
Contracts

The New Engineering Contract

Institution of Civil Engineers, Thomas Telford 1994.

Available in Australia from Construction Publications Pty Ltd.

- Review by John Tyrill

The New Engineering Contract has been developed by The Institution of Engineers (UK) to meet the growing need for a multi-disciplinary form of contract. Its publisher's promotional material states that it is suitable for use across disciplines, whether for civil engineering, building, process plant or combinations thereof. Further, that it responds to changes in project procurement strategies, modern management techniques, risk management, the increased use of the design and construction strategy and the high incidence of construction claims and disputes. The publishers also claim it encourages successful project management through good contract administration.

Despite its 1994 publication date, the New Engineering Contract has already been used on over 700 projects around the world, including in the UK, Hong Kong and South Africa.

Future use of the New Engineering Contract in the UK received a strong boost with its endorsement by the Latham report, *Constructing the Team* (see separate review this Issue).

NEC may be a better vehicle for Partnering than our standard form contracts.

For convenience in the preparation of this review, much of the following has been taken, or derived, from the New Engineering Contract's Guidance Notes and its publisher's promotional material. The reviewer's comments are to be found under the heading "Comment" at the end of the review.

Reasons for the New Engineering Contract

The New Engineering Contract ("NEC") has been developed to respond to:

- (i) use of a wider range of procurement strategies than the traditional contract such as the ICE contract (or, in Australia, AS2124, NPWC3 or JCC), e.g. management contracts, design and construct and target cost contracts;
- (ii) the proliferation of contracts for these strategies;
- (iii) the abandonment of the traditional separation of design and construction for certain types of projects;
- (iii) the growth of project management techniques, which has created a need for contract procedures which stimulate more effective teamwork, planning and decision making;
- (iv) the sensitivity of construction costs to changed circumstances;
- (v) the incidence of contractual disputes;
- (vi) a better understanding of risk management.

NEC Team

The New Engineering Contract was conceived by Dr Martin Barnes of Coopers & Lybrand, London and prepared with assistance from a strong team of academics, clients, engineers, project managers and legal practitioners. The NEC Working Group included Max Abrahamson, a noted construction lawyer.

NEC Objectives

The key objectives of the NEC are:

- (i) flexibility so that it can be used in a wide range of circumstances;
- (ii) clarity and simplicity so that it is easy to understand, learn and use;
- (iii) to provide a strong stimulus to good management of projects.

Flexibility

The NEC is intended for use in:

- (a) contracts involving any combination of civil, electrical, mechanical and building work;
- (b) both large and small projects;
- (c) management or traditional head contractor contracts;
- (d) contracts, with or without, bills of quantities;
- (e) projects where the contractor is to assume some, all, or none of the responsibility for design;

- (f) any proportion of subcontracting from zero to 100%;
- (g) fixed price, target cost, cost reimbursable and management contracts;
- (h) multiple contractor and single contractor projects;
- (i) contracts where a particular allocation of risks is required.

Clarity

The NEC has been drafted in ordinary language with the intention that it be as simple as possible in order to:

- simplify user training;
- minimise disputes arising from uncertainty of meaning;
- reduce the need for advice from lawyers.

A remarkable feature of the NEC is its brevity. It has an entirely different style to our verbose, complex standard forms. This fundamental change is notable and for some, at first, even perplexing.

The NEC Guidance Notes comments on this feature:

“The impact of reading the NEC may not convey its full simplicity, in part because a number of newly defined expressions are used. The quantity of text used is very much less than the standard forms and the amount of text needed to give effect to the options is small. For example, there is only one clause which is used in the target contract option uniquely. This means that the simple arrangement of the NEC makes it necessary only to add one clause to convert another option into a target contract.

The number of clauses used is less than in many standard forms. This is because, for simplicity of use, the average amount of text in clauses is very heavily reduced. As a symptom of this simplicity, it should be noted that the NEC neither requires nor contains any cross-references between clauses.

It is a fundamental objective of NEC that its use should minimise the incidence of disputes. To this end, words like ‘fair’, ‘reasonable’ and ‘opinion’ have been used to the minimum.”

Stimulus to Good Management

The NEC contains new provisions to motivate participants to manage their contributions in accordance with modern project management principles and procedures. Each procedure has been designed so that its implementation should contribute, rather than detract, from the management of the work and achieve the client’s objectives for the project.

NEC is founded on the proposition that foresighted, co-operative management of the interactions between the parties can shrink the risks inherent in construction.

The NEC contract is intended to provide an up-to-date method for clients, contractors and project managers to work collaboratively and to achieve their own objectives for their work more consistently than has been possible using the

traditional (and, arguably, outdated) forms of contract, which enshrine practices from earlier times. In this regard, the NEC might well be a better vehicle for Partnering projects than our standard forms.

The NEC Guidance Notes states:

“The two principles on which the NEC is based and which impact upon this objective [i.e. a stimulus to good management] are:

- foresight applied collaboratively mitigates problems and shrinks risk, and
- clear division of function and responsibility helps accountability and motivates people to play their part.

A secondary but important theme is that people will be motivated to play their part in collaborative management if it is in their commercial and professional interest to do so. Reliance need not be placed upon exhortation either within the contract or outside it.

Uncertainty about what is to be done and about how the unexpected arising in the course of construction will affect what has to be done are inevitable in construction projects. The NEC allocates the risks arising in these ways clearly as between the parties. However, its main task is to reduce the incidence of each of those risks by application of a collaborative foresight. In this way, it aims to improve the outcome of projects generally for parties whose interests might seem to be opposed.

All the procedures in the NEC are designed to stimulate good management. Prominent examples of these are the early warning procedure and the way in which compensation events are dealt with.”

And:

“Use of the NEC is intended to lead to a much reduced risk of cost and time overruns and of poor performance of the completed projects to the Employer, and to a much increased likelihood of achieving a profit for the Contractor, subcontractors and suppliers.”

Roles and Duties

The NEC sets out the roles and responsibilities of:

- the Employer;
- the Project Manager;
- the Supervisor;
- the Contractor;
- the Subcontractor;
- the Supplier;
- the Adjudicator; and
- the Arbitrator.

The role performed by the Superintendent/Architect/Engineer in the traditional contracts is divided between the Project Manager, the Supervisor and the Adjudicator.

The Supervisor acts for the Employer in maintaining

quality control, within the limits of authority set out in the contract.

The Project Manager's role is to manage the project on behalf of the Employer (Principal or Proprietor in our standard contracts). The Project Manager's role is defined in the contract in terms of the actions and decisions he or she is to take. He or she is expected to perform the role unequivocally as the Employer's Project Manager with the intention of achieving the Employer's objectives for the project. The Guidance Notes state that the Project Manager is constrained from acting unreasonably by provisions in the contract governing *how* his or her decisions should be made, but not *what* decisions should be made.

If the Contractor considers that the Project Manager's decisions are not in accordance with the contract, the Contractor may refer them to Adjudication.

The Adjudicator is appointed jointly by the Employer and the Contractor. They share the Adjudicator's fees. The Project Manager is bound to implement the Adjudicator's assessment.

There are provisions for consolidating like disputes between the Employer and Contractor and the Contractor and a subcontractor, so that the Adjudicator determines both disputes as one.

If a party does not accept the Adjudicator's decision, there is provision for reference of the dispute to arbitration.

Project Manager's Control

The NEC's Project Manager differs in function somewhat from our standard forms' Superintendent or Architect.

The NEC Guidance Notes state:

"The NEC places considerable authority in the hands of the Project Manager. It assumes that he has the authority of the Employer to carry out the various actions and decisions which are his and that he will seek the view of the Employer as much or as little as his relationship with the Employer requires. He may change the work, alter or impose constraints on how the Contractor is to carry out the work, and generally apply his managerial and engineering judgement to the conduct and outcome of the work. Through the compensation event procedure, the Contractor's risk is not increased by the Project Manager acting upon this authority. Indeed the NEC encourages positive management in this sense from both sides. It recognises that reaction to the unexpected is part of the normal currency of engineering construction projects. While it is clearly better if everything is known beforehand and nobody is taken by surprise, the operation of the contract does not depend upon this ideal being achieved or even approached.

Perhaps the strongest feature of the NEC which stimulates cop-operation rather than adversarial activity is the fact that the Contractor is indifferent to the way the Project Manager decides to deal with problems which are his responsibility. If the Contractor's eventual payment is largely secure, he is not led to make the worst of any problems which

arise, either as regards their effect upon cost or upon the timing of the work. This feature is strengthened by the flexibility available to the Employer and the Project Manager in their pre-contract choice of main option for a particular contract ranging from priced commitment to cost reimbursable. The NEC permits this choice of contract strategy without the need to resort to different standard forms."

Compensation

Our standard form contracts contain various provisions scattered throughout entitling the Contractor or Builder to relief or payment. The lack of provision for compensation for many events often results in claims for breach of express or implied terms of contract or on other legal bases.

In NEC, the grounds for additional payment are grouped and identified as "Compensation Events". There are 16 grounds set out in Core Clause 6, including for matters which are not usually claimable under our standard contracts, but which frequently attract breach of contract allegations. Examples are the Project Manager's instruction to stop or not to start particular work; the Project Manager wrongly withholding an acceptance; the Project Manager's or Supervisor's failure to reply to a communication within the time required by the contract; the Employer's failure to provide materials, facilities and samples for tests as required by the contract etc.

Of course, those 16 grounds could be amended to suit the requirements of particular projects. The NEC Guidance Notes offer other possible grounds, which might be applicable for certain types of projects.

Under the NEC, compensation is paid on the basis of the Compensation Event's affect on the Contractor's Actual Cost (defined in the contract) and time. According to the Guidance Notes, the Contractor's Actual Cost should be readily assessable from records. Actual Cost is derived from a pre-agreed Schedule of Cost Components, plus associated tendered percentages. The NEC Guidance Notes states:

"This [approach] is different from some standard forms where variations are valued using the rates and prices in the contract as a basis. The reason for this policy is that no compensation event ... is due to the fault of the Contractor. Thus it is sensible to reimburse the Contractor those additional costs arising from the compensation event which is outside his control. Hence, disputes arising from the applicability of contract rates are avoided."

Many clients might think that providing increased grounds (compared with Australian contracts) for additional payment is foolish or repugnant. However, arguably, that approach might well be preferable to the disputes experienced in Australia under our contracts arising from Contractor's claims for breach of contract or on other legal bases to overcome lack of contractual provision for compensation. Furthermore, ultimately, pre-agreeing the Contractor's compensation might be preferable to damages.

Project Specific Data

The Schedule of Cost Components is intended as a complete identification of components of cost the Contractor might incur to avoid uncertainty where "Actual Cost" has to be assessed in connection with any of the procedures in the contract. For example, this occurs in cost reimbursable contracts.

The Contract Data is completed for each project and identifies such things as completion dates, contract specific documentation (e.g. specifications and drawings), interest rates etc.

Novel Provisions

In this review, it is not possible to canvass all of NEC's departures from the standard form contracts. They are many and significant. For example, the use of alternatives to nominated subcontractors; the alternative methods of pricing the work such as activity schedules - where bills of quantities are used, the NEC Guidance Notes states that they have a simpler, reduced role; provision for alerting the other party to problems; provision for acceleration. And more.

THE NEC PACKAGE

The New Engineering Contract is provided in a well presented, glossy, colour coded, boxed set of 10 documents. These are the New Engineering Contract; alternative procurement strategies

A to F; the New Engineering Subcontract; Guidance Notes; and Flow Charts.

A brief description of the components of the boxed set follows:

New Engineering Contract

The complete contract containing:

- Form of Tender
- Schedule of Contract Data
- Core Clauses
- Optional Clauses
- Schedule of Actual Costs.

Optional Strategies and Provisions

The NEC is printed as a separate contract for each of the main optional procurement strategies, with the Core Clauses merged with the applicable Optional Clauses.

- A** - Conventional priced contract with Activity Schedule;
- B** - Conventional priced contract with a Bill of Quantities;
- C** - Target contract with an Activity Schedule;
- D** - Target contract with a Bill of Quantities;
- E** - Cost reimbursable contract;
- F** - Management contract.

The Core Clauses are used unchanged for each of the procurement strategies. One of the six options (A to F above) must be chosen and the block of clauses which apply to it included in the contract.

Secondary Options

After choosing a main option, users can select from the following range of secondary options:

- G** - cost adjustment for inflation;
- H** - retention;
- I** - delay damages;
- K** - bonus for early completion;
- L** - low performance damages;
- M** - sectional completion;
- N** - advanced payment to the contractor;
- P** - advanced payment bond;
- Q** - performance bond;
- R** - parent company guarantee;
- S** - a limitation of the contractor's liability for design to reasonable skill and care;
- U** - provision for payment in more than one currency;
- V** - special conditions.

In its simplest form the NEC can be used without any of these secondary options. At the other extreme, most of them can be used together, if required.

New Engineering Subcontract

In addition to its use as the main contract, the NEC can be used as a subcontract. For convenience, a subcontract version has been produced which changes the party descriptions and contains some special provisions such as vesting of plant and materials and termination.

Guidance Notes

This document describes the background reasons for the development of the NEC and its main features. It includes:

- an Executive Summary of the NEC;
- a full description of how to use the NEC;
- detailed guidance on each of the sections.

Flow Charts

The NEC was developed using conceptual flow charts and these have been published to provide the user with an easy to follow schematic representation of all stages of the application of the NEC.

Additional NEC Documents

In addition to the NEC boxed set, the following documents are also available:

- The Adjudicator's Contract;
- The Professional Services Contract; and
- The Professional Services Contract Guidance Notes.

COMMENT

The New Engineering Contract is a bold attempt to bring contracts, and the management of projects, into the 20th Century. Apart from some tinkering at the edges, our building and engineering contracts are quite old in structure and content. They have not been fundamentally updated to take into account modern concepts of management and

project efficiency. Our traditional contracts enshrine inefficient concepts and practices.

The NEC is a significant departure from the traditional contracts in concept, structure and drafting.

Of course, due to its novel approach, the NEC requires detailed, considered examination. There is (perhaps, significant) potential to misunderstand its approach, concepts and provisions. Indeed, the NEC Guidance Notes provide this explanation and warning:

“Although, at first reading, the NEC may strike some people as similar to existing standard forms - to rely upon such an impression would be deceptive and potentially dangerous. As the flow charts show, almost all the procedures which follow from its use differ from current practice. This is not change for the sake of change, as the application of the principles of the NEC in pursuit of its objectives has left very little of conventional practice to be drawn in unchanged.

The user of the NEC must, therefore, study it carefully, as any assumption that the words are simply different expressions of familiar practice may lead to difficulty.

The NEC is drafted in a simple and clear style, but its differences from current practice mean that some explanation and consideration of how it will work is necessary when it is first used. These guidance notes will be essential reading for people using the NEC for the first time. They will continue to be useful in training people coming into the management of projects in how to make best use of the New Engineering Contract.”

The NEC's approach to time and payment require some consideration. For example, the programming provisions are somewhat different from those in AS2124 and NPWC3.

Those interested in the New Engineering Contract should first carefully examine its Guidance Notes and consider and come to grips with its concepts, structure and style. Some might then decide to proceed no further. Perhaps, others will become enthusiasts. For the latter group, rather than wholeheartedly adopting its use, it might be prudent to carefully trial it with a sympathetic project team, monitor its use and assess the results. Presumably, the team responsible for NEC's preparation would only endorse that care, caution and risk management.

A factor worth considering is that the New Engineering Contract might be a preferable vehicle for Partnering than our traditional building and engineering construction contracts.

On the cautionary side, only time and usage will tell whether the NEC really does have the simplicity, clarity of meaning and certainty that its Guidance Notes and publisher's promotional material claim for it. Will its provisions stand up to the cut and thrust of the Australian construction industry? Will Australian adjudicators, arbitrators and judges find in it certainty (and, for that matter, the meanings intended by its authors)? More fundamentally, will the project participants interpret it the same way? With respect

to this last point, perhaps a workshop on the contract at project commencement should be a part of, or adjunct to, a Partnering workshop for the project. It may even be worth considering a briefing/workshop session for tenderers.

This reviewer (and Construction Publications Pty Ltd, which is marketing the New Engineering Contract in Australia) can give no warrant for its use and can take no responsibility for any risks it might contain, particularly for the novel user. However, making the New Engineering Contract available in Australia is a worthwhile contribution to the reform agenda (particularly so, if users find it assists project efficiency or Partnering) - even if it only opens up the debate and leads to some reconsideration of the approach of our current contracts.

The New Engineering Contract is available from:

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PO Box 298
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Telephone: (02) 974 5667

Fax: (02) 974 4405

The NEC boxed set of 10 documents is \$250, plus \$15 handling, packaging and postage.

The Professional Services Contract, The Professional Services Guidance Notes and the Adjudicator's Contract are \$35.50 each, plus \$5 handling, packaging and postage.

Despite importation, these prices compares favourably with the Australian standard contracts. Each of the JCC contracts are available from the Master Builders Association of NSW at \$60 per copy. AS2124-1992 is available from Standards Australia at \$35.50 per copy, plus \$5 handling and postage. □