

NEC4 ENGINEERING & CONSTRUCTION CONTRACT

1. Introduction

- 1.1 This paper provides an overview of the NEC Engineering & Construction Contract summarising the key features and structure of the NEC family of contracts. The NEC4 (4th Edition) box set of contracts is available in the Planancy Technical Library and this paper will act as useful background when working on Contractor's Programmes and when analysing delay claims. The paper also outlines the key differences between NEC3 and the current edition NEC4 and it emphasises the core time and cost clauses to look out for.

2. Brief background

- 2.1 The first edition of the NEC was published in 1993 – developed as a multi-disciplinary contract to assist good management practice and designed with simplicity, clarity and flexibility in mind. Several updates have been published subsequently but the NEC has retained the principle of collaboration at its heart and in the latest edition, NEC4, published in June 2017 it continues to accommodate the Contractor having full, part or no design responsibility and has taken this further with a secondary option which allows for early contractor involvement (Options C & E only). NEC4 provides for all types of contract including competitive fixed price tenders, target contracts, cost reimbursable contracts, DBO (design, build & operate), alliance and management contracts.
- 2.2 The NEC suite of contracts is summarised in Appendix 1, with a brief description of each one. As a rule of thumb – the Contractor holds the greatest amount of risk under Options A and B and the least amount of risk under Options E and F.

3. Key features

- 3.1 The key features of NEC4 include:
 - Early collaboration and involvement between the Client, Project Manager, Contractor and Subcontractor, where issues are identified and acted on via an Early Warning process (replacing the Risk Register in earlier editions).
 - The Contractor proposes changes to the Scope which reduces cost and/or promotes acceleration to achieve early completion.
 - The Accepted Programme forms part of the NEC and is used to assess the impact of any events delaying the works, and any additional monies which may be due to the Contractor. Great emphasis is therefore placed on the Programme and on Programme Management (see 7 below).

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4. NEC4 Structure

- 4.1 All of the NEC contracts are constructed in the same way with 9 sections (core clauses) in every form, as follows:

1	<i>General</i>	Includes defined terms, interpretation, communications, early warning, Contractor's proposals and requirements for instructions
2	<i>Contractor's main responsibilities</i>	Provision of works, design, people & subcontracting
3	<i>Time</i>	Starting, completion & key dates, the programme, access, takeover and acceleration
4	<i>Quality management</i>	Quality system, tests & inspections, notifying defects, correcting defects, accepting defects and uncorrected defects
5	<i>Payment</i>	Assessing the amount due, payment, defined cost and final assessment
6	<i>Compensation events (CEs)</i>	Events which will give rise to changes in time and money and procedures for dealing with these, including notification, quotations, assessment and implementation
7	<i>Title</i>	For example – to plant & materials
8	<i>Liabilities insurance</i>	& Contractor & Client liabilities and insurance requirements
9	<i>Termination</i>	Reasons, procedures and payments on/for termination

- 4.2 Note that each of the Options A to F also have their own individual clauses known as main option clauses which supplement the core clauses above.

5. Key differences between NEC3 & NEC4

The changes made to the new NEC4 suite of contracts have arisen from feedback from the construction industry to support methods and provide solutions that clients are increasingly demanding. The changes vary from minor terminology updates to significant additions and/or removals. The key changes are summarised according to their core clauses below:

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5.1 General (Clauses 10 to 19)

The Risk Register is replaced by an Early Warning Register (EWR). The EWR is produced by the PM within one week of the Starting Date and the first EW meeting takes place within 2 weeks of the Starting Date.

The term '*Scope*' replaces the '*Works Information*'

The Contractor can propose to the PM a change in Scope in order to reduce cost. The PM has 4 weeks to consider the proposal and either accept (by issuing an instruction to change the Scope), instruct a quotation or reject. A secondary option is included, allowing the Contractor to identify opportunities to change the Scope.

5.2 Contractor's main responsibilities (Clauses 20 to 29)

The Contractor submits subcontract documents to the PM for acceptance

A new secondary option is created that deals with the Contractor's PI insurance and has more extensive provisions to support design & build contracts

Either party is permitted to transfer the benefit or any rights under the Contract to another party

Parties are not allowed to disclose any information about the project without the Client's permission

5.3 Time (Clauses 30 to 36)

If the PM doesn't notify acceptance or non-acceptance of the programme within the 2 week period, the Contractor can notify the PM of his failure. If a further week passes without a response, the programme is treated as accepted. This ensures that there is a baseline programme for assessment of CEs in all cases. Under NEC3 – there was a reliance on the programme being accepted and if there was no accepted programme (often the case) the status of the baseline programme was often subject to debate.

The requirement to show implemented CEs in the programme has been removed. This is to avoid any potential misunderstanding that non-implemented compensation events are excluded (which is not the case).

Timescales are implemented for the Contractor to produce a quotation for accelerating the works (3 weeks) and for the PM to reply (also 3 weeks)

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5.4 Quality management (Clauses 40 to 46)

This is a new section – requiring the Contractor to operate a quality management system in accordance with the Scope. The quality policy statement and quality plan have to be issued for acceptance.

5.5 Payment (Clauses 50 to 53)

NEC4 introduces procedures aimed at reaching agreement on the final amount due. The cost based contracts (C, D, E & F) allow the Contractor to instigate a review and acceptance of its defined cost by the PM. The PM has 13 weeks in which to review and respond and if he fails to do so within this time – the Contractor's costs are treated as accepted.

The PM is required to issue a final assessment of payment due within 4 weeks of the Defects Certificate. The final assessment is conclusive if not challenged within 4 weeks of issue.

Subcontractor costs are included in the Schedules of Cost Components – the defined cost will be the cost paid to the subcontractor. '*Defined cost*' includes rates & percentages stated in the Contract Data.

5.6 Compensation events (Clauses 60 to 66)

2 new CEs are included, as follows: (i) the cost of preparing a quotation (60.1 (20)) and (ii) additional CEs stated in the Contract Data (60.1 (21)).

The term '*Dividing Date*' is added – this is the date of the instruction or changed decision (in terms of actual/defined cost) or the date that the CE is notified

The Contractor is required to submit a quotation for a proposed instruction within 3 weeks of being instructed to do so by the PM. The PM replies to the quotation by the date that the proposed instruction may be given and the quotation is assessed as a CE.

5.7 Title (Clauses 70 to 74)

No significant changes to this section

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5.8 Liabilities and insurance (Clauses 80 to 86)

The terminology is changed from *Employers/Contractor's Risk* to *Client's/Contractor's Liabilities*. Fault in design (within Client's scope or PM's instruction) is added as a liability.

5.9 Termination (Clauses 90 to 93)

Termination by the Client for any reason is taken out of the section but a new secondary clause is included (X11) which allows this

A '*Corrupt Act*' is added as a reason to terminate

5.10 Outside of the section changes listed above, there are a handful of other significant changes that are worthy of note, as follows:

There are 2 new forms of contract as follows: (i) Design Build Operate (DBO) Contract which allows clients to procure an integrated whole-life delivery solution from a single supplier and (ii) Alliance Contract (published for consultation) which suits clients who wish to enter into a single collaborative contract with a number of participants in order to deliver a project or programme of work where risks and benefits are shared.

A dispute avoidance option (W3) is included. This allows any dispute to be referred to a Dispute Avoidance Board (DAB) which is nominated by the parties at the outset. The idea is that the DAB visits the project at set intervals (or as requested) to become familiar with it and that it helps to find solutions if discussion fails.

The ability to appoint a contractor at an early stage (Options C & E) – to participate in the development of proposals is facilitated through a secondary option clause (X22)

Another secondary option clause is added that supports the use of Building Information Modelling (BIM) which requires the Contractor to provide an Information Execution Plan that satisfies the Client's BIM requirements

NEC4 contracts are now gender neutral, i.e. '*he*' or '*his*' are replaced with '*it*' and '*its*'

6. The NEC and delay

6.1 Consistent with NEC4's overall objective to manage and resolve issues as the works progress and/or through the DAB, NEC4 takes the following approach:

- the parties are to act in a spirit of mutual trust and cooperation;

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- the programme, which has been submitted & accepted (or treated as accepted) is regularly updated to reflect actual progress and its effect on the timing of the remaining work and it should also show how the Contractor plans to deal with any delays;
- the parties must give an early warning of a possible delay to Completion or a Key Date as soon as they become aware of any matter and seek to address those delays;
- quotations for CEs are to include any delay to the Completion Date and Key Dates. The programme can then be used to project the impact of a delay event;
- parties should seek to agree the time and cost consequences of compensation events before they are implemented;
- the involvement of the DAB is an available option from the outset to assist in resolving potential delay related disputes before they become disputes

6.2 A summary of the core clauses to look out for is shown in Appendix 2.

7. The significance of the programme

- 7.1 The process of programming the works is emphasised much more in the NEC than it is in most other standard forms of contract. Where a programme isn't included in the Contract Data, the Contractor is required to submit a detailed programme to the PM for acceptance within the period stated in the Contract Data (Clause 31). The Contractor is then required to issue updated programmes at regular intervals (Clause 32) to take into account the progress of the works, the timing of the remaining works and how the Contractor plans to deal with delays. If the timing for the remaining work is altered by a CE, the Contractor should include the alterations to the accepted programme.
- 7.2 If the PM fails to notify acceptance or non-acceptance of the programme within the time allowed, the programme is treated as accepted. Likewise, if the PM fails to reply to a quotation (that includes a change to the timing of the remaining work) within the time allowed, the quotation is treated as accepted.
- 7.3 There is only ever one accepted programme – the latest one accepted by the PM.
- 7.4 The programme should be in the form stated in the Scope and compliant with the provisions of Clause 31 as it will act as the baseline programme for the project. Very often the programme developed and submitted by the Contractor as part of his tender is generally intended as a demonstration that he has understood his obligations to provide the works and to inform the Client of any key assumptions regarding the timing and

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sequencing of the works. It may therefore not be fully compliant and/or sufficiently detailed for the purpose of an accepted programme under Clause 31. Furthermore, as a consequence of post tender negotiations, the Contractor's tender programme may no longer reasonably demonstrate the obligations of the Contractor to provide the works.

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Appendix 1 – Summary of the NEC4 suite of contracts

Contract	Brief description
Option A – Priced Contract with Activity Schedules	The Contractor offers to provide the works for a sum of money. The contract provides for certain risks to be carried by the Client which will result in the lump sum being adjusted if a CE occurs. The activity schedule is normally written by the Contractor since he is the one who knows what activities will be carried out. Each activity is priced as a lump sum by the Contractor which is the amount paid when he has completed the activity. In pricing an activity, the Contractor takes on responsibility for estimating quantities and resources, and assessing and pricing risks that are his.
Option B – Priced Contract with Bill of Quantities	The Client provides a bill of quantities which is priced by the Contractor. The contract price is the sum of prices for all items in the bill which may include lump sums for certain items. The Contractor (by means of re-measurement) is paid for the actual work carried out. Under this option, unlike Option A, the Client takes the risk of the correctness of the quantities. Option B would normally be used where the risk of change in quantities is relatively high.
Option C – Target Contract with Activity Schedules	The Contractor tenders (or negotiates) a target price using an activity schedule. Each activity is priced as a lump sum and a fee is also tendered as a percentage for subcontract work and for the Contractor's own direct work. The initial target price is the sum of the activity prices and the fee. During the course of the contract, the target price is adjusted to cater for CEs that are set out in the contract. Payment is made on the basis of actual costs with an incentive mechanism for the Contractor to minimise costs. Savings and over-runs are shared between the parties usually on a sliding scale. The sharing of risk in the target cost approach should reduce the occurrence of disputes.

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Option D – Target Contract with Bill of Quantities	This is similar to Option C except that the target price is established by means of a bill of quantities rather than an activity schedule. During the course of the contract, the target price is adjusted to allow for changes of quantities as well as for CEs so the Client carries a greater risk than is the case with Option C.
Option E – Cost Reimbursable Contract	Under this option the Contractor takes a very small risk since he is paid his actual cost plus the fee with only a small number of constraints to protect the Client from inefficient working or incompetence by the Contractor. It is used when the work to be carried out cannot be defined at the outset and the risks are high. It may also be used for emergency work.
Option F – Management Contract	This option is suitable for management contracts in which all or most of the work is done by sub-contractors, and the Contractor manages the procurement and the work undertaken by the sub-contractors. Payment is made to the Contractor for the cost of the sub-contracts plus a management fee. The Client carries most of the risk.
Short Contract	This is an abbreviated version of the NEC contract and most suitable when sophisticated management methods are not required and there is considered ' <i>low risk</i> ' (not necessarily low value) on a project with little change expected.
Subcontract / Short Subcontract	Allows the contractor to sub-let the project to a subcontractor imposing most of the clauses that he has within his headline contract. It includes any level of design responsibility where the Contractor has been appointed under an NEC4 main contract. There is also a Short Subcontract which requires less sophisticated management methods and imposes low risk on the parties.

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Professional Service Contract / Professional Service Short Contract	This contract is for anyone providing a service (e.g. designer) rather than doing any physical construction works. There is also a Professional Service Short Contract that doesn't require sophisticated management methods and imposes only low risk on the parties.
Professional Service Subcontract / Professional Service Short Subcontract	This contract is used for the appointment of a sub-contractor to provide a professional service to a contractor or consultant who has been appointed under an NEC4 main contract. There is also a Professional Service Short Contract for anyone providing a service that doesn't require sophisticated management methods and imposes only low risk on the parties.
Term Service Contract / Term Service Short Contract	For parties on a project that is operational or maintenance based, e.g. maintaining highway signage, where the contract is to ensure that a certain standard is maintained. This contract is not generally used for constructing new works, but can include some amount of betterment. There is also a Term Service Short Contract where the project is a relatively low risk project and is an abbreviated version of the main TSC.
Term Service Subcontract	For the appointment of a sub-contractor for a period of time to manage and provide a service where the Contractor has been appointed under an NEC4 main contract.
Design Build & Operate Contract New under NEC4	Used for the appointment of a contractor responsible for the design, construction or modification and operation of assets necessary to meet the Client's operational requirements. Operational requirements could include performance levels and/or facilities management. It is important to note that the contract doesn't include for a funding option where the construction cost is recovered during the operation phase (as in a PFI model)

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<p>Supply Contract / Short Supply Contract</p>	<p>This is for a supplier of goods or supplies to a project, and puts extra contractual requirements on them during their procurement/manufacture period. The Supply Contract is for big items of procurement, with the Short Supply Contract potentially being for more run of the mill procurement items on a project.</p>
<p>Dispute Resolution Service Contract (formerly Adjudicators Contract under NEC3)</p>	<p>This contract should be used for the appointment of an adjudicator or dispute avoidance board member to resolve disputes under an NEC4 contract</p>
<p>Framework Contract</p>	<p>Parties enter into a <i>'framework'</i> in which work packages will then be let during the life of that framework on an 'as instructed basis'. Any individual projects will then be awarded using one of the other contracts (above) within the suite, meaning that the parties follow the headline clauses within the framework contract and then the individual clauses within the chosen contract for that package. Different work packages can be let using different contracts during the life of the framework.</p>
<p>Alliance Contract New under NEC4 (awaiting publication)</p>	<p>This contract is created to support clients that require a fully integrated team for large, complex projects or programmes of work. The contract is different to others in the suite in that it is a multi-party contract based on an integrated risk and reward model. <i>The consultation process for the Alliance Contract finished on 30 November 2017 and feedback is being considered before publication sometime in 2018.</i></p>
<p>Guidance Notes</p>	<p>For each of the different contracts listed above, a user guide is provided giving advice on how to prepare and manage the contract. It comes with its own set of guidance notes which should aid understanding of the intent of the drafted clauses. The guidance notes expand on each clause to give extra substance and intent of the original drafters as to how a clause should be understood and interpreted.</p>

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Appendix 2 - Summary of Core NEC4 Clauses relating to Programme, Time & Delay

Core clause no.	Brief description
1. General	
11	Accepted programme: The accepted programme is the programme identified in the Contract Data or is the latest programme accepted by the PM. The latest programme accepted by the PM supersedes previous accepted programmes.
15	Early warning: The Contractor & PM give an early warning by notifying the other as soon as either becomes aware of any matter that could increase the total price, delay completion, delay meeting a key date or impair the performance of the works.
3. Time	
30	Starting, completion & key dates: The obligation is on the Contractor to meet the conditions stated for each key date.
31	The programme: This clause lists all of the items that the Contractor would be expected to include in his Clause 31 programme including key dates and provisions for float and time risk. This clause also outlines the criteria (amended in NEC4) for accepting the programme.
32	Revising the programme: On each revision, the Contractor has to show progress and its effect on the timing of remaining work, the impact of CEs, method of dealing with delay and correcting notified defects. This clause also outlines the criteria for accepting the revised programme.
36	Acceleration: If the Contractor is requested to submit a quotation for accelerating the programme, this should include proposed changes to the prices and completion date and a revised programme.
6. Compensation events	
60	Compensation events: This clause lists all of the possible CEs of which there are 21 in total.
61	Notifying compensation events: Where compensation events have arisen from an instruction from either party – this clause outlines the process for notification.
62	Quotations for compensation events: The Contractor is obliged to submit a quotation for the CE within 3 weeks of an instruction. The PM then has 2 weeks to accept, request a revised quotation or make his own assessment. Extensions to these periods can be agreed by the parties in advance.
63	Assessing compensation events: This clause defines how the compensation event is assessed in terms of its impact on cost and time.
64	The Project Manager's assessments: The criteria for permitting the PM to make his own assessment of the value of a CE is defined in this clause.
65	Proposed instructions: The criteria for submitting a quotation for a proposed instruction is defined in this clause

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66	Implementing compensation events: The CE is implemented when the PM notifies acceptance of the quotation. This could also be through his own assessment or when treated as having been accepted.
8. Liabilities and insurance	
80	Client's liabilities: These include – claims and costs due to negligence or a fault of the Client or his design and loss or damage to plant and materials.
81	Contractor's liabilities: Liabilities that are not carried by the Client are carried by the Contractor.