Provide the Works stated in the Scope before Completion is not regarded as Disallowed Cost. In some situations, a Defect can be avoided by following the *Contractor*’s quality plan or works inspection procedures. If a non-compliance with the quality assurance procedure has been pointed out by the *Supervisor* and/or its representatives, but the *Contractor* chooses to ignore it, the cost of correcting such Defect is regarded as cost incurred due to the *Contractor*’s failure to comply with a constraint on how it is to Provide the Works stated in the Scope, and thus Disallowed Cost. As stated in the “Scope provided by the *Client* for NEC ECC HK Edition”,

those outstanding works, services and actions that are decided by the *Project Manager* or stated in the Scope to be carried out after Completion should not constitute a Defect itself or should not be construed to contain any Defect unless and until any of the specified scenarios in Clause 8.1.3 of the “Scope provided by the *Client* for NEC ECC HK Edition” arises. Care should be taken not to inadvertently regard those outstanding works as Defects and the relevant cost of the works as Disallowed Cost. In assessing whether the cost of correcting a Defect constitutes Disallowed Cost, Project Offices should carefully examine the nature of any Defects identified during construction, including whether they arise from the *Contractor*’s non-compliance with the constraints stated in the Scope, and whether any part of the associated cost should fall under Disallowed Cost as defined in NEC Clause 11.2(30). In assessing such costs, Project Offices should also take into account the principles set out in Section 4.3.8.10 regarding the treatment of costs for correcting Defects prior to Completion.

4.3.9.2 People

4.3.9.2.1 The Defined Cost of people include the cost of people who are employed by the *Contractor*, and people who are not directly employed by the *Contractor* but are paid for by the *Contractor* according to the time they work. Full check shall be conducted on all direct payment items under SoCC items 11, 12 and 14.

4.3.9.2.2 On or before every assessment date, the *Contractor* should update and provide the organisation chart and a full list of staff for the *Project Manager*’s reference.

4.3.9.2.3 For cost of people that are paid according to the time they work / spend working in the Working Areas, the *Contractor* should provide the attendance records or time sheets for checking.

4.3.9.2.4 Except the salary and the pay rate, it is generally not required to verify the payment made to the *Contractor*’s employee against the relevant terms in the employment contract (e.g. leave entitlements and balance), unless there is reasonable suspicion on any unusual payment or amount that a contractor will not normally make to such an employee.

4.3.9.2.5 Where the Working Areas are not available (e.g. the site office is being established or demolished) and the *Contractor*’s employees cannot work within the Working Areas but they are necessary for Providing the Works. Under such situation and during that period of time, their normal place of working is not within the Working Areas and they are working outside of the Working Areas. The *Project Manager* may accept these people as if they were listed in the Contract Data and use the third bullet of SoCC item 1 for assessing the cost of these people for that period of time. Another option is that the *Project Manager* may add the temporary workplace of these people to the Working Areas with conditions such as time period, usage, etc.

4.3.9.2.6 For projects adopting MiC method of construction where the factory is not located within the Site and if its production lines are not solely used for the contract, the MiC factory itself is not the Working Area according to the definition in NEC Clause 11.2(24), but is regarded as a place for the manufacture or fabrication of Plant and Materials outside the Working Areas. The cost of people employed by the *Contractor* working in such MiC factory should be assessed using SoCC item 61.

4.3.9.2.7 The cost of operatives of an Equipment should only be included in the cost component of people if it is not included in the hire rate as per SoCC item 27. The *Contractor* may be required to provide its agreement with the Equipment supplier to demonstrate the inclusion or exclusion of operatives in the hire rate.

4.3.9.3 Equipment

4.3.9.3.1 The *Contractor* may choose to arrange an Equipment to Provide the Works via its own Equipment (or an Equipment owned by its ultimate holding company or a company with the same ultimate holding company), purchase or hire an Equipment for use in the project.

4.3.9.3.2 The first sentence in item 2 of the SoCC specifies that the Equipment is used within the Working Areas. The cost of an Equipment which is not used within the Working Areas is not a cost component in this item.

4.3.9.3.3 Item 21 of the SoCC refers to the Equipment rented or hired from sources external to the *Contractor*, its ultimate holding company or a company with the same ultimate holding company. The *Project Manager* has to check if the *Contractor's* hire or rental rate for the Equipment qualified for Defined Cost under this item had been obtained through open market rates or competitively tendered prices with deductions for all discounts, rebates and taxes that could be recovered in accordance with NEC Clause 52.1.

4.3.9.3.4 Item 22 of the SoCC covers the Equipment that is owned by the *Contractor* or hired by the *Contractor* from its ultimate holding company or a company with the same ultimate holding company. The *Project Manager* checks if the applied amount for the Defined Cost for Equipment components under this item was priced by open market rates to avoid risk of intercompany charges from the *Contractor*. The common benchmarking practice adopted in Hong Kong is to obtain at least 3 up-to-date quotations (excluding the rates from subsidiary or member company of the *Contractor's* group). Nevertheless, since the procurement for subcontracts, Equipment, Plant and Materials are more transparent and made known to the *Project Manager* under respective subcontracts or supply contracts, the *Project Manager* can make reference to these rates in deriving open market rates when undertaking assessment provided that such rates are up-to-date. If the parties find it difficult or impossible to obtain 3 quotations, with agreement of the *Project Manager* and the *Contractor*, the parties may consider making reference to other published rates agreed by the parties with justification recorded. However, if an internal rate from subsidiary or member company of the *Contractor's* group is found to be excessive, the *Contractor* should be asked to either reduce its internal rate or suggested that the Equipment to be replaced with a hired-in-item under item 21 of the SoCC unless there are exceptional circumstances which justify using the *Contractor's* own Equipment.

4.3.9.3.5 Item 23 of the SoCC covers the purchased Equipment for work included in the contract listed with a time-related on cost charge in the Contract Data. The *Project Manager* will only consider to pay the *Contractor* under this item instead of item 22 of the SoCC if the following conditions are met:

- (a) the Equipment is specifically purchased for the project;
- (b) the *Contractor* is able to provide evidence on deposit or front payment of the Equipment; and

- (c) the Equipment is procured from an external source.

If the *Project Manager* agrees, an additional item of purchased Equipment may be assessed as if it had been listed in the Contract Data Part two. The *Project Manager* has to check if the applied amount for the Defined Cost for an Equipment is based on the sale price or the open market sale price in the change in value calculation, which is the difference between the purchase price and either the sale price or the open market sale price at the end of the period for which the Equipment is required. If an Equipment involves a significant purchase cost, the *Project Manager* may conduct an evaluation that covers the following before reaching an agreement with the *Contractor* on the use of item 23 of the SoCC:

- (a) estimated purchase price and sale price of the Equipment;
- (b) estimated usage of the Equipment in the project;
- (c) whether the Equipment is re-usable or just one-off in the project;
- (d) risks associated with performance and maintenance of the Equipment;
- (e) frequency of maintenance and the availability of maintenance facilities;
- (f) availability of the Equipment in the market;
- (g) storage area for the Equipment on site; and
- (h) outcome of value for money test in which whether it is more economical to purchase the Equipment or not given the estimated usage time.

4.3.9.3.6 Item 24 of the SoCC covers consumables for Equipment including fuel, oil, lubricants, etc. The quantity of such consumables ordered should be fully consumed with an allowable wastage taken into account.

4.3.9.3.7 Item 25 of the SoCC covers payments for transporting, constructing, erecting, fabricating, modifying and dismantling an Equipment. This item is also extended to cover payment related to servicing of the *Contractor's* vehicles (i.e. for general use by the *Contractor's* site staff such as transporting concrete cubes) such as parking fees, maintenance and repair, etc. However, if a vehicle is provided to the *Contractor's* people according to the employment contract, all related payments should be paid under SoCC item 13(n).

4.3.9.3.8 Item 26 of the SoCC covers payments for purchasing of materials used to construct or fabricate an Equipment. An example of this item is the payment for purchasing welding rods for constructing a working platform.

4.3.9.3.9 As a good practice, the *Project Manager* should actively check if there is any idling of Equipment on site. If the *Contractor* considers that retaining the idled Equipment on site would be more beneficial to Provide the Works, the *Contractor* should provide full justifications for the *Project Manager's* agreement, with consideration of the following:

- (a) the *Contractor's* planned use of the Equipment according to programme;

- (b) standby Equipment for emergency use;
- (c) availability of Equipment in the market; and
- (d) mobilisation / demobilisation cost.

For an Equipment idled on site without any justification, no payment should be given for the idling period since the resources are not used to Provide the Works.

4.3.9.4 Plant and Materials

4.3.9.4.1 Item 31 of the SoCC covers the payments in relation to the purchase, transportation, packaging, sampling and testing of Plant and Materials. In some cases, the *Contractor* may contra-charge one or more of its Subcontractor for the supply of Plant and Materials (e.g. ready mixed concrete, reinforcement bars) under the subcontract agreements. Particular attention should be paid to the inventory and records for the use of Plant and Materials during payment checking.

4.3.9.4.2 Item 32 of the SoCC highlights that payment received for disposal of Plant and Materials in excess should be credited to the payment of the relevant cost item of Plant and Materials.

4.3.9.5 Subcontracts

4.3.9.5.1 The selection of Subcontractor must adequately follow the acceptance or procurement procedural requirements stipulated in the contract, failing which any cost which was incurred only because the *Contractor* did not follow an acceptance or procurement procedure stated in the contract should be disallowed. At this juncture, the *Project Manager* should also recognize that the cost to be disallowed in this regard is only that portion of the total cost which was incurred due solely to the *Contractor's* failure to follow the appropriate procedure but not the entire cost of the works performed by the Subcontractor whose appointment has not followed the required procedure. The cost to be disallowed should be properly assessed to avoid affecting the *Contractor's* cashflow and the payment to Subcontractor.

4.3.9.5.2 The *Contractor's* payment to Subcontractor should follow the payment method, schedule, terms and conditions in the subcontract agreement. The *Project Manager* and *Contractor* should properly classify the records related to Subcontractors such that the works completed by and payment made to each Subcontractor can be checked easily.

4.3.9.5.3 Contra-charges (or back-charges) typically refer to the amounts deducted by the *Contractor* from the amounts due to the Subcontractor according to the terms stipulated in the subcontract agreement. The most common contra-charge items include the supply of Plant and Materials (or Equipment or materials for fabrication of Equipment) that the *Contractor* has procured for and on behalf of the Subcontractor under a subcontract. The *Contractor* will contra-charge the Subcontractor's payment for the cost of the Plant and Materials procured on the Subcontractor's behalf according to the quantities ordered for the Subcontractor. In the payment applications, the *Contractor* should clearly indicate these contra-charge items and

how the final subcontract sum will be affected. In some cases, contra-charges will be applied to the supply of labour.

4.3.9.5.4 It is not uncommon to find that subcontract payments involve variations ordered (which may arise from compensation events or not), missing items or claims from Subcontractors. The *Contractor* should provide details and justifications for these variations, missing items and claims and the principle of assessment for the *Project Manager's* review. Before the valuation of variations and assessment of missing items and claims are completed, reasonable on-account payment can be allowed in order not to disrupt the cashflow of the *Contractor*. If necessary, agreement should be reached in financial meetings to enhance better understanding of the payment for variations, missing items and claims before payment application.

4.3.9.6 Charges

4.3.9.6.1 Payment for utilities are paid under item 51 of the SoCC while statutory charges for the Pneumoconiosis Compensation Fund Board (PCFB) and the Construction Industry Council (CIC) are paid under item 52. In general, bills are issued directly by the utility companies or statutory councils and hence minimal checking is required. When the utility service is no longer required to Provide the Works, the *Contractor* should terminate the relevant service contract immediately.

4.3.9.6.2 Item 53 of the SoCC covers consumables and equipment for the *Project Manager's* and *Supervisor's* offices, but the relevant accommodation and transport are covered by item 55. Presumably, all payments related to servicing to the *Project Manager* and *Supervisor* by the *Contractor* as required under the contract can be covered by these two items, unless otherwise specified in the SoCC (e.g. utility charges under item 51).

4.3.9.6.3 Payment made by the *Contractor* for any ceremonial fees (e.g. Tun-fu) or religious rituals or religious ceremonies or similar (e.g. Pai-sun) is not a charge and is not covered by the SoCC.

4.3.9.7 Manufacture and fabrication

4.3.9.7.1 This cost component is applicable where the *Contractor* had established a facility outside the Working Areas for manufacturing and fabricating Plant and Materials and the Plant and Materials are not manufactured / fabricated exclusively for the contract. In this case, the relevant cost of people for manufacture and fabrication of the Plant and Materials which takes place in the facility outside the Working Areas is covered by this cost component. If the facility is added to the Working Area or is procured under a subcontract agreement, no payment should be made using this cost component.

4.3.9.7.2 The same principles for checking payment on Equipment, Plant and Materials, etc. above should equally applicable to item 61 of the SoCC for manufacturing and fabricating Plant and Materials outside the Working Areas.

4.3.9.8 Design

4.3.9.8.1 The cost of design of the *works* and Equipment for which the contract requires the *Contractor* to design outside the Working Areas is covered by these components. The

design covers the temporary works design, alternative design and cost savings design by the *Contractor*.

4.3.9.9 Insurance

4.3.9.9.1 The cost of insurance which the contract requires the *Contractor* to acquire as stated in Contract Data Part one is covered by these components. The following are the potential types of insurances to be included in the list:

- (a) insurance against loss of or damage to the *works*, Plant and Materials;
- (b) insurance against loss of or damage to Equipment;
- (c) insurance against liability for loss of or damage to property (except the *works*, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor* or Tier Subcontractor) arising from or in connection with the *Contractor* Providing the Works;
- (d) professional indemnity insurance related to the *Contractor's* Design and/or Cost Savings Design; and/or
- (e) insurances against liability for death of or bodily injury to employees of the *Contractor* or Tier Subcontractor arising out of and in the course of their employment in connection with the contract.

4.3.9.9.2 Motor insurance for the *Contractor's* vehicles is covered in item 25 of SoCC while motor insurance for the *Project Manager's* and the *Supervisor's* vehicles is covered in item 55 of SoCC.

4.3.9.9.3 The *Project Manager* should avoid withholding the whole insurance payment for minor problems noted in the insurance policy if there is clear supporting document that the *Contractor* has already paid the premium to the insurance broker / agent.

4.3.10 **Cost control & corruption prevention on subcontracts for target contracts**

4.3.10.1 NEC Clause 52.1 lays down the principle that the Defined Cost includes only amounts calculated using rates and percentages stated in the Contract Data and other amounts “at open market or competitively tendered prices” with deductions for all discounts, rebates and taxes which can be recovered. There may be concern as to whether the subcontract prices will be inflated intentionally by the *Contractor*. To address this concern, the *Project Manager* should check whether the tender prices and rates of the subcontracts and supply contracts submitted by the proposed Subcontractors and suppliers are competitively tendered or open market prices or rates, without activities or items which are substantially over-priced or under-priced, or erratically priced, before acceptance of the proposed Subcontractors or suppliers.

4.3.10.2 The tender price for the main contract (i.e. target cost) is obtained through a competitive process. The *Client* and the *Contractor* share the financial risk under a pain / gain share mechanism which incentivises the Parties to strive for cost savings, such that the gain share can be maximised or the pain share can be minimised. It thus drives the *Contractor* to

procure subcontracts at competitive prices, and not to inflate the subcontract prices, in which case the *Contractor* may likely face a higher chance of pain share.

4.3.10.3 At contract completion, while it may in general be seen as a success if gain share is achieved, a project with pain share should not be necessarily regarded as a failure, provided that both the *Client* and the *Contractor* have acted in accordance with the contract. In any case, the Government's interest will not be put in an unfavourable position due to the following reasons:

- (a) The pain *share range* is capped at 110% of the final target cost and the final total payment to be borne by the *Client* is normally capped at 105% of the adjusted final target cost; and
- (b) Final payment to the *Contractor* is on cost reimbursable basis based on Defined Cost plus Fee. If the prices of subcontracts are not competitive or are inflated, it would hardly bring benefits to the *Contractor* except a higher Fee, which is comparatively secondary.

4.3.10.4 If the possibility of the *Contractor* colluding with their Subcontractors to look for financial benefits from an inflated subcontract price submitted at the pre-contract stage may still be real, such risk continues to be controlled by the pain / gain share mechanism. Ultimately, such malpractice is subject to enforcement actions under relevant law and regulations.

4.4 COMPENSATION EVENTS

4.4.1 Grounds for compensation events

4.4.1.1 Compensation events are events which may trigger the reassessment of the Prices, Completion Date and/or Key Dates.

4.4.1.2 Under default NEC, the compensation events listed under NEC Clause 60.1 allows both time and monetary entitlement to the *Contractor*. As stated in the following sections, time and monetary entitlement or time entitlement principles should be applied in different scenarios in public works projects in Hong Kong. Nevertheless, the Project Offices may take into account project specific needs and propose amendments to the contract provisions. For such cases, the Project Offices should seek the endorsement of DEVB who may consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects for the proposed deviations if appropriate. Amendment in NEC Clause 63.6 should also be made to exclude rights by the parties to change the Prices under such types of "time only" compensation events.

(a) Weather events

4.4.1.3 Under NEC Clause 60.1(13) of default NEC, the *Contractor* is entitled to both time and cost compensation for weather events with an occurrence frequency less than once in ten years. Taking into account the cost uncertainty brought about by weather risks and contract administration consideration in public works projects in Hong Kong, in general, the weather events should be provided with time compensation only for Options A and B. Meanwhile, for Options C and D, severe weather conditions as listed below under items (i) to (iii) should be

provided with time and monetary compensation but time compensation only for items (iv) and (v). For the avoidance of doubt, in assessing the time and/or money compensation, the Project Offices are required to take into account, the date(s) with the weather conditions listed below hosted, as well as how such weather conditions affecting the Site. Project Offices should therefore take into account the impact of such consequences on the Site and the Contractor's ability to Provide the Works when assessing compensation events, including any resulting delay to the Completion Date and/or Key Date(s) in accordance with NEC Clause 63.5. The Project Offices are allowed to exclude any of the items listed below from or add new item(s) to the severe weather conditions after reviewing their specific project situations and such proposal or other amendments should be endorsed by DEVB. The relevant amendment in the Library of Standard *additional conditions of contract* for use with NEC ECC Hong Kong Edition should be adopted in the NEC contracts accordingly.

- (i) Hoisting of tropical cyclone warning signal No. 8 or above;
- (ii) Black Rainstorm Warning;
- (iii) Red Rainstorm Warning;
- (iv) Amber Rainstorm Warning; and
- (v) an *additional weather condition*.

4.4.1.4 For the purpose of item (v) above, *additional weather condition* is defined in CDP1as "inclement weather". Inclement weather includes Heat Stress at Work Warnings issued by the Labour Department. Project Offices should recognise that implementation of the required work-rest arrangements and other protective measures associated with such warnings may reduce the productive working time available for Providing the Works. Such circumstances should be treated as compensation events in accordance with the contract. In assessing the effect of such compensation events, the *Project Manager* should consider the impact of the Heat Stress at Work Warnings and the associated measures on the Accepted Programme. Any delay to the Completion Date and/or Key Date(s) should be assessed in accordance with NEC Clause 63.5, namely by reference to the extent to which, due to the compensation event, planned Completion and/or planned date when the Condition stated for a Key Date will be met is / are later than that shown on the Accepted Programme current at the dividing date.

(b) Unforeseen physical conditions

4.4.1.5 Under NEC Clause 60.1(12), the *Contractor* is entitled to both time and cost compensation for unforeseen physical conditions. This clause should be read in conjunction with NEC Clause 60.2 in terms of baseline information to be taken into account for the purpose of assessing the effect of a compensation event. This includes all information incorporated in the Site Information and, where applicable, any GBR identified separately in the Contract Data. Any contractual baselines established in GBRs and/or information stated in the Site Information serve to identify the physical conditions that an experienced contractor would reasonably have allowed for at the *tender closing date*. To form a reasonable baseline for assessment, it is important to incorporate all available site investigation information into the Site Information and, where applicable, to clearly establish contractual baselines through GBRs for tendering purpose. Reference should be made to Sections 2.1.1.8 to 2.1.1.16 regarding the

preparation of Site Information, including the use of geotechnical reports and any baseline arrangements, as well as the alternative contractual approaches to GBRs where applicable.

4.4.1.6 The Project Offices should make available to tenderers as much relevant information as possible, including GDRs, GBRs, site investigation records, land contamination assessments, aerial photographs, existing utilities records, etc., so as to enable tenderers to make informed assessments of potential physical conditions that may be encountered during the contract, and to prepare their tender submissions accordingly. Where GBRs are adopted, they should clearly establish the intended contractual baselines for anticipated physical conditions. Depending on the contractual approach adopted, GBRs may either be incorporated into the Site Information or identified separately in the Contract Data in accordance with the relevant contract provisions. For details, please refer to Sections 2.1.1.8 to 2.1.1.16.

4.4.1.7 While assessing the effect of a compensation event, the *Project Manager* should request any documentation on risk allowance from the *Contractor* and assess the reasonableness of such allowance.

4.4.1.8 NEC Clause 60.3 states the “contra proferentem” rule regarding inconsistencies in the Site Information, for which the *Client* is responsible (i.e. interpretation against the party responsible for drafting the document).

(c) Shortage of labour

4.4.1.9 For compensation events which arise from shortage of labour, the *Contractor* can be compensated through NEC Clause 60.1(21). The *Contractor* is only entitled to time compensation as amended by the Library of Standard *additional conditions of contract*. The *Contractor* should provide the supporting information including but not limited to the evidence on recruitment difficulties, unemployment rates and labour shortage statistics (any material change from tendering period to contract period) of concerned trades for such compensation events.

(d) Utility interference

4.4.1.10 Utility interference, which in conventional contract entitles the *Contractor* extension of time only, is a compensation event with both time and money compensation under default NEC.

4.4.1.11 Taking into account the cost uncertainty brought about by utility interference and contract administration consideration in public works projects in Hong Kong, compensation events arising solely under NEC Clause 60.1(5) are generally intended to provide time compensation only. Having said that, consideration should also be given to whether the relevant circumstances also engage other compensation event provisions under NEC which may also give rise to entitlement to change to the Prices. The relevant amendment in the Library of Standard *additional conditions of contract* should be adopted in the NEC contracts accordingly.

4.4.1.12 If utility undertakings do not work within the times shown on the Accepted Programme or the conditions stated in the Scope, the *Contractor* may be entitled to compensation in accordance with the first or second bullet point of NEC Clause 60.1(5).

4.4.1.13 Where utility-related works (e.g. utility diversion) are carried out by utility undertakings on the Site and such works are not stated in the Scope, the circumstances are capable of falling within the third bullet point of NEC Clause 60.1(5). This may arise, for example, where uncharted underground utilities without previous record in the Site Information require utility-related works (e.g. utility diversion) by utility undertakings that were not contemplated in the Scope. However, consideration should also be given to whether the underlying circumstances constitute a physical condition under NEC Clause 60.1(12).

4.4.1.14 Further to the above, if the *Project Manager* decides to change the design to get around any utility interference that leads to a change to the Scope, it should be dealt with through NEC Clause 60.1(1).

4.4.1.15 For the avoidance of doubt, Project Offices should recognise that the mere fact that a utility-related event falls within NEC Clause 60.1(5) does not necessarily mean that NEC Clause 60.1(5) is the only compensation event provision potentially applicable to the relevant circumstances. Utility-related events may, depending on the facts, also engage other compensation event provisions under NEC. Consideration should therefore be given to all potentially applicable compensation event provisions rather than limiting the assessment solely to NEC Clause 60.1(5).

4.4.1.16 Where the same underlying event or circumstance falls within both NEC Clause 60.1(5) and another compensation event provision which provides entitlement to changes to the Prices, the *Contractor* remains entitled to the relevant changes to the Prices arising from that other compensation event provision (see NEC Clause 63.6). The fact that the same underlying event or circumstance also falls within NEC Clause 60.1(5) should not, of itself, be treated as depriving the *Contractor* of such entitlement.

(e) Change in Law

4.4.1.17 For compensation events which arise from Change in Law, the *Contractor* will be compensated with both time and money through secondary Option X2 under NEC ECC Hong Kong Edition. Following the current practice, only amendments to the enactment, regulations, by-laws and rules included in the *list of enactments* stated in the Contract Data and satisfying the requirements of NEC Clause X2.1(2) constitute a Change in Law and hence a compensation event under secondary Option X2.

(f) Prevention events

4.4.1.18 For prevention events, the *Contractor* can be compensated through NEC Clause 60.1(19). The *Contractor* is only entitled to time compensation as amended by the Library of Standard *additional conditions of contract*.

(g) Change to the Scope

4.4.1.19 NEC Clause 60.1(1) deals with instruction changing the Scope which is similar to variation order as defined in conventional contracts.

4.4.1.20 The ECC User Guides explains that “Changes to the *works* (‘variations’ in other standard contracts) are made by a *Project Manager*’s instruction to change the Scope. The authority given to the *Project Manager* for this purpose is in clause 14.3. A change may

comprise deletion or addition of work or alteration to work. It may include changes to the *Client's* or *Contractor's* design in the Scope, to design criteria or to performance requirements for the *Contractor's* design." An instruction by the *Project Manager* changing the Scope generally constitutes a compensation event, except:

- (i) a change made in order to accept a Defect; or
- (ii) a change to the Scope provided by the *Contractor* for its design which is made at the *Contractor's* request or in order to comply with the Scope provided by the *Client*; or
- (iii) a change to the Tender Submissions which is made.

4.4.1.21 Omitted work is a change to the Scope and hence is a compensation event. In general, the Prices are reduced if the effect of such compensation event is to reduce the total Defined Cost and the event is a change to the Scope (see NEC Clause 63.4), subject to provisions under NEC Clause 63.12 (for Options A and B) and NEC Clause 63.13 (for Options C and D).

4.4.1.22 Furthermore, clarification of previously issued drawings or specification which leads to a change to the Scope is compensation event although not all of them will lead to additional time or monies. On the other hand, instruction to change the Scope after acceptance of the *Contractor's* quotation for accepting a Defect is dealt with under NEC Clause 45.2 rather than as a compensation event under NEC Clause 60.1(1).

4.4.1.23 As stipulated in Section 4.4.1.20, a change to the Scope provided by the *Contractor* for its design which is made either at its request or to comply with other Scope provided by the *Client* is not a compensation event (NEC Clause 60.1(1)). Such change refers to any change to the *Contractor's* design submitted with its tender and is different from the *Contractor's* proposed change to the Scope provided by the *Client* as stated in NEC Clause 63.13 (for Options C and D).

(h) Correction to an assumption of a compensation event

4.4.1.24 As explained in the ECC User Guides, if there is considerable uncertainty over the effect of a compensation event, the *Project Manager* can decide, in consultation with the *Contractor* where appropriate, to limit this uncertainty by stating the assumptions the *Contractor* is to base its quotation on. This should be read together with NEC Clause 61.6, that if the *Project Manager* decides that the effect of a compensation event is too uncertain to be forecast reasonably, the *Project Manager* states assumption about the event in its instruction to the *Contractor* to submit quotation. Meanwhile, the *Project Manager* could also state its assumption in accordance with NEC Clause 64.1 where appropriate when the *Project Manager* makes its own assessment. Any correction to the *Project Manager's* assumption is an entitled ground for a compensation event for the *Contractor* (NEC Clause 60.1(17)).

4.4.1.25 The intention is to (i) enable the use of assumptions to avoid both the *Client* and the *Contractor* bearing excessive risk in assessing the effects leading to the changes to the Prices and/or delay to the Completion Date and Key Dates that cannot be reasonably foreseen, and (ii) provide a "temporary" certainty on which the compensation event is assessed and a legitimate mechanism to revisit and, in effect, revise the assessment if such "temporary"

certainty is found to be incorrect. It should however be noted that such assumptions in this context can only be stated by the *Project Manager* but not the *Contractor*.

4.4.1.26 Despite the contractual provision for the *Project Manager* to state its assumptions in inviting quotations and for assessing compensation events, it should not be abused, misused or applied in circumstances where reasonable forecasting is possible, as doing so undermines the core principles of:

- (i) prospective assessment approach for compensation events; and
- (ii) “sort-it-now” approach as intended under the NEC regime.

Meanwhile, the *Project Manager*’s assumptions are not in principle provided for avoiding the *Contractor*’s inclusion of risk allowances for cost and time in the assessment of a compensation event in accordance with NEC Clause 63.8 since the latter is necessitated for matters which have a significant chance of occurring and are not compensation events. On the contrary, a proper assumption provided by the *Project Manager* in accordance with NEC Clause 61.6 could enhance the reasonableness of the risk allowances, if any, to be included by the *Contractor* in accordance with NEC Clause 63.8.

4.4.1.27 After the *Project Manager* has stated assumptions when instructing the *Contractor* to submit quotations, the assessment is then made based on the stated assumptions, which will be corrected if the assumptions are later found to be incorrect. To facilitate the agreement of the quotations for compensation events with uncertainties, the *Project Manager* should make use of this provision and state suitable assumptions. Examples of appropriate use include situations such as:

- (i) uncertainty over the volumes or extent of hard materials (e.g. rock, artificial hard materials and boulders) and soft materials to be excavated, where an assumption may be made that a specified percentage or quantity of each material type will be encountered;
- (ii) uncertainty over the foundation levels, where an assumption may be made on the foundation levels;
- (iii) uncertainty over the extent of utilities diversion, especially if the existing information or as-built drawings on utilities are inadequate or incomplete, where an assumption may be made that the routing and provisions of the existing utilities follow the available records or a specified indicative layout; and
- (iv) uncertainty over the no. of days with inclement weather within a prolonged period resulting from a compensation event which entitles the *Contractor* to both time and financial compensation, where an assumption may be made that a specified no. of days of inclement weather will be encountered during such prolonged period for the purpose of assessing the overall effect of the compensation event on the Completion Date, the Key Date(s) and the Prices.

4.4.1.28 Examples of inappropriate assumptions include:

- (i) No delay to the Completion Date and/or the Key Date(s);

- (ii) No change to the Prices; and
- (iii) Applicability of rates and/or lump sums in the *activity schedule / bill of quantities*.

4.4.1.29 Situations should be considered on a case-by-case basis to determine whether assumptions should be stated in accordance with NEC Clause 61.6 and, if so, what assumptions are appropriate. Even where assumptions are stated, any subsequent corrections in accordance with NEC Clause 61.6 must be strictly confined to the assumptions originally made. In other words, the assumptions provision must not become a backdoor mechanism for “reopening” compensation events in their entirety once implemented under NEC Clause 66; any “reopening” should be limited solely to the specific assumptions required for correction. In addition to the above, the *Project Manager* should also keep the stated assumptions under review as necessitated by the unfolding of the relevant facts. Where the *Contractor* becomes aware that any stated assumption has proven to be incorrect, it should promptly notify the *Project Manager* accordingly and, where appropriate, notify a compensation event in accordance with NEC Clause 61.3, so that any necessary correction may be made in accordance with NEC Clauses 60.1(17) and 61.6. To support this, appropriate arrangements or systems (which do not necessarily require dedicated digital or IT solutions) should be in place within the project team to constantly review stated assumptions and to alert the project team when material developments or emerging information may render an assumption no longer valid or require correction.

(i) Delay by the *Client* or Others

4.4.1.30 As part of the programme submission requirements listed under NEC Clause 31.2, the *Contractor* should show the dates when the *Contractor* will need access to the Site and the order and timing of the work of the *Client* and Others in the programme. The *Project Manager* should note that once the programme together with these information in the programme are accepted, any delay by the *Client* or Others will potentially be a compensation event under NEC Clauses 60.1(2) or 60.1(5) as appropriate. Therefore, the *Project Manager* should reasonably assess if the *Contractor*’s proposed programme is reasonable and the time required for the *Client* or Others to action is achievable. Similar to the utility interference and prevention events, the compensation events under NEC Clause 60.1(5) should be provided with time compensation only. Having said that, consideration should also be given to whether the relevant circumstances also engage other compensation event provisions under NEC which may give rise to entitlement to changes to the Prices. The relevant amendment in the Library of Standard *additional conditions of contract* should be adopted in the NEC contracts accordingly.

(j) *Project Manager*’s or *Supervisor*’s failure to respond to a communication, or *Project Manager* withholding an acceptance

4.4.1.31 The *Project Manager* and the *Supervisor* should be aware of failure to respond to a communication will lead to a compensation event under NEC Clause 60.1(6). The *Project Manager*’s act to withhold an acceptance (other than acceptance of a quotation for acceleration or for not correcting a Defect) for a reason not stated in the contract will also lead to a compensation event under NEC Clause 60.1(9). Below are some examples showing the effects

of the *Project Manager's* or the *Supervisor's* failure to respond to a communication or the *Project Manager* withholding an acceptance:

- (i) Late acceptance of the *Contractor's* design which prohibits the *Contractor* to proceed with the relevant work will constitute a compensation event;
- (ii) Late response on the proposed Subcontractors which will prevent the orders to be placed will affect the progress and will constitute a compensation event.

(k) Change in quantities (Options B and D)

4.4.1.32 Both Options B and D are on a remeasurement basis and NEC Clauses 60.4 to 60.6 are compensation events applicable to these two main Options.

4.4.1.33 In short, the adjustment principles for Options B and D are generally the same except that the adjustment to Option D would be reflected to the Prices (i.e. target cost).

4.4.1.34 The *Contractor* should provide remeasurement records for acceptance once the work is completed and these records should be counter-signed by the *Project Manager*.

4.4.1.35 The style and format of these remeasurement records should be agreed between the *Project Manager* and the *Contractor* in advance.

(l) Assessment of prolongation costs

4.4.1.36 Project delay leads to prolongation and results in increased cost. Unlike the GCC form which has express provisions on additional payment which is the loss and/or expense provision, the assessment for compensation events under default NEC deal with time and money effect resulting from prolongation.

4.4.1.37 The assessment of compensation events includes the assessment of the associated prolongation costs and need to consider any additional costs due to project delay resulting from relevant events listed in NEC Clause 60.1, subject to the amendments in the Library of Standard *additional conditions of contract*. The evaluation of the additional costs is made by reference to the period when the effect of the compensation events was felt, not by reference to the end of the contract and the progress of the *works* on the critical path is hindered by the listed compensation events. NEC requires assessment to be undertaken in a prospective manner whereas GCC allows assessment to be undertaken retrospectively.

4.4.1.38 The *Contractor* shall consider the effect of prolongation with the quotation. Prolongation cost normally includes the *Contractor's* extended use of time-related resources.

4.4.1.39 It is advisable for both the *Project Manager* and the *Contractor* to establish the methodology in assessing prolongation cost on compensation events with time and money entitlement in early contract stage to facilitate timely agreement of such cost later.

4.4.2 Response timeframe

Notifying compensation events

4.4.2.1 Notification of compensation event is dealt with under NEC Clause 61.

4.4.2.2 Both the *Project Manager* and the *Contractor* should notify potential compensation event to each other based on NEC Clauses 61.1 and 61.3.

4.4.2.3 Pursuant to NEC Clause 61.1, the *Project Manager* notifies the *Contractor* of a compensation event at the time of the *Project Manager* or the *Supervisor* giving an instruction or notification, issuing a certificate or changing an earlier decision. Pursuant to NEC Clause 61.2, the *Project Manager* includes in its notification of a compensation event an instruction to the *Contractor* to submit quotations unless the event arises from a fault of the *Contractor* or the event has no effect upon Defined Cost, Completion or meeting a Key Date. Acceptance of quotation is not a prerequisite for the *Contractor* to undertake the work under the compensation event.

4.4.2.4 NEC Clause 65.1 is not itself a compensation event but an instruction to provide a quotation as the *Contractor* does not put the instruction into effect. The *Project Manager* can know the time and cost effect of the proposed instruction before it notifies a compensation event.

Project Manager's instruction on quotations

4.4.2.5 When the *Project Manager* considers issuing an instruction but wishes to know its effect on time and cost first, it may instruct the *Contractor* to submit quotations for the proposed instruction which will not be put into effect (NEC Clause 65.1).

Notification of compensation events by the Contractor

4.4.2.6 If the *Contractor* believes that the event is a compensation event but the *Project Manager* has not notified the event to the *Contractor*, the *Contractor* should notify the *Project Manager* a compensation event within eight weeks of becoming aware of the event. Otherwise, the *Contractor* will not be entitled for any compensation unless the event arises from the *Project Manager* or the *Supervisor* giving an instruction or notification, issuing a certificate or changing an earlier decision (NEC Clause 61.3).

4.4.2.7 After the *Contractor* submits the notification of compensation event, the *Project Manager* should decide if there are any changes to the Prices, the Completion Date and the Key Dates and notify the *Contractor* according to NEC Clause 61.4 after applying the following tests:

- (a) whether the event arises from the fault of the *Contractor*;
- (b) whether the event has happened or is expected to happen;
- (c) whether the event has any effect upon Defined Cost, Completion or meeting a Key Date;

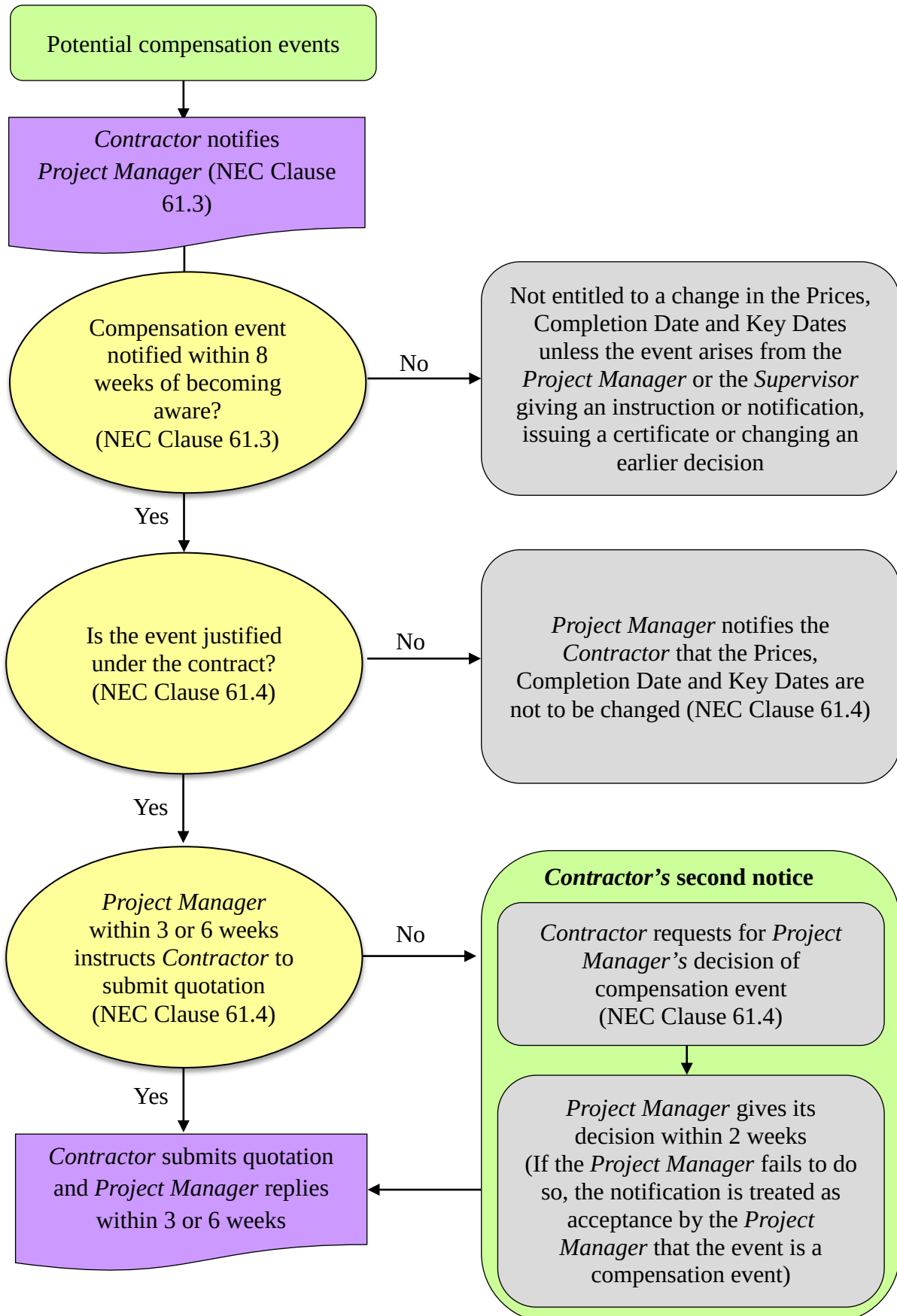
- (d) whether the event is one of the compensation events stated in the contract; and
- (e) whether the event has been notified within the timescales set out in the *conditions of contract*.

4.4.2.8 If the *Project Manager* considers the event is not a compensation event, the *Project Manager* should give brief explanation of its decision. If the *Project Manager* considers the event is a compensation event, the *Project Manager* notifies its decision to the *Contractor* and, if its decision is that the Prices, the Completion Date or the Key Dates are to be changed, request the *Contractor* to submit quotation for the work in relation to the compensation event.

4.4.2.9 If the *Project Manager* does not notify its decision to the *Contractor* within six weeks for events requiring to obtain confirmation of no objection from the *Client* in accordance with ACC Clause III:1 or three weeks for other events (as amended by the Library of Standard *additional conditions of contract*) of the *Contractor's* notification or a longer period to which the *Contractor* has agreed, the *Contractor* may notify the *Project Manager* of its failure. The *Project Manager* should notify its decision to the *Contractor* within further two weeks of that notification or if not, be deemed to have accepted by its silence (NEC Clause 61.4).

4.4.2.10 It is advisable for the *Contractor* to indicate the order (not exact quantum) of time and cost implication in its notification for compensation event in order to facilitate the *Project Manager* to seek the *Client's* agreement if the cost estimate for the compensation event to be issued is over its assigned authority. The *Contractor* should clearly state its ground in its notification for compensation event or discuss with the *Project Manager* before issuing the notification to avoid time-consuming exchange of correspondences.

4.4.2.11 A process map showing the procedures in notifying compensation events is shown in the diagram below:



Grouping compensation events

4.4.2.12 Although default NEC recommends compensation event to be assessed separately, it may be practical to lump relevant minor issues in one compensation event.

4.4.3 Assessment of cost

4.4.3.1 The monetary implication from compensation events is determined by the Defined Cost plus the resulting Fee basis which is further elaborated below:

4.4.3.2 Under NEC Clause 63.1, the changes to the Prices are assessed as the effect of the compensation event upon:

- actual Defined Cost of the work already done by the dividing date;
- forecast Defined Cost of the work not yet done by the dividing date; and
- the resulting Fee.

For a compensation event that arises from the *Project Manager* or the *Supervisor* giving an instruction or notification, issuing a certificate or changing an earlier decision, the dividing date is the date of that communication. As for other compensation events, the dividing date is the date of the notification of the compensation event.

4.4.3.3 Project Offices should note that, pursuant to NEC Clause 63.1, the effect of a compensation event is assessed using a prospective approach for work not yet done by the dividing date. This approach effectively functions when compensation event procedures are timely operated, such that quotations are assessed and compensation events implemented while the substantial part of the remaining work is still to be done and forecast assessment can be undertaken in a straightforward manner.

4.4.3.4 Where compensation event assessment and implementation have been delayed and work has been carried out after the dividing date, the provisions of NEC Clause 63.1 remain applicable. Project Offices should still apply the contractual prospective assessment framework as at the dividing date. Under such circumstances, contemporaneous records (including actual records that became available after the dividing date) may, where appropriate, assist the *Project Manager* in forming a reasonable view as to what the forecast for the remaining work would have been at the dividing date, without treating the assessment as a purely retrospective valuation. The prospective assessment approach is particularly important for target contracts, as it preserves the intended incentive mechanism for the *Client* and the *Contractor* to manage the remaining work efficiently and maintain the integrity of the pain / gain share arrangement.

4.4.3.5 The above reinforces the importance of timely operation of the compensation event procedures in accordance with NEC's "sort-it-now" philosophy. Delays in progressing compensation events increase the likelihood that work will have been completed before assessment and implementation, which may complicate the application of the prospective assessment approach and impose a higher risk exposure to disagreement and even disputes. Project Offices should therefore strive to operate the compensation event procedures in a timely and proactive manner.

4.4.3.6 While assessing the cost, the *Project Manager* should also be aware of the requirement under NEC Clause 63.8 that assessment of the effect of a compensation event includes risk allowances for cost and time for matters which have a significant chance of occurring. As such, the *Project Manager* has to assess whether the risks allowed by the *Contractor* are appropriate. If it is assessed as appropriate and the quotation is subsequently accepted, the Prices, Completion Date, and/or Key Dates will be adjusted and could not be changed afterwards even if the risks allowed for have not been materialized. In practice, some contractors may be reluctant to price risks prospectively and may prefer retrospective valuation once the actual impact is known. However, Project Offices should note that this preference is inconsistent with the prospective assessment required by NEC and may undermine timely decision-making. Project Offices should therefore ensure that quotations are assessed and agreed on a prospective basis in accordance with the contract.

Options A and B

4.4.3.7 Under these two main Options, assessment of the cost for the compensation events is based on the Defined Cost which refers to the cost of the components in the Short Schedule of Cost Components under NEC Clause 11.2(27). The Subcontractors' cost would also need to be prepared and assessed on the basis of the Short Schedule of Cost Components.

4.4.3.8 If the *Project Manager* and the *Contractor* agree, rates and lump sums may be used to assess compensation events, instead of adopting the Defined Cost plus the resulting Fee basis (NEC Clause 63.2). Assessment for changed Prices for compensation events are in the form of changes to the Activity Schedule (NEC Clause 63.14) and Bill of Quantities (NEC Clause 63.15) for Options A and B respectively.

4.4.3.9 The Project Offices should note that there are standard optional amendments for assessment of the monetary effect of the compensation events based on the rates and lump sums in the Activity Schedule or the Bill of Quantities first, rather than on the Defined Cost plus the resulting Fee basis, in the Library of Standard *additional conditions of contract*. The assessment based on rates or lump sums in the Activity Schedule or the Bill of Quantities is not subject to adjustment of the *fee percentage*.

Options C and D

4.4.3.10 For these two main Options, assessment of the cost impact for the compensation events is based on the Defined Cost which is defined under NEC Clause 11.2(28).

4.4.3.11 If the *Project Manager* and the *Contractor* agree, rates and lump sums may be used to assess compensation events, instead of adopting the Defined Cost plus the resulting Fee basis (NEC Clause 63.2). Payment to the Subcontractors will be based on payment evidence.

4.4.3.12 Implemented compensation events will adjust the Prices (i.e. target cost), rather than the Price for Work Done to Date (i.e. actual payment) and affect the sharing of pain / gain by the Parties from a cost perspective.

Quotations for compensation events

4.4.3.13 A quotation is the *Contractor's* assessment of the time and monetary effects of a compensation event (NEC Clause 62.2).

4.4.3.14 There are three instances in which the *Project Manager* may instruct the *Contractor* to submit quotations in relation to compensation events:

- The *Project Manager* instructs the *Contractor* to submit quotations for a compensation event at the same time it notifies the compensation event under NEC Clause 61.1.
- The *Project Manager* instructs the *Contractor* to submit quotations for a compensation event once it has decided that an event notified by the *Contractor* has passed the tests under NEC Clause 61.4.
- The *Project Manager* instructs the *Contractor* to submit a revised quotation for a compensation event under NEC Clause 62.4.

4.4.3.15 Quotations for compensation events comprise (NEC Clause 62.2):

- proposed changes to the Prices;
- any delay to the Completion Date and Key Dates;
- details of the *Contractor's* assessment; and
- alterations to the Accepted Programme if applicable.

4.4.3.16 The *Contractor* should submit quotations for compensation events within three weeks upon receipt of the *Project Manager's* instruction (NEC Clause 62.3).

4.4.3.17 The *Contractor* always gets the first chance at assessing the compensation events. Only under the circumstances listed under NEC Clause 64.1, the *Project Manager* will assess a compensation event.

4.4.3.18 Under NEC Clause 64.2, the *Project Manager* assesses a compensation event using its own assessment of the programme of the remaining work if:

- there is no Accepted Programme;
- the *Contractor* has not submitted a programme or alterations to a programme for acceptance as required by the contract; or
- the *Project Manager* has not accepted the *Contractor's* latest programme for one of the reasons stated in the contract.

4.4.3.19 Pursuant to NEC clause 64.3, the *Project Manager* notifies the *Contractor* of its assessment of a compensation event and gives the *Contractor* details of it within the period

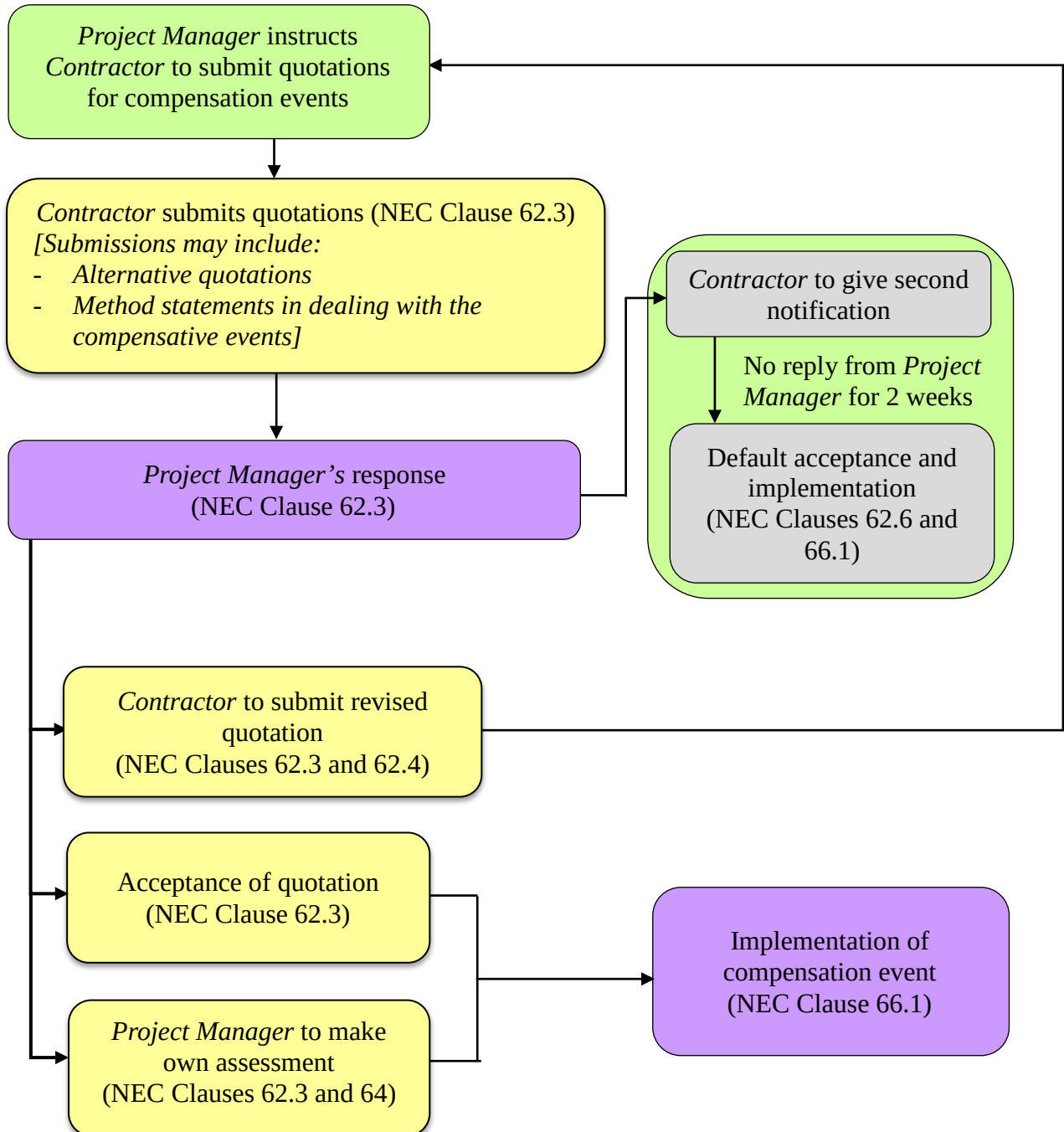
allowed for the *Contractor*'s submission of its quotation for the same event. This period starts when the need for the *Project Manager*'s assessment becomes apparent. The ECC User Guides explains that this clause provides for the *Project Manager* to have the same time to make its assessment as the *Contractor* was allowed for this.

4.4.3.20 If the *Project Manager* does not reply to a quotation within the time allowed, the *Contractor* may notify the *Project Manager* of that failure. If the failure continues for a further two weeks after the *Contractor*'s notification, the quotation is treated as acceptance by the *Project Manager* (NEC Clause 62.6). Similarly, if the *Project Manager* does not assess a compensation event within the time allowed, the *Contractor* may notify the *Project Manager* of that failure. If the failure continues for a further two weeks after the *Contractor*'s notification, the quotation is treated as acceptance by the *Project Manager* (NEC Clause 64.4).

4.4.3.21 For consultants-administrated contracts, compensation events with estimated value over the sum (normally \$1,400,000) as specified in the consultancy brief or causing exceedance in the recommended forecast total / Total of the Prices specified in the tender report would require sufficient lead time for the consultants acting as the *Project Manager* or its delegate to seek the *Client*'s agreement in accordance with the consultancy requirements as appropriate. Both direct and indirect costs (e.g. preliminary / administration, charges and prolongation cost for potential extension of time which may affect the Completion Date and Key Dates) should be included in the estimate.

4.4.3.22 The *Project Manager* should properly document its assessment of the *Contractor*'s quotations or its own assessment for compensation events and submit the documents to the Project Offices for auditing purpose.

4.4.3.23 The process map of evaluation of quotations for compensation events is shown below:



Implementation of compensation events

4.4.3.24 The implementation of compensation events represents the formal conclusion of the administrative process. Implementation of compensation events takes place when (NEC Clause 66.1):

- (a) the *Project Manager* notifies its acceptance of the *Contractor's* quotation;
- (b) the *Project Manager* notifies the *Contractor* of its own assessment; or
- (c) the *Contractor's* quotation is treated as having been accepted by the *Project Manager*.

4.4.3.25 Once the compensation event is implemented, the Prices (e.g. target cost for Options C and D) should be updated and/or the Completion Date and Key Dates should be updated in programme. The changes to Prices, Completion Date and/or Key Dates due to an implemented compensation event may be changed due to change of assumptions stated by the *Project Manager* in the compensation events later under NEC Clause 61.6.

Timely assessment and implementation of compensation events

4.4.3.26 NEC is founded on the timely assessment and implementation of compensation events so that changes to the Prices, the Completion Date and any Key Dates are addressed contemporaneously. Project Offices should therefore ensure that compensation events are assessed and implemented in a timely manner, and should avoid situations where compensation events remain not implemented for an extended period due to delayed submission of quotations and/or prolonged assessment. Project Offices should also avoid allowing compensation events to remain not implemented as a result of repeated requests for resubmission of quotations arising from minor or immaterial issues.

4.4.3.27 Where the *Contractor* fails to submit quotations within the contractual timeframes or assess the compensation events correctly in the quotations in the *Project Manager's* view, or where agreement on quotations cannot be reached within a reasonable period, the *Project Manager* should actively exercise the contractual mechanisms available under NEC, including making its own assessment in accordance with NEC Clause 64, so as to avoid undue delay in implementation. Where appropriate and in accordance with the contract, assumptions may be used to facilitate timely assessment, subject to careful consideration of their suitability on a case-by-case basis (see Sections 4.4.1.24 to 4.4.1.29 as well).

4.4.3.28 While the contractual responsibility for submitting quotations for compensation events rests with the *Contractor*, the project team (including the RSS) has an inherent responsibility to play an active and facilitative role in supporting the timely assessment and implementation of compensation events. Where differences, uncertainties or unresolved issues arise that may hinder progress, the project team (including the RSS) should take a proactive role in engaging with the *Contractor*, facilitating clarification, alignment and joint working discussions, rather than allowing issues to drift or escalate.

4.4.3.29 In this regard, compensation event meetings between the project team (including the RSS) and the *Contractor* are encouraged to promote a common understanding of, amongst others, scope, assumptions, methodology, sequence, interfacing, risks, quantum and

procurement approach, to manage expectations and to avoid misunderstandings. For the avoidance of doubt, such compensation event meetings should also provide a forum for discussion of compensation events notified by the *Contractor* in accordance with NEC Clause 61.3 but not yet decided by the *Project Manager* as a compensation event or otherwise under NEC Clause 61.4. Such facilitative engagement aligns with NEC’s collaborative ethos and good practices, and may assist in identifying and resolving issues at an early stage, thereby supporting timely implementation of compensation events. For more complex or cross-disciplinary issues, or where decisions are being constrained by interfaces, approvals or differing views that cannot be readily resolved through routine compensation event meetings, mission room meetings could be an effective means to facilitate focused discussions, unblock decision-making and drive timely resolution (see 4.1.6 and 4.1.7 as well).

4.4.3.30 Failure to assess and implement compensation events in a timely manner may result in a mismatch between the work carried out and the Prices under the contract, such that the Prices no longer reflect the current scope of work, weaken the integrity of prospective assessment, complicate effective programme management and, under target cost contracts, undermine the proper operation of pain / gain share mechanism. Such practices are inconsistent with NEC’s “sort-it-now” philosophy.

4.4.3.31 Failure to achieve timely assessment and implementation of compensation events will be reflected in the NEC Health Check outcomes. Where compensation events remain unresolved beyond the prescribed time thresholds, the escalation requirements under the NEC Health Check shall apply, including intervention from project officers at D1 rank for issues unresolved for more than three months and escalation to project officers at D2 rank or above where issues remain unresolved for more than six months, in accordance with Section 4.10.

4.4.4 Assessment of time

4.4.4.1 NEC stresses the contractual importance of the Accepted Programme and requires the *Contractor* to show the requirements under NEC Clause 31.2 for acceptance by the *Project Manager*. Attention shall be drawn to the following provisions while assessing compensation events with time effect:

- NEC Clause 63.5 – A delay to the Completion Date is assessed as the length of time that, due to the compensation event, planned Completion is later than planned Completion as shown on the Accepted Programme current at the dividing date. The dividing date is determined in accordance with NEC Clause 63.1 (see Section 4.4.3.2 as well).
- NEC Clause 63.8 – Assessment of the effect of a compensation event includes risk allowances for cost and time for matters which have a significant chance of occurring and are at the *Contractor*’s risk under the contract.

4.4.4.2 Project Offices should note that the principles described in Sections 4.4.3.2, 4.4.3.3, 4.4.3.4, 4.4.3.5 and 4.4.3.6 regarding the prospective assessment of the effect of a compensation event on cost equally apply to the assessment of time. Pursuant to NEC Clause 63.5, a delay to the Completion Date is assessed by reference to the difference between the

planned Completion shown on the Accepted Programme current at the dividing date and the planned Completion taking account of the compensation event. Accordingly, Project Offices should seek to adopt a prospective assessment approach based on the Accepted Programme at the dividing date. Where assessment and implementation of compensation events have been delayed and work has been carried out after the dividing date, the provisions of NEC Clause 63.1 remain applicable. Project Offices should still apply the contractual prospective assessment framework as at the dividing date. Under such circumstances, contemporaneous records (including records that became available after the dividing date) may, where appropriate, assist the *Project Manager* in forming a reasonable view as to the time impact that would have been forecast at the dividing date, without treating the assessment as a retrospective evaluation based solely on actual delay. Consistent with NEC's "sort-it-now" philosophy, timely assessment and implementation of compensation events, coupled with timely submission and acceptance of programmes, are essential to ensure that the impact on time is evaluated contemporaneously and in accordance with the prospective approach required under the contract.

Programme update

4.4.4.3 If the programme for remaining work is altered by a compensation event, the *Contractor* should include the alterations to the Accepted Programme in its quotation for the *Project Manager's* consideration (NEC Clause 62.2) and any necessary adjustment to the Completion Date and/or Key Dates will be adjusted accordingly when it is implemented (NEC Clause 66.2).

Changes to the Activity Schedule

4.4.4.4 If the *Contractor* changes a planned method of working so that the activities on the Activity Schedule do not relate to the operations on the Accepted Programme, the *Contractor* should submit a revised Activity Schedule to the *Project Manager* for acceptance (NEC Clause 55.3). For Option A, the payment will follow the adjusted Activity Schedule. For Option C, the changed Activity Schedule, which takes account of the effect of the compensation event, is used for the assessment for changed Prices (NEC Clause 63.14).

Relationship between Accepted Programme and assessment of delay to Completion Date and/or Key Dates due to compensation events

4.4.4.5 Assessment of the time effects of compensation events under NEC is premised on a prospective comparison against the Accepted Programme current at the dividing date. Project Offices should recognise that delay in accepting programmes may significantly hinder the proper assessment and implementation of compensation events affecting the Completion Date and any Key Dates, as there may be no appropriate Accepted Programme against which the time impact of a compensation event can be assessed.

4.4.4.6 In the absence of a current Accepted Programme, the *Project Manager* may be required to rely on its own assessment of the programme to assess time impacts, which may reduce transparency, increase the risk of disagreement and undermine effective programme management. Project Offices should therefore prioritise the timely review and acceptance of programmes in accordance with Section 4.2.2, and manage any persistent failure to achieve programme acceptance through the NEC Health Check and escalation arrangements set out in Section 4.10.

4.4.4.7 The importance of timely assessment and implementation of compensation events is also addressed in Sections 4.4.3.26 to 4.4.3.31.

4.5 CONTROL OF QUALITY

4.5.1 *Contractor's Performance Report*

4.5.1.1 With regard to the *Contractor's Performance Report*, the standard proforma and its Appendices are included in the Contractor Management Handbook published by DEVB.

4.5.2 Defects and rectification

4.5.2.1 NEC Clauses 41 to 46 set out the basic obligations of the Parties and the role of the *Supervisor* in relation to tests and inspections. Below are brief descriptions of some clauses related to Defects and their rectification.

Defects

4.5.2.2 As defined in NEC Clause 11.2(7), a Defect is:

- a part of the *works* which is not in accordance with the Scope; or
- a part of the *works* designed by the *Contractor* which is not in accordance with the applicable law or the *Contractor's* design which the *Project Manager* has accepted.

4.5.2.3 Essentially it refers to the defects which are in some way the fault of the *Contractor* and for which the *Contractor* is contractually responsible. Completion may still occur even when there are Defects that have been notified to the *Contractor* provided that these notified Defects would not prevent the *Client* from using the *works* and Others from doing their work according to NEC Clause 11.2(3). Also, for the state of Completion, the Project Offices should consider to state in the Scope all the work necessary to be completed for the *Client* to use the *works* and for Others to do their work so as to better define the state of Completion.

defects date

4.5.2.4 In the conventional contracts, there is usually a maintenance period, such as twelve months after Completion, and NEC arrives at a similar position by reference to its *defects date*. It is a date to be determined from a period entered by the *Client* in the Contract Data Part one. It is normally set at twelve months after Completion.

4.5.2.5 In determining the *defects date*, Project Offices should take due account of the structure and phasing of the *works* under the contract. In contracts comprising multiple *sections* with Completion to be reached at different points in time, particular care should be taken by Project Offices in setting the *defects date*. Due vigilance should be exercised where a single *defects date* is intended to be set by reference to the sectional Completion of the last *section*.

4.5.2.6 This issue is particularly relevant where separate projects involving works at different geographical locations are packaged under a single contract yet grouped under different *sections*. In such cases, a single *defects date* tied to the sectional Completion of the last *section* may in effect result in an “extended maintenance period” for earlier completed *sections*, beyond what would ordinarily be provided under conventional contracts.

4.5.2.7 While such a single *defects date* arrangement may appear to offer additional protection to the *Client*, Project Offices should note that prolonging the *defects date* in this manner may also have cost implications, as contractors may take account of the “extended maintenance period” in their pricing. Project Offices should therefore exercise balanced and informed judgement when determining the *defects date* for contracts with sectional Completion, having regard to the nature and independence of the works in each *section*, the intended alignment with conventional contracts, the actual need and the potential impact on overall contract cost.

defect correction period

4.5.2.8 The term “*defect correction period*” as used in NEC has a wholly different meaning from the phrases such as “defects liability period” and “maintenance period” used in other standard forms of contract. It is a period (or periods) of time entered in the Contract Data Part one to indicate how long the *Contractor* is given to rectify notified Defects. It begins at Completion for Defects notified before Completion and when the Defect is notified for other Defects.

Searching for and notifying Defects

4.5.2.9 NEC Clause 43.1 empowers the *Supervisor* to instruct a search for a Defect with reason until the *defects date*. The *Supervisor* cannot instruct a general search and is discouraged from requesting a search which is not necessary. In addition, where a search is instructed and no Defect is found, this will be a compensation event under NEC Clause 60.1(10) unless the search was needed only because the *Contractor* gave insufficient notice of doing work, thereby obstructing a required test or inspection. NEC Clause 43.2 requires the *Supervisor* and the *Contractor* to notify each other of each Defect as soon as they find it to enable Defects to be identified as soon as possible and be dealt with promptly.

Correcting Defects

4.5.2.10 As required under NEC Clause 44.1, the *Contractor* is responsible for correcting all Defects, whether notified or not. The *Client* may specify in the Contract Data Part one different lengths of *defect correction period* referred to in NEC Clause 44.2 for different types of Defects if it wishes.

4.5.2.11 The *Supervisor* is required to issue a Defects Certificate according to NEC Clause 44.3. NEC Clause 44.4 covers the *Contractor*’s entitlement to access to and use of the *works* after they are taken over in order to correct Defects. The *defect correction period* begins when these have been provided.

4.5.2.12 The *Project Manager* has to be aware that, under Options C and D, cost of rectifying Defects before Completion is reimbursable to the *Contractor*. The only exception to this is the fourth and fifth main bullet points of NEC Clause 11.2(30) that the Defects are

corrected after Completion and the Defects are caused by the *Contractor* not complying with a constraint (e.g. good practice requirements, quality procedures, tests and inspections required, etc.) on how it is to Provide the Works stated in the Scope. One point to note is that these provisions are intended to incentivize the parties to search for Defects and correct them before Completion. For the Disallowed Cost for the cost of correcting Defects after Completion, this may be considered as a trade off in risk between the *Contractor's* responsibility for correcting any Defects at its own cost and the *Contractor* being relieved of responsibility for delay damages under secondary Option X7 after Completion.

Accepting Defects

4.5.2.13 Although a Defect may be minor in some cases, its correction may be costly to the *Contractor* and may delay Completion. Its correction may also cause inconvenience to the *Client* out of proportion to the benefits gained, or even bring no benefit at all. NEC Clause 45.1 allows accepting a Defect in these circumstances. NEC Clause 45.2 details the procedure for the acceptance of a Defect. Both the *Contractor* and the *Project Manager* can make such proposal. Acceptance of such proposal will then result in a reduction in the Prices (e.g. target cost for Options C and D).

4.5.2.14 In practice, accepting a Defect may be the most cost-effective and beneficial solution, particularly when the Defect does not adversely affect the *Client's* intended use of the works. For example, the roads within a housing development site may be handed over to, say the Housing Department, but will not be open to the public for several years during the construction of the housing blocks. Those roads will, in any event, be subject to normal wear and tear during that period. Requiring immediate correction to the Defect related to such roads may therefore result in unnecessary cost, disruption, or abortive work, whereas accepting the Defect under NEC Clause 45.1, coupled with an appropriate reduction the Prices, may better serve the *Client's* interests.

4.5.2.15 Another example where accepting the Defect may be appropriate is where a Defect in completed road surfacing is identified after Completion and would ordinarily require rectification during the *defect correction period*, but the *Client* is aware that the same sections of road are expected to be excavated or otherwise disturbed shortly thereafter by interfacing works carried out by interfacing contractors. In such circumstances, requiring the *Contractor* to carry out rectification works may result in abortive work, as the rectified road surfacing would be damaged again by subsequent interfacing works carried out by interfacing contractors. Subject to appropriate coordination by the *Client* with relevant interfacing contractors and authorities, accepting the Defect under NEC Clause 45.1, together with an appropriate reduction in the Prices, may in such cases represent a more cost-effective and proportionate approach than requiring correction.

4.5.2.16 Where the *Project Manager* proposes, or accepts the *Contractor's* proposal, to accept a Defect under NEC Clause 45.1, the *Project Manager* should document the justification for doing so, having regard to the cost and time implications, the impact on the *Client's* intended use of the works, long-term performance and maintenance considerations, and overall value for money. Such justification should be recorded in an appropriate form to demonstrate that the decision is reasoned, proportionate and in the *Client's* interests.

4.5.2.17 Project Offices are encouraged to critically assess, on a case-by-case basis, whether accepting a Defect would provide better overall value for money, taking into account the cost, timing, long-term impact, and actual needs of the *Client*.

Uncorrected Defects

4.5.2.18 NEC Clause 46.1 states the procedure if the *Contractor* fails to correct a Defect having been given the necessary access, while NEC Clause 46.2 states the procedure if the Defect has not been corrected due to the lack of access. In brief, if the *Contractor* fails to rectify a notified Defect within the *defect correction period* it must pay the costs to the *Client* of engaging third parties to do so, but if the *Client* fails to allow the *Contractor* to rectify the Defect, the *Client*'s damages will be limited to the *Contractor*'s rectification costs.

4.6 SUBCONTRACTING

4.6.1 The *Project Manager* and the *Contractor* should follow Section VI of the standard *additional conditions of contract* on the tender requirements for subcontracting for Options C and D, and for compensation events resulting from a change to the Scope which renders it necessary for the *Contractor* to appoint a Subcontractor or supplier, which is assessed on the Defined Cost plus the resulting Fee basis under Options A and B. Meanwhile, NEC Clause 26 with amendments under the Library of Standard *additional conditions of contract* should be followed for all main Options.

4.6.2 In managing the supply chain, it is essential that the *Contractor* and the *Project Manager* maintain close and transparent engagement when considering procurement and subcontracting arrangements for work to be assessed on a Defined Cost plus Fee basis. Such engagement should cover, as appropriate, matters including who will carry out the work (e.g. direct resources, existing or new Subcontractor(s)), the packaging of the work, the procurement method, the risk allocation and the timing and sequence of procurement. Proactive participation by both the *Contractor* and the *Project Manager* promotes transparency, enables the parties to jointly identify the most cost-effective and appropriate approach for delivering the work, ensures that procurement and subcontracting decisions align with the principles of efficient cost management under the contract, expedites assessment of compensation events and finalization of Defined Cost in accordance with the contract, and prevents unnecessary arguments, claims and disputes. This is particularly important under target contracts where Defined Cost plus resulting Fee forming the Price for Work Done to Date are to be reimbursed to the *Contractor*, and the *Client* and the *Contractor* are both financially affected via the pain / gain share mechanism.

4.6.3 Subcontractors and subcontract documents

4.6.3.1 The *Contractor* is not allowed to subcontract the whole of the *works* required to Provide the Works (ACC Clause V:1(2)). The *Contractor* is allowed to subcontract part of the *works*, either on the basis of the provision by the Subcontractors of labour and materials or of the provision of labour.

4.6.3.2 The *Contractor* is required to submit the following information related to subcontracting to the *Project Manager* for acceptance:

- (a) name of proposed Subcontractor (NEC Clause 26.2);
- (b) proposed subcontract documents, except any pricing information, unless the *Project Manager* has agreed that no submission is required (NEC Clause 26.3);
- (c) pricing information in the proposed subcontract documents for Options C and D, unless the *Project Manager* has agreed that no submission is required (NEC Clause 26.4);
- (d) relevant information of the subcontract, including but not limited to the tender prices, pricing documents and other tender information obtained from the tenderers (NEC Clause 26.2 and ACC Clause VI:2); and
- (e) declaration by the *Contractor* on any linkage with the tenderers for the subcontract (ACC Clause VI:5).

4.6.3.3 The *Project Manager* will not accept the *Contractor's* appointment of a Subcontractor if (NEC Clauses 26.2 and 26.3):

- (a) The appointment of the Subcontractor will not allow the *Contractor* to Provide the Works;
- (b) The proposed prices or rates for the subcontract submitted by the proposed Subcontractor are not competitive or at open market prices or rates, or its proposed terms for the subcontract contain activities or items which are substantially over or under-priced, or erratically priced;
- (c) In the event of pre-bidding, the proposed prices or rates or the proposed payment schedule for the subcontract deviate from the relevant pricing information, and (i) such deviation will lead to an increase in the total Defined Cost of such item(s), or (ii) the proposed prices and rates are not competitive or at open market prices or rates, or (iii) the proposed payment schedule will expose the *Client* to an unacceptable level of financial risk;
- (d) The appointment / selection does not comply with any provision relating to subcontracting in the contract. In this connection, the *Project Manager* should also pay attention to whether the relevant subcontracting requirements in the contract have been incorporated into the subcontract;
- (e) The use of the relevant subcontract documents will not allow the *Contractor* to Provide the Works; or
- (f) The relevant subcontract documents do not include a statement that the parties to the subcontract act in a spirit of mutual trust and co-operation.

4.6.3.4 The *Project Manager* is also entitled to disallow the cost of any Subcontractor if acceptance of such Subcontractor has not been provided by the *Project Manager* in accordance with the contract.

4.6.3.5 It is important to note that the *Project Manager* should not prevent the appointment of any proposed Subcontractor on unreasonable grounds as this action may prevent / delay the ability of the *Contractor* to Provide the Works in the manner which it has planned.

4.6.4 Subcontractor tendering procedures

4.6.4.1 For Options C and D, and for compensation events resulting from a change to the Scope which renders it necessary for the Contractor to appoint a Subcontractor or supplier which is assessed on the Defined Cost plus the resulting Fee basis under Options A and B, the *Contractor* should follow ACC Clause VI:2 on Subcontractor tendering procedures, ACC Clause VI:4 on post-tender interview and ACC Clause VI:5 on corruption prevention. The following requirements are highlighted:

General

- ACC Clause VI:2 sets out the minimum number of quotations required for each of the specified range of values of subcontract work. The Project Offices may amend such values to suit the project nature. The Project Offices should seek approval from DEVB who should consult the Interdepartmental Working Group on NEC Projects and/or the Steering Group on NEC Projects where appropriate before making adjustments to the specified range of values.
- The *Contractor* should review and submit the proposal for preventing corrupt practices for acceptance by the *Project Manager* before the tendering process commences.
- When the *Contractor* subcontracts the work by inviting tenders, the tender invitations should indicate clearly the address and telephone number of the office from which the tender documents can be obtained, the location of the tender box in which the tenders are to be deposited, the number of copies of the tender to be submitted, the subcontract number to be marked on the sealed envelope containing the tenders, and the closing date and time for receipt of the tenders. The tender box should be located in the common area within the joint site office of the *Project Manager*, *Supervisor* and *Contractor*, or another location as may be agreed by the *Contractor* and the *Project Manager*. Late tender or tenders submitted to other places other than the designated tender box shall not be considered.
- The *Contractor* should propose the minimum qualification and experience of the tenderers and submit a list of the potential tenderers for acceptance by the *Project Manager*. Together with such submission, the *Contractor* should also provide information demonstrating each proposed tenderer's experience and technical capability.
- All tenders for the subcontracts should be in sealed envelopes. Joint tender opening should be conducted by the *Project Manager's* staff and the *Contractor's* staff.

Pre-tender meeting

- For specialist / complex subcontract work, pre-tender meeting should be conducted by the *Contractor* with the attendance of the *Project Manager's* staff. Potential tenderers should be encouraged to attend the pre-tender meetings, in which they may familiarise themselves with the scope of the subcontract work, including any potential for alternative designs, innovative construction methods or request for deduction of particular items from the subcontracts (i.e. for the provision of particular plant and materials or equipment), and raise questions accordingly. The *Contractor* should issue the responses to tender queries (including all questions raised in the pre-tender meetings) and the revised tender documents to all potential tenderers to ensure fairness and transparency of the tender exercise, irrespective of whether or not they attended the pre-tender meetings.

Post-tender interview

- If two stage selection process, i.e. Stage 1 – first submission and Stage 2 – post-tender interview is proposed by the *Contractor* and accepted by the *Project Manager*, the detailed procedures including but not limited to the following should be pre-determined before the commencement of the tender exercises for acceptance by the *Project Manager* and clearly described in the tender documents:
 - (a) submission requirements for Stage 1 and Stage 2;
 - (b) list of items allowing alternative designs / innovative construction methods with corresponding minimum conditions;
 - (c) stringent triggering criteria for post-tender interview;
 - (d) shortlisting criteria for post-tender interview, such as bids are within a competitive range; and
 - (e) how the pre-tender meetings and post-tender interviews are to be conducted.
- Pre-tender meetings should be held as far as practicable to help tenderers understand clearly the tender and contract requirements.
- For Stage 1 – first submission, the tenderers shall submit their tenders as required.
- In case the triggering criteria for post-tender interview are met, the tenderers fulfilled the shortlisting criteria will be invited to the post-tender interview.
- During the post-tender interviews, the shortlisted tenderers may be invited to demonstrate their good knowledge on the subcontract work, the programme and the required standards. It is likely that tenderers may raise

questions on ambiguities or inconsistencies in the design drawings and specifications, and propose alternative designs, innovative construction methods or deduction of particular items from the subcontracts. The *Contractor* should seek clarification from the *Project Manager* for such ambiguities and inconsistencies identified and no objection in-principle of any proposed alternative designs, innovative construction methods or deduction of particular items from the subcontracts.

- The *Contractor* should issue the responses to all questions raised in the post-tender interviews to all tenderers to ensure fairness and transparency, irrespective of whether or not they attended the post-tender interview. Tenderers invited for the post-tender interview shall then be invited to submit revised tender prices.
- However, if the subcontract tender documents are substantially changed following the post-tender interview, all tenderers shall be invited to submit their respective revised tender prices.
- The acceptance of tender offers for subcontracts involving cost savings designs with alternative designs or innovation construction methods or change to the Scope will be further subject to the requirements in the relevant NEC clauses, ACC clauses and approval procedures in the SPR.
- The Project Offices should check with the departmental representative of the Inter-departmental Working Group on NEC Projects on the latest corruption prevention measures if two stage selection process involving tender interviews are proposed.
- The *Contractor* should ensure that the tender prices and rates of the subcontracts are competitively tendered or open market prices or rates, without activities or items which are substantially over or under-priced, or erratically priced. Upon request by the *Project Manager*, the *Contractor* should submit the relevant information of the subcontracts, including but not limited to the tender prices, pricing documents and other tender information obtained from the tenderers, for the *Project Manager's* consideration. All tenders for the subcontracts should be assessed on an equal basis unless otherwise accepted by the *Project Manager*.

Declaration

- The *Contractor* should declare any linkage with the tenderers for the subcontracts. If the *Contractor* proposes their associated companies¹⁰ to be allowed to participate in the tender exercises for the subcontracts, it should submit full justifications for acceptance by the *Project Manager* and two stage selection process should not be adopted. In all tender exercises, each

¹⁰ “associated company” or “associated companies” in relation to the *Contractor* means any company which is the holding company or subsidiary company or sister company of the *Contractor*. A “sister company” means a company which is a subsidiary of or otherwise belongs to the same holding company of the *Contractor*. The existence of a holding-subsidiary relationship shall be determined in accordance with the provisions in sections 13 to 15 of the Companies Ordinance (Cap. 622).

of the staff of the *Contractor* involved in preparing subcontract tender document, assessing the subcontract tenders, or conducting post-tender interview(s) shall also declare to the *Project Manager* whether the staff have any actual, potential or perceived conflict of interest. All tenders for the subcontracts should be assessed on an equal basis unless otherwise accepted by the *Project Manager*.

Qualification and clarification

- The *Contractor* should state in the tender documents for the subcontracts that any qualification may cause the tender to be disqualified. A tender may, however, be qualified inadvertently owing to different interpretation of particular statements or remarks made by the tenderer. Subject to acceptance by the *Project Manager*, the *Contractor* may approach a tenderer in seeking clarification on the purpose or meaning of particular statements or remarks in its tender, reminding it of possible disqualification of its tender and seeking an unequivocal withdrawal of any qualifications by a reasonable deadline.

4.6.4.2 If the number of tenders received for any subcontract is less than the minimum number specified in the contract, the *Contractor* selects from the tenders received, unless otherwise instructed by the *Project Manager*. In case that very few tenders are received (e.g. only one tender returned) and if the *Project Manager* considers that the returned tender prices are not at open market price, re-tendering of the subcontract should be considered. In this case, the tenderer list should be further expanded to include more eligible tenderers in the market.

4.6.4.3 Unless otherwise agreed by the *Project Manager*, the *Contractor* selects the conforming tender with the lowest tender price or the highest tender evaluation score if a tender evaluation mechanism is used. The *Contractor* should provide full justifications why it intends to select a conforming tender with non-lowest tender price or non-highest tender evaluation score if a tender evaluation mechanism is used.

4.6.4.4 To ensure a smooth and proper process of subcontract procurement, the Project Offices should take note of the following practices in some projects:

- The *Contractor* should be asked to submit the proposal for preventing corrupt practices once the contract commences, so that the *Contractor* can start procuring subcontract packages as early as practicable.
- The *Contractor* should be encouraged to invite as many tenderers as possible to ensure that the subcontract price would be at open market or competitive tender price. After the list of potential tenderers is submitted by the *Contractor*, the *Project Manager* may also suggest some other suitable tenderers into the list taking into other available information such as the “List of Approved Contractors for Public Works” and “List of Approved Suppliers of Materials and Specialist Contractors for Public Works”.
- The *Project Manager* and the *Contractor* should be reminded to declare any conflict of interest with the tenderers on the proposed list of tenderers to be invited for the subcontracts (e.g. whether the *Contractor*’s associated

companies are on the tenderers list). Upon receipt of the declaration forms from the *Contractor*, the *Contractor's* staff and the *Project Manager's* staff, the *Project Manager* should review and record the result of assessment. In case of any actual / potential conflict of interest identified, the *Project Manager* should record the follow up actions taken and provide the justifications.

- The *Project Manager* may discuss with the *Contractor* on the planned programme for procurement of subcontracts (e.g. planned date for submission, planned date for issuing invitation, etc.) which needs to be updated regularly, such that both parties can prepare and allow for suitable resources in handling subcontract procurement beforehand. The *Project Manager* should consider the latest development of the site situation before tendering out the other interrelated subcontracts. For example, the contract award dates of building services contracts should be postponed if the civil contracts were delayed. In addition, should there be any potential compensation events, the *Project Manager* may also alert the *Contractor* in advance for its planning of subcontract packages.
- The *Project Manager* may discuss with the *Contractor* on the packaging of subcontract work. Attention should be paid to issues which may affect the programme of the works, such as foreseeable difficulties in interfacing between different Subcontractors. For example, the *Project Manager* should be aware of the consistency of the construction method and planned programme between different subcontracts at the interfacing boundaries.
- If there are Key Date(s) in the contract, it is advisable to check if such Key Date(s) have also been stated as a condition in the relevant subcontracts. Where considered appropriate, it may be desirable to include an activity schedule or a bill of quantities in the subcontracts even for those on lump sum basis to facilitate tender preparation and assessment of potential compensation events which may arise for the subcontract work but attention should be paid to erratic pricing issue.
- For sizeable subcontracts, the *Project Manager* should provide comments on the draft tender documents for the subcontracts, mainly on the scope of the subcontract work and back-to-back provisions in the subcontracts, so as to avoid potential disputes after the award of subcontracts, and on items with high uncertainty which the *Contractor* may need to state clearly in the subcontracts in order to obtain a realistic tender price (e.g. if any operations beyond normal working hours are expected, an item on overtime allowance may need to be included in the bill of quantities or the activity schedule).
- The latest edition of the Standard Form of Domestic Sub-contract published by the Hong Kong Construction Association (HKCA) should be used in the subcontracts where appropriate.
- The *Project Manager* should be vigilant in assessing subcontract prices to ensure they are open market prices, especially for those without going through a competitive bidding process. The *Project Manager* may consider

various approaches to verify if they are open market prices, such as referencing recent subcontracts, reaching out to alternative subcontractors or supplies in the market for cross referencing, or requesting the *Contractor* to provide quotations as supporting evidence.

- The *Project Manager* should critically scrutinise the *Contractor*'s proposed scope of subcontracts to prevent splitting up of subcontract work to circumvent the tender requirement.
- If a tender evaluation mechanism involving assessment of technical proposal, i.e. the *Contractor* selects the conforming tender with the highest tender evaluation score, is adopted, the *Contractor* submits such tender evaluation mechanism to the *Project Manager* for acceptance in accordance with ACC Clause VI:2(2). The *Project Manager* can refer to the relevant part of Section 6 of PAH Chapter 6 when reviewing the submission.

4.6.4.5 Though more effort by the *Project Manager* is required, it is noted that such active involvement in subcontracting can help improve the understanding of the Subcontractors for the works, and reduce disputes or abortive work during construction by early identification of ambiguities or deficiencies. In addition, during tender interviews in two stage selection process, the *Project Manager* and the *Contractor* may also be benefited from the knowledge and experience of the Subcontractors, which may add value to the construction.

4.6.4.6 During the construction, the Subcontractors may be invited to join the regular meetings between the *Contractor* and the *Project Manager* to enhance collaborative working among all parties. For example, the Subcontractors may be invited to join the early warning meetings to facilitate prompt action to be taken in dealing with project risks identified. If the Subcontractor provides full justifications that minor assistance from the *Contractor* to facilitate their construction operation is required during the construction, subject to acceptance by the *Project Manager*, such request should be handled under the relevant provisions of the contract and the subcontract, provided that no double payment to the *Contractor* would occur and such minor deviation would not cause any disadvantageous effect to the contract and the *Client*.

4.6.4.7 Upon completion of the subcontract work, the *Contractor* should be asked to finalise the subcontracts as soon as possible to avoid delay of finalisation of the contract.

Subcontracting for work to be assessed on Defined Cost plus Fee basis

4.6.4.8 Following Section 4.6.2, for any work to be assessed on Defined Cost plus Fee basis, the *Contractor* should decide whether such work is to be conducted by its own resources, the current Subcontractor(s), or to procure a new subcontract for whole / part of the said work and submit its proposal with full justifications for acceptance by the *Project Manager*. The *Project Manager* should discuss with the *Contractor* to identify the most cost effective way for delivering the work before offering its decision. Unless otherwise accepted by the *Project Manager*, for any work to be assessed on Defined Cost plus Fee basis under Options C and D and any work which results from a change to the Scope that is a compensation event which is to be assessed on Defined Cost plus Fee basis under Options A and B, and to be procured via new subcontracts, the *Contractor* should follow ACC Clauses VI:2, VI:3 and VI:4 on the tender requirements for subcontracting.

4.6.4.9 In considering proposals under Section 4.6.4.8, Project Offices should recognise that, in certain circumstances, it may be appropriate and more cost-effective to allow work to be carried out by an existing Subcontractor without further tendering. This may arise, for example, where the works form part of or are closely integrated with works already being undertaken by the existing Subcontractor, or where continuity of expertise, interface management or programme considerations make the appointment of a new Subcontractor impractical or inefficient.

4.6.4.10 In such cases, the *Project Manager* should assess the *Contractor's* justification having regard to value for money, programme implications, risk allocation and principles of efficient cost management under the contract. Where satisfied that the proposed approach is reasonable and in the *Client's* interests, the *Project Manager* may accept the use of the existing Subcontractor, provided that transparency is maintained and the resulting Defined Cost is assessed in accordance with the contract.

4.6.5 Pilot trial on streamlining the engagement of Subcontractors and suppliers under target contracts

4.6.5.1 DEVB has launched a pilot trial on streamlining the engagement of Subcontractors and suppliers under target contracts via SDEV's memo ref. () in DEVBWB WP4S-022-007-001 dated 10 June 2025. Under such pilot trial, the procurement and subcontracting procedures for target contracts are streamlined to enhance flexibility, improve efficiency, and reduce unnecessary administrative efforts, while maintaining appropriate safeguards for the *Client*. The key objective is to provide the *Contractor* with greater freedom to select Subcontractors and suppliers, except for situations where a change to the Scope triggers a compensation event requiring the appointment of a new Subcontractor or supplier, in which case the procurement procedures in Section VI of the *additional conditions of contract* continue to apply.

4.6.5.2 Under the streamlined arrangement, the requirements under ACC Clauses VI:2 and VI:3 no longer apply to the majority of subcontract and supplier appointments. The *Contractor* may select Subcontractors and suppliers using its own internal procurement processes, subject to the safeguards described in the following paragraphs.

4.6.5.3 To safeguard the *Client's* interests, particularly in relation to cost control under target contracts, the *Project Manager* is required to check the pricing information of each proposed subcontract or supply contract to ensure that:

- the price is not unreasonably low or high; and
- the pricing information does not include activities or items that are substantially over- or under-priced, or erratically priced,

before accepting the pricing information.

4.6.5.4 Notwithstanding the above, where the *Contractor* proposes to engage a new Subcontractor or supplier to carry out work arising from an instruction that changes the Scope and constitutes a compensation event, the *Contractor* shall still follow the procurement procedures under Section VI of the standard *additional conditions of contract*. This ensures

proper control of the Prices and prevents unrealistic increases to the target arising from the implementation of compensation events.

4.6.5.5 In addition, although Section VI of the standard *additional conditions of contract* no longer apply to most subcontract procurement, the *Contractor* is expected to maintain internal procurement procedures for subcontracting and to keep proper procurement records as part of its corporate governance. The *Project Manager* shall conduct random checks on the *Contractor's* compliance with its internal procurement procedures in accordance with the pilot trial arrangements. Where necessary, the *Project Manager* may rely on NEC Clause 52.2 to instruct the *Contractor* to keep or provide the required records, with no time or cost implications to the contract. If malpractice or abuse is observed during random checks, Project Offices should record the matter in the *Contractor's* performance report(s) in accordance with prevailing procedures.

4.6.5.6 The pilot trial will be reviewed by DEVB having regard to project outcomes, stakeholder feedback, and the effectiveness of the streamlined arrangements. Project Offices should maintain proper records and provide feedback, where required, to support continuous improvement.

4.7 COST SAVINGS DESIGN

4.7.1 The relevant ACC Clauses VII:2 and VII:3 in the Library of Standard *additional conditions of contract* deal with the Cost Savings Design. For Options A and B, the agreed construction cost savings due to the Cost Savings Design should be equally shared between the *Client* and the *Contractor*, which is the same as the arrangement in conventional contracts.

4.7.2 For Options C and D, the Prices (i.e. target cost) should remain unchanged. Upon Completion of the whole of the *works*, the *Contractor's* share due to the Cost Savings Design, after the deduction of the total of the *Project Manager's* cost and any addition in future O&M cost for a design life in net present value, shall be assessed in accordance with NEC Clause 54. If situation warrants, the Cost Savings Design proposal can include the *Contractor's* proposal on relevant key Subcontractor, including Designer of Cost Savings Design, to be accepted in accordance with ACC Clause VII:2(5).

4.7.3 For situations where the Cost Savings Design would incur the *Project Manager's* cost and/or addition to the future O&M costs in all main Options, such *Project Manager's* cost and addition in future O&M cost for a design life in net present value should be deducted from the *Contractor's* share in the agreed construction cost savings due to the Cost Savings Design. The net payment should be made to the *Contractor* upon Completion of the whole of the *works*. The design life of the concerned works should be well defined in the Cost Savings Design for determination of the net present value of any increase in the associated O&M costs. The Project Offices should consult the maintenance authority and other relevant Government Bureau / Department for any case involving increase in future O&M cost before acceptance of the Cost Savings Design. Normally, the *Client's* decision to accept or reject the Cost Savings Design should be conveyed to the *Contractor* in writing by the *Project Manager* within six weeks or a longer period to which the *Contractor* has agreed in accordance with ACC Clause VII:2 in the Library of Standard *additional conditions of contract*.

4.8 INNOVATION & TECHNOLOGY (I&T) PROPOSAL

4.8.1 For each I&T Proposal, before giving any instruction to change the Scope, the *Project Manager*, should carry out thorough review on the potential benefits, cost-effectiveness, availability of funding, impact on the programme, etc. Project teams should exercise professional judgement in assessing each I&T proposal to ensure that it is soundly justified. The project teams should also ensure the issuance of relevant instructions and approving authorities comply with applicable rules / criteria set out in the SPR, as well as other applicable cost control mechanisms.

4.8.2 For administrative convenience, the innovation and technology meetings for discussing the I&T Proposal may be arranged alongside any routine site meetings in place as appropriate, such as monthly progress meetings, early warning meetings, other liaison meetings.

4.8.3 For decarbonisation efforts, focus areas may include:

- (a) reducing the use of timber / wood for packaging / formwork;
- (b) reducing the production of waste through efficient sorting / recycling / reuse;
- (c) wider use of EV, electrical site machineries and battery energy storage system (BESS);
- (d) eliminating the use of diesel fuel;
- (e) using more renewable energy on site; and
- (f) other areas that the *Project Manager* considers relevant.

4.9 NEC PERFORMANCE MONITORING

4.9.1 Standard forms have been designed by DEVB for the Project Offices to input the data of the NEC contracts in respect of cost and time aspects. Regular return will be called by DEVB on a quarterly basis to collect data for monitoring the performance of NEC contracts. The concerned data will be input and retrieved through the PWPIS.

4.9.2 The Project Offices are encouraged to use suitable software or application to facilitate the contract administration, improve the management efficiency and enhance the project cost control if appropriate. The key functions of the software or application should include but not limited to registration and monitoring of Early Warning Register, early warnings, prevention events and the *Project Manager's* instructions, monitoring and processing of programme updates, interim payment applications and notifications and quotations for compensation events, keeping and processing of site diary and other site records, etc. The software or application should facilitate the communications amongst the *Client*, the *Project Manager*, the *Supervisor* and the *Contractor*. The software or application should allow a function to generate real time management reports regarding the project cost, covering but not limited to the latest forecast final total / Total of the Prices, current and estimated final Price for Work Done to Date, Defined Cost, Fee and Disallowed Cost, implemented compensation events and outstanding quotations for compensation events, price adjustment for inflation,

other expenditure (e.g. the *Contractor's* share, incentive payments, delay damages), etc. The software or application should enable data export, backup and recovery, and have access right control and data security functions. Relevant requirements should be specified in the Scope.

4.10 NEC HEALTH CHECK

4.10.1 Purpose and requirement

4.10.1.1 The NEC Health Check is a mandatory management and governance mechanism required to be carried out during the contract stage for all public works projects adopting NEC forms of contract.

4.10.1.2 The purpose of the NEC Health Check is to provide a structured, objective and consistent assessment of the health of NEC contract administration, with particular emphasis on the timely and effective operation of key NEC processes. It is intended to facilitate early identification of issues, prompt management intervention and continuous improvement in contract administration, thereby reinforcing NEC's "sort-it-now" philosophy and reducing the risk of delay, cost uncertainty and disputes.

4.10.2 Applicability and conduct

4.10.2.1 The NEC Health Check applies to all capital work projects, irrespective of contract option, scale or complexity.

4.10.2.2 The NEC Health Check shall be conducted on a regular and ongoing basis throughout the contract period and maintained as a live project management tool. The internal arrangements for conducting the NEC Health Check may be determined by the WDs having regard to its established practices, provided that the objectives of timely monitoring, early identification of issues and prompt management intervention are achieved.

4.10.3 Roles, responsibilities and escalation

4.10.3.1 The *Project Manager* (or the *Client* where the *Project Manager* is assigned to the consultant's RSS) at D1 rank shall ensure that the NEC Health Check is conducted regularly and shall review the results to satisfy itself that identified issues are being addressed in a timely and effective manner. The project team (including the RSS) should not only support and facilitate the regular conduct of the NEC Health Check, but also take a proactive role in following up on the issues identified, assisting clarification, coordination and implementation of actions so as to help ensure that such issues are addressed timely and effectively.

4.10.3.2 Where any of the following matters remain unresolved:

- acceptance of the *Contractor's* programme;
- replies to notification of compensation events;
- implementation of compensation events; or

- closing of early warnings,

the following escalation requirements shall be observed:

- where an issue remains unresolved for more than three months, an officer at D1 rank shall personally look into the matter and direct appropriate follow-up actions; and
- where an issue remains unresolved for more than six months, the matter shall be escalated to an officer at D2 rank or above for attention and action.

4.10.3.3 These escalation arrangements are mandatory and are intended to ensure timely senior management intervention and to prevent prolonged stagnation of key NEC processes.

4.10.4 NEC Health Check Key Performance Indicators (KPIs)

4.10.4.1 The NEC Health Check is supported by a set of KPIs which shall be used as a minimum baseline for monitoring the effectiveness of NEC contract administration.

4.10.4.2 The KPIs set out below represent the minimum NEC Health Check KPIs to be adopted by WDs. Project Offices may introduce additional KPIs to suit project-specific management and monitoring needs, provided that the minimum set is retained.

Category	KPIs	Description	Green Light	Yellow Light	Red Light
Programme	KPI 1	Time elapsed since the last Accepted Programme (days)	≤ 30 days	> 30 days & < 90 days	≥ 90 days
Prices	KPI 2	PWDD / forecast final PWDD (%) (for pain deduction monitoring and to read in conjunction with forecast gain / pain share)	≤ 30%	> 30% & < 50%	≥ 50%
	KPI 3	Difference between the <i>Project Manager's</i> and the <i>Contractor's</i> forecast total of the Prices (%)	≥ -5% & ≤ 5%	-10% to -5% or 5% to 10%	≤ 10% or ≥ 10%
	KPI 4	Forecast <i>Contractor's</i> gain / pain share percentage plus fee percentage (%)	≥ 5%	< 5% & > -10%	≤ -10%
<i>Contractor's</i> notification of compensation events	KPI 5 & KPI 6	No. of <i>Contractor's</i> notification of compensation events still under review	0 – 3 months	3 – 6 months	> 6 months
Compensation events	KPI 7 & KPI 8	No. of compensation events not yet implemented	0 – 3 months	3 – 6 months	> 6 months
Early warnings	KPI 9 & KPI 10	No. of early warnings not yet closed	0 – 3 months	3 – 6 months	> 6 months

4.10.5 Use of NEC Health Check outcomes

4.10.5.1 The NEC Health Check and its KPIs are intended to be used as active project management tools to prompt focused discussions, timely actions and escalation where necessary. They do not replace contractual mechanisms under the NEC but operate alongside them to reinforce disciplined, proactive and collaborative contract administration.

4.10.5.2 Escalation under the NEC Health Check framework, including escalation of outstanding issues to D1 and D2 levels, is intended to be a positive and constructive management intervention. The purpose of escalation is to provide timely senior management support, authority and direction to help resolve prolonged or complex contractual issues, unblock decision-making, and facilitate agreement where matters have remained unresolved despite reasonable efforts at project level.

4.10.5.3 In this context, KPIs relating to the timely acceptance of programmes, assessment and implementation of compensation events, and closure of early warnings should be viewed as early warning signals for management attention, enabling issues to be addressed collaboratively and proactively before they escalate into delay, cost uncertainty or disputes.

4.10.5.4 Project Offices should note that the NEC Health Check is intended to provide a true, honest and meaningful reflection of the health of NEC contract administration and should be applied in substance and in good faith, rather than as a form-filling or purely presentational exercise. Care should be taken to ensure that the manner in which the NEC Health Check outcomes are prepared, maintained and reported does not obscure, downplay or defer attention to underlying issues, or give a superficially favourable impression that is not supported by the actual status of contract administration. Project Offices should therefore ensure that the NEC Health Check outcomes are prepared transparently and reflect the real position on key NEC processes, so that issues requiring management attention are surfaced early and addressed proactively in accordance with NEC's "sort-it-now" philosophy.

4.11 RISKS / LIABILITIES AND INSURANCE

4.11.1 The respective risks / liabilities and insurance obligations for the *Client* and the *Contractor* are set out in NEC Clauses 80 and 81.

5 KNOWLEDGE SHARING AMONG NEC USERS

5.1 KNOWLEDGE SHARING AMONG NEC USERS

5.1.1 At present, there are several committees in DEVB / WDs in relation to the adoption of NEC in public works projects:

- Steering Committee on NEC Projects (meetings on as-need basis):
To oversee the implementation and steer the direction (chaired by PAS(W)4, DEVB)
- Inter-departmental Working Group on NEC Projects (meetings on as-need basis):
To co-ordinate and advise WDs on matters relating to NEC (chaired by CAS(W)7, DEVB)
- Departmental NEC Working Group or equivalent (meetings regularly / on as-need basis):
To support the use of NEC within individual departments. Members involve staff from the Project Offices adopting NEC (chaired by D1 / D2 / D3 officers in WDs)

5.1.2 In view of the upcoming full adoption of NEC, it would be beneficial if knowledge sharing could be done in a coordinated manner to facilitate WDs' preparation for NEC contracts, and to ensure a more consistent approach for all NEC contracts. In addition, after issuing these Practice Notes, feedbacks or comments from users are expected. To this end, the Inter-departmental Working Group on NEC Projects is a knowledge exchange platform for further development or refinement of these Practice Notes.

5.1.3 These Practice Notes take into account the relevant General Conditions of Tender, Special Conditions of Tender, Notes to Tenderers and Special Conditions of Contract for the GCC form promulgated under various technical circulars and circular memoranda issued by DEVB and update them to suit the NEC form. The tender and contract provisions promulgated under these Practice Notes replace those provisions appearing in these publications to the extent that the latter are relevant to the NEC contracts. For any ambiguity, the Project Offices should address to DEVB who should consult the Inter-departmental Working Group on NEC Projects and/or the Steering Committee on NEC Projects where appropriate. These Practice Notes are living documents which will be updated from time to time when new technical circulars are promulgated or the existing works policies are fine-tuned which may affect the contents of these Practice Notes.

APPENDIX A – EXAMPLE OF UTILITY SCHEDULE AND INTERFACING REQUIREMENTS SCHEDULE

Example of utility schedule*:

Contract No.: [To be inserted]

Date of Issue: [To be inserted]

Contract Title: [To be inserted]

Utility Type: [To be inserted]

Utility ref.	Size and type	Drawing no.	Location	Potential interface	Responsible party	To remain	To support / protect in-site	Permanent realignment / diversion	Temporary diversion (during works)	To reinstate (disconnect during works)	To remove (redundant)	Tentative commencement date	Tentative completion date
WSD 150FW	Existing 150mm dia fresh water main	XXXXXX	ABC Road Footpath	XXXXXX	XXXXXX	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	XXXXXX	XXXXXX
WSD 200FW	Existing 200mm dia saltwater main	XXXXXX	ABC Road Carriageway	XXXXXX	XXXXXX	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	XXXXXX	XXXXXX
CLP 11 KV ABC RD1	Existing 11 KV cables (kerb edge)	XXXXXX	ABC Road Footpath	XXXXXX	XXXXXX	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	XXXXXX	XXXXXX
CLP 132 KV ABC RD3	Existing 132 KV cables	XXXXXX	ABC Road Footpath	XXXXXX	XXXXXX	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	XXXXXX	XXXXXX
HKBN ABC RD	Existing HKBN cables	XXXXXX	ABC Road Footpath	XXXXXX	XXXXXX	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	Yes / NA	XXXXXX	XXXXXX

* The utility schedule is provided as an illustrative example of good practice only. Project Offices may amend, expand, simplify or otherwise adapt the schedule to suit the specific circumstances and operational needs of individual projects. In particular, Project Offices should review whether separate responsible parties and/or timing requirements should be identified for individual utility-related activities (e.g. support, protection, diversion, reinstatement or removal works), where appropriate. Where adopted, the utility schedule should form part of the Scope and is intended to facilitate a clear and transparent understanding of the utility-related works, obligations, interfaces and constraints on how the *Contractor Provides the Works* (see NEC Clause 11.2(19)).

Example of interfacing requirements schedule*:**Contract No.:** [To be inserted]**Date of Issue:** [To be inserted]**Contract Title:** [To be inserted]**Utility Type:** [To be inserted]

Item ref.	Physical interface ref.	By XX/2026/YY Contractor	By XX/2026/ZZ Contractor	Purpose of interface	Timing and assumptions of interface
1.1.1	MIC.XX/2026/YY.S1	Coordinate with Contract XX/2026/ZZ on Accepted Programme including the supply and delivery of all Modular Integrated Construction (MiC) Modules.	Coordinate and agree with Contract XX/2026/YY on the delivery programme, including all MiC Modules to suit the Accepted Programme.	To meet programme requirements.	XXXXX.
1.1.2	MIC.XX/2026/YY.S2	Confirm the delivery route and programme with Contract XX/2026/ZZ for Contract XX/2026/YY.	Provide access and attendance for delivery of MiC Modules.	Coordination for delivery.	XXXXX.
1.1.3	MIC.XX/2026/YY.S3	Confirm the storage and handover arrangement with Contract XX/2026/ZZ.	Provide delivery with necessary manpower and equipment for Contract XX/2026/YY.	Coordination for delivery and storage.	XXXXX.
1.1.4	MIC.XX/2026/YY.S4	Carry out remedial works and inform the <i>Project Manager</i> .	Report to the <i>Project Manager</i> on any opening with wrong position / dimension or abandoned holes formed by Contract XX/2026/YY.	Construction coordination.	XXXXX.

* The interfacing requirements schedule is provided as an illustrative example of good practice only. Project Offices may amend, expand, simplify or otherwise adapt the schedule to suit the specific circumstances and operational needs of individual projects. Where adopted, the interfacing requirements schedule should form part of the Scope and is intended to facilitate a clear and transparent understanding of the activities, interfaces, responsibilities, assumptions, dependencies and constraints relevant to Providing the Works (see NEC Clause 11.2(19)).