6 A New Approach — the New Engineering Contract

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Abstract

Some fifteen years ago there was a strong belief amongst a small number of people working in engineering and construction project management in the UK that the then current standard forms of contract were seriously deficient in two main respects: firstly, they reinforced the adversarial behaviour of the main players and, secondly, they obstructed the application of good project management practice at the interfaces between the main players.

A team was set up, headed by Martin Barnes, to design a radically new contract that would eschew these shortcomings and provide other advantages. The new contract was to have three principal characteristics: a simple structure, simple, non-legalistic language, and versatility. Versatility would be achieved if the same contract could be used for any type of engineering or construction work, for any chosen contract strategy, at any interface including subcontracts and in any part of the world. A secondary objective was that the new contract should be designed with electronic use in mind.

The work of specifying, designing and drafting the new contract was sponsored by the Institution of Civil Engineers. It was carried out by a small team of people drawn from different backgrounds and with expert legal contribution. The result was the New Engineering Contract (NEC). After full consultation and trials, it was first published for general use in 1993. Since then it has been taken up widely by the industry and its clients, and achieved considerable success. It is known to have been used in at least twenty countries and on a wide variety of projects. The growth in its use has been exponential, as more organisations gain experience of it. Typically, they try it out or come across it on one project and then decide to use it generally.

The family of NEC contracts has grown so that it now includes contracts for the professional contributors to projects (designers, project managers, etc.), a version for very simple, small projects and a supplement that provides for full partnering/alliancing around a project team. Most of the major clients for infrastructure projects in the UK now use the NEC as their standard form. This covers the very largest projects, such as the building of the new railway from the Channel Tunnel into London, through to the myriad of small projects undertaken, for example, by local government authorities. All central government highway projects are now managed using the NEC. A detailed commentary on a practical application of the NEC is provided by Tim Wood, through the Tamar Bridge Case Study in Chapter 8.

The following pages describe the main features of the NEC, concentrating on those that are different from traditional forms such as FIDIC.

The NEC is essentially a system for managing the interfaces and, as such, is much more than a traditional contract. It allocates the risks very clearly and, in some respects, very

differently. All of the unhelpful traditional processes have been modified or eliminated. The management procedures built into the NEC are also published as flow charts.

The approach to disputes built into the NEC is: firstly, that few should grow to the point where they can be considered a dispute; and, secondly, that most of that few should be settled by the participants in the project and, thirdly, that the very, very few which cannot be so settled should be settled quickly by a non-legal third party expert.

This last resort process is called adjudication, but it should not be confused with other processes used outside the NEC which are now also called adjudication. A note at the end of this chapter delves into the important function of the Adjudicator, or 'neutral party'. The note has been prepared drawing from Martin Barnes' extensive project experience, and compares adjudication with arbitration, in clear and frank words — his own, heartfelt views.

The New Engineering Contract

The New Engineering Contract (NEC) was developed by a team headed by the author under the auspices of the Institution of Civil Engineers in the UK. It was published for general use in 1993. Since then it has become very widely used in the UK and also in more than twenty countries around the world. It breaks away entirely from traditional construction and engineering contracts. The philosophy of the NEC is summarised in its three basic objectives. They are — clarity, simplicity and stimulus to good management. The last is by far the most important change from previous practice.

Clarity and simplicity mean that the NEC uses a simple structure, simple language, simple procedures and clear risk allocation.

Flexibility means that the NEC can be used for any type of construction work, any contract strategy, and work on any scale in any place. The NEC can also be used for all the contracts needed on one project. These may include contracts for main contractors, subcontractors and professionals.

Stimulus to good management means clear roles, joint decision-making, proper motivation, a forward-thinking culture and controlled outcomes in terms of cost, time and function of the completed project.

Joint decision making is achieved by early warning of problems and by using a new method for compensating contractors for events, which are at the Employer's risk.

Proper motivation means collaborative working at all levels and sources of dispute dealt with on site. Achieving the Employer's objectives dominates the management style.

In the use of the New Engineering Contract, the traditional adversarial approach is eliminated. This is because a contractor's profit depends only on his own efficiency in doing the work. He has no need to make retrospective claims for additional money and, indeed, the contract gives him no right to such claims.

Forward thinking is stimulated by joint uses of the programme, by early warning of all problems and by concentration upon achieving the final objectives for the project.

The NEC is the only standard contract which is based on modern best practice in Project Management. It stimulates forward-looking control of cost, time and performance. Uniquely, and for the first time, it provides for effective management and control of risk.

Much of the NEC is 'general purpose' and can be used in all situations. For example, the contract assumes that there are several contractors working alongside on the same site. Consequently, it works well for CM[1] package contractors and for multiple subcontractors. Every contract allows for the Contractor doing some

[1] Construction Management

design. Consequently, there is no need for a special 'design and build' version of the contract.

The flexibility of the NEC is achieved through choosing the right contract from the NEC family of contracts and choosing the right options for clauses within the contract.

The NEC family is made up of seven standard contracts. They all use the same basic set of procedures, the same management culture and the same terminology.

The four main members of the family are:

- the engineering and construction contract;
- the subcontract;
- the professional services contract; and
- the Adjudicator's contract.

Three other members of the family are:

- the short contract;
- the short subcontract; and
- the NEC partnering option.

The main construction contract is called the Engineering and Construction Contract (ECC). The roles defined in this contract are the Employer, the Project Manager, the Contractor, the Subcontractors and the Supervisor. There is also the Adjudicator whose role it is to settle disputes that might arise between the Project Manager acting for the Employer and the Contractor. There can be any number of professionals helping any of these main parties. Designers, for example, can be working for the Employer or for the Contractor or both.

The options in the main contract set the contract strategy by determining the pricing arrangement for the particular contract. The options are:

- Lump sum tendered prices;
- Tendered prices with Bill of Quantities;
- Target cost with Profit Share;
- Management Contract; and
- Cost-reimbursable contract.

These main options each comprise of a small number of clauses added to the core clauses of the NEC contract. There are also several single-clause, secondary

options for matters like parent company guarantee, retention, formulae for inflation adjustment, delayed damages and multiple currencies.

The compensation event procedure is an important element of the NEC. It is used to deal with everything which is at the Employer's risk — including variations. The compensation is based on the Contractor's forecast of the effect of the event on his cost and on his programme. Notice that the compensation is not based on the Contractor's original prices. Consequently, he is indifferent to the Project Managers choice of solutions to the problem. A fee percentage is added to the forecast cost. The Project Manager accepts or rejects the Contractor's quotation for each event. There is no later review of the amount of compensation which has been decided. The Contractor takes the risk that those matters that are within his control may vary from what he expected.

In summary, the NEC contracts were designed to be very different from traditional contracts – and they are. They were designed from a clean sheet of paper, as a means of managing the interfaces in a complex project. The NEC contract is supported by full guidance notes for the new user, which are available on the CD, along with flow charts of all the management procedures and full electronic versions of the contract.

It has been stated that the New Engineering Contract is being used for over ninety percent of infrastructure projects in the UK. It is being used for very large civil engineering projects such as the building of the Channel Tunnel Rail Link from London to the English Channel ports. It has been used for major power generation projects. It is used for all major road schemes funded by the UK central government. London Underground now uses it for their major projects and it is being used for a large number of building projects around the world. It has also been used for a small number of projects in the Pacific Rim region including New Zealand, Australia, Hong Kong and China.

It is very clear that site relationships are very much better when NEC is used than when traditional contracts are used. Real partnerships develop and the certainty of outcome in terms of cost, time and performance of the completed projects and profit for the contractors and subcontractors is significantly improved. Contracts are settled very much more quickly and with hardly any argument. Most Adjudicators have nothing to do. Perhaps the most convincing argument for the value of the NEC and the improvement that it is over traditional contracts such as ICE and FIDIC, is that, as far as is known, every organisation which has tried the NEC[2] once has continued to use it. The proof of the pudding has come from eating it!

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[2] For further information about the NEC please contact the publishers Thomas Telford Services Ltd, 1 Heron Quay, London, E14 4JD, UK, telephone number +44 207 665 2484, www.newengineeringcontract.com. Thomas Telford publishes the NEC in hard copy and in electronic version: the NECD (a CD interactive version that allows contract drafters to prepare documents including the particulars of the parties and all other matters pertaining to the Contract).

Avoiding Disputes using the Neutral Party — Adjudication

Having been involved in many arbitrations as an expert witness, I hold the view, which I have had for some time and which many others share, that arbitration is a seriously defective method of settling disputes on engineering and construction projects. It is ludicrously slow and ludicrously expensive and its outcome is very often random. It is not unusual for disputes to take years to settle and for the cost of the process to be several million pounds or dollars. The process of arbitration is conducted by two teams, each of which is determined to vanquish the other. Seldom were the people in either team involved in the project on which the dispute arose. Instead, they are professionals in conducting the process of arbitration, whose pay is proportional to how complicated the process becomes and how long it takes to complete.

My experience, which may not be typical, is that the outcome of an arbitration is, more often than not, a decision which is unconnected with the realities of what really happened. By the time the arbitrator makes his decision (or their decision if there are three of them, which is usual in international arbitrations) the issues at stake have been banged and buffeted about for so long that their resemblance to what really happened on the project has disappeared.

I do not argue that arbitration is worse than litigation; I have no experience of litigation. I do argue that arbitration is a ridiculous method of solving disputes on projects. It must be within the power of intelligent people to invent a process which takes a fraction of the time, costs a fraction of the money and more often produces the right answer.

My own view of what would be better is expressed in the adjudication procedure in the New Engineering Contract. The NEC design team, which I was fortunate to lead, designed this procedure around an independent dispute settling person whom we called the adjudicator. He is a technical, non-legal person (or a group of people or a firm) appointed jointly by the parties when they enter the contract. He, she or they do nothing until they are first called upon to make a decision about a dispute — hopefully never. Unlike dispute review boards and similar bodies, they are not expected to keep in touch with the conduct of the work and are paid no retainer. Their fees for dealing with the dispute are shared equally between the parties whatever the outcome of the matter. These last two features of the system are designed to discourage parties from referring matters to the adjudicator.

The adjudicator is not constrained to conduct the investigation of the matter in dispute in any particular way but is constrained to decide quickly. His, her or their decision is based on what the parties submit at the beginning of the process.

The parties do not have experts or legal representation but the adjudicator can get help when he/she or they decide that they need it.

The adjudication used in the NEC should not be confused with other types of

dispute resolution. It is an integral part of the NEC process, although it is not intended that adjudicators should often have anything to do. The main thrust of the NEC is that disputes are settled by the parties themselves without recourse to an independent third party. The detailed processes for management which are built into the NEC include accumulation of records that, in the event of a dispute, form the basis of the information which the adjudicator uses. No other standard form of contract has this facility. It makes for a very rapid reference of disputes to adjudicators when necessary and it is very cheap and efficient because production of additional documents is minimised.

The contract includes very tight time periods for submission of disputes to the adjudicator and for the adjudicator to reach a decision. The parties can, of course, extend these periods by mutual agreement and have done so in one or two cases. If either party is unhappy with the result of the adjudication, he or she can take the matter to arbitration or to litigation. Obviously, if this were to happen very often, the adjudication process would not be working very well.

The NEC dispute resolution procedures are working very well in the sense that very few disputes are going to the adjudicator and those that do are being settled quickly and efficiently. The NEC is essentially a contract to manage construction and engineering work. Consequently, if there is a dispute, it is likely to be about the management of the work. There should be very few disputes indeed about legal interpretation of the contract. A consequence of this characteristic is that the adjudicators appointed under the NEC should be essentially project managers. They will discharge the function best. It would be quite inappropriate to have a lawyer as an adjudicator under a NEC contract.

Where a project is being run collaboratively, as when the NEC is being used, the idea of mediation loses some of its point. Mediation, dispute review boards and other forms of alternative dispute resolution generally are approaching dispute resolution from an uncomfortable stand point when a partnering type of contract is used. Adjudication, and particularly adjudication as set out in the NEC, seems to be rather better.