NEC contracts are ideal to support project management as set out in the PMI's 'Project Management Body of Knowledge' (PMBOK®)

Introduction

In the UK, South Africa and Hong Kong NEC contracts[1] are widely and successfully used, particularly in the construction sector. Use is growing in New Zealand and elsewhere. To the author's knowledge they have yet to be used in the USA or Canada. In North America it that although there are published standard forms[2], it seems that using a standard form of contract is often alien to clients – and many pay their lawyers to draft bespoke contracts for them. This causes huge additional costs to the supply chain and cannot be good for the efficiency of construction spending. NEC contracts are very good and very flexible at risk allocation and risk management[3]. And they are designed for use internationally[4]. The contracts are specifically designed to be clear, flexible and, critically, to support good project management and collaboration. The construction contract allows any level of design to be passed to the contractor. This article aims to highlight how NEC contracts are the ideal contractual relationship for the procurement of professional and physical services, works and supply in ways set out in the Project Management Institute's (PMI's) 'Project Management Body of Knowledge' (PMBOK®).

NEC contracts – designed to support project management

The contracts are very strong on the use of a programme. They set out in detail the required contents of the programme, clear processes and timescales for its submission, updating and acceptance by the Employer's Project Manager. Critically they set out how the programme is to be used directly to establish any entitlement to an extension of time for the supplier.[5]

The contracts have a simple and clear process requiring both parties to notify each other of risks that either party become aware of after award: early warning. There are appropriate consequences for the Contractor if he does not 'early warn' as he is required by the contract to do.

The contracts are very focused on change management. Anything for which the supplier may be entitled to more time and or money is identified as a 'compensation event'. (This replaces terms like 'claim' in traditional contracts.) The compensation events are listed very clearly, almost all in one clause of the contract. There are clear rules for assessing and ultimately agreeing the forecast effect on time and cost of these compensation events. There are clear timescales for quotations and acceptance and sanctions on each side for non-compliance with those timescales. The emphasis is

[1] NEC was formerly the 'New Engineering Contract'. Now NEC is the brand for a family of contracts. See www.neccontract.com
[2] Eg by the American Institute of Architects http://www.aia.org/contractdocs/about/
[3] 'Using NEC contracts to manage risk and avoid disputes', Richard Patterson, Mott MacDonald, Proceedings of the ICE - Management, Procurement and Law, 2009, No 4.
[4] 'Use of NEC in legal jurisdictions other than English law', Richard Patterson, Mott MacDonald, NEC Newsletter, No,47, July 2009
[5] 'Producing a programme under the NEC form of contract', Proceedings of the Institution of Civil Engineers Management, Procurement and Law, May 2010;
'Managing a programme under the NEC(ECC) form of contract', Proceedings of the Institution of Civil Engineers, Management, Procurement and Law, August 2010

very much on 'sorting it out now' rather than 'later'. There is a tightly drafted provision to prevent the 'traditional' delay and disruption claims that are common in the construction industry.

In other words the NEC contracts are tools for project management – and support directly all the processes set out for project management in the PMBOK.

NEC contracts – designed to support collaboration

The NEC contracts are designed to enhance collaboration. All NEC contracts start with a clause like 'The Employer, the Contractor, the Project Manager and the Supervisor shall act as stated in this contract and in a spirit of mutual trust and co-operation.' This sets the scene but it is the NEC's concept of early warning, its attention to programme and change control and the clarity of roles and procedures that makes the contract so different from 'traditional' contracts. The target contract option gives a real commercial incentive for the Employer to collaborate. Option X20, Key Performance Indicators can be used to directly incentivise other positive behaviours and results. More radically there is an option X12 (multi-party) partnering, which allows the Employer to set up a 'core group' between contractors with separate contracts with the client and allows the same project wide incentives to be included in the separate contracts and indeed in key subcontracts.

NEC contracts – flexible and support all the types of contract noted by PMI

A key feature of the NEC contracts is their flexibility and modular nature. In the case of the Engineering and Construction Contract (ECC) the contract consists of:

- The core clauses – dealing with all the processes that are common, irrespective of the payment option
- One of six payment options:
    - A fixed price with activity schedule
    - B fixed price with bill of quantities
    - C target contract with activity schedule
    - D target contract with bill of quantities
    - E reimbursable
    - F management contract
- A choice of one of two 'dispute resolution options' (one general, one modified to match UK law)
- A selection of 'secondary options':
    - X1 Price adjustment for inflation
    - X2 Changes in the law
    - X3 Multiple currencies
    - X4 Parent company guarantee
    - X5 Sectional Completion
    - X6 Bonus for early Completion
    - X7 Delay damages
    - X12 (multi-party) Partnering
    - X13 Performance bond
    - X14 Advanced payment to the Contractor

    - X15 Limitation of the Contractor’s liability for his design to reasonable skill and care
    - X16 Retention
    - X17 Low performance damages
    - X18 Limitation of liability
    - X20 Key Performance Indicators
- Some very minor jurisdiction-specific options (3 for UK and 1 for New Zealand)
- Any additional conditions of contract specifically developed for the contract (Z clause’s).

This is illustrated in figure 1.

In section 12.1.1.9 ‘Organisational process assets’ the PMBOK describes different types of contract. In many countries, including the USA and Canada, these types of contract are routinely developed as bespoke contracts, often by the client’s lawyers. The result is that each contract is very different, adding hugely to the cost of procurement and delivery of infrastructure. Wouldn’t it be helpful if these types of contract could be developed using the building blocks of a standard form of contract. Perhaps one published by a renowned institution[6] and successfully used to deliver billions of pounds worth of assets around the world. They can. The remainder of this article shows how.

Fixed Price Contracts

Firm Fixed Price Contracts (FFP)

Under ECC this is simply option A, a priced contract with activity schedule. The bidder bids an ‘activity schedule’. The amount due each month is based on the prices of the activities that have been completed. Simple.

Fixed Price Incentive Fee Contracts (FPIF)

PMBOK’s description of FPIF contracts suggests ‘some flexibility in that it allows for deviation from performance, with financial incentives tied to achieving agreed upon metrics. Typically such incentives are related to cost, schedule or technical performance of the seller. […] Under FPIF contracts, a price ceiling is set, and all costs above the price ceiling are the responsibility of the seller, who is obligated to complete the work.’

This does not sound like a fixed price contract: certainly not in terms of ECC. ECC option C is a target cost contract. The bidder signs up to delivering for a target price. If the Contractor delivers for less than the target he shares in the ‘gain’ with the Employer. If he exceeds the target, he shares in the ‘pain’ with the Employer. The pain and gain mechanism is defined by the Employer in the contract as a series of defined ‘share percentages’ to apply to savings or overspend in defined ‘share ranges’ above and below the final target . This is infinitely flexible. The FPIF contract described in PMBOK would be described by some as a ‘guaranteed maximum price’ (GMP) contract. In essence this is a special case of the target contract where the contractor takes all the pain of overspend over the target (as adjusted for employer changes and employer risks throughout the contract).

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[6] The NEC is published by the UK’s Institution of Civil Engineers – because it was the ICE that sponsored its development back in the late 1980’s. However, it is not specific to civil engineering or, indeed, engineering. The contracts can be used in any industry or sector.

Separately from the cost sharing mechanism, the Employer could choose any combination of the following 'secondary options' 'related to schedule or technical performance':

- X6 – bonus for early completion
- X7 – delay damages
- X17 – performance deductions[7]
- X20 – key performance indicators (which allows the Employer to define extra payments for achieving stated targets for any parameter).

It should be noted that any of these ECC secondary options – and others – can be added in to any ECC contract – and so to any of the PMBOK 'contract types'.

Fixed Price with Economic Price Adjustment (FP-EPA)

This allows for inflation adjustment of the price and so protects the supplier from inflation. In the ECC this can be achieved with any of the ECC options by the inclusion of one simple secondary option, X1, 'price adjustment for inflation'. So in ECC this is not a separate type of contract, just a feature that can be added to any ECC contract including those described above to effect either FFP of FPIF contracts.

Cost reimbursable contracts

Cost plus fixed fee contracts (CPFF)

PMBOK describes the contactor under a CPFF contract receiving his allowable costs plus a fixed fee to cover the contractor's non-allowable costs (including all 'overheads') and profit. 'Fee amounts do not change unless the project scope changes'.

This is not a standard option in the ECC. Under the target (options C and D) and reimbursable (option E) contracts, the contractor receives a fee which is a tendered percentage of his allowable costs. However, the fixed fee option could be effected by a very small change as an additional condition of contract – a simple redefinition of 'the Fee'. Incidentally, it would seem fair for the fee amount to increase with all employer risk events and not just project scope changes.

Cost Plus Incentive Fee Contract (CPIF)

In ECC language this is a target contract. Option C. Simple. (The ECC option C is described above under 'Fixed Price Incentive Fee Contracts (FPIF)').

Cost Plus Award Fee Contracts (CPAF)

PMBOK has: 'The seller is reimbursed all legitimate costs, but the majority of the fee is earned only based on the satisfaction of certain broad subjective (sic.) performance criteria defined and incorporated into the contract. The determination of fee is based solely on the subjective (sic.) determination of seller performance by the buyer and is generally not subject to appeals.

[7] 'Using NEC to incentivise lowest whole-life cost', Richard Patterson and Barry Trebes, Mott MacDonald, NEC Newsletter No 75, November 2015

Under ECC this would be a modification of the option E (reimbursable) contract with the fee redefined to not be a simple percentage of the allowable costs but to be a defined function of 'performance'. Given that money is involved, it is suggested that the function be based on objective rather than subjective measures! This would be effected as a simple change to the definition of Fee, leaving all the other processes in the contract as standard.

Time and Materials Contracts (TMF)

The PMBOK description of TMF contracts suggests they may include tendered rates – rather than real cost - for certain resources. In the ECC target and reimbursable contracts, the allowable cost is defined in detail in what ECC calls, for obvious reasons, 'Defined Cost'. That Defined Cost includes:

- people on site reimbursed at the actual cost to the contractor employ them
- designers off site are paid at tendered rates.

If an Employer has good reason to change this there is a clear structure in the model and changes will be straightforward to make.

Summary

PMBOK describes a range of types of contract. All of these can be effected using the options within the modular NEC ECC. The same principles are applied in the NEC's Professional Services Contract (PSC) and Term Services Contract (TSC) which share the structure, principles, language and many of the clauses in the ECC.

All of the options are based on a set of core clauses that contain straightforward processes for programme, early warning, payment and, perhaps most importantly, change control than mean the documents are project management tools as much as they are contracts.

The contract promotes collaboration but that also needs attention to the culture and behaviours within the team. The contract will not change behaviours on its own but if a client is looking to enhance collaboration it is well served by a contract that is designed to do so.

Those responsible for procurement of any project or service should take a good look at the NEC before procuring their next job in their 'normal way'.

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