History & Application

Adoption by the Hong Kong Government

- Tang's report in 2001 – effective changes from normal procurement approach
- NEC identified as a suitable contractual partnering form for HK
- Pilot Projects from various works departments
- DSD, HyD & ArchSD undergoing
- More to be identified as trial projects
- May extend to all projects
- Effectiveness to be tested – Is it a better way?
- Private Companies also now considering the use of the NEC

History & Philosophy

There were 3 key objectives for the drafting of the NEC:

- To offer flexibility
- To produce a contract that was clear and simple
- To provide a document that stimulates good project management

History & Philosophy

Flexibility

- Multi disciplinary – use in engineering and building work
- Design responsibility can reside in part or whole with either party
- Choice of pricing options – lump sum, target cost, cost plus
- Modular contract form – core clauses, main options and bolt on secondary options

History & Philosophy

Clarity and Simplicity

- Written in ordinary language, not construction terminology!
- Simple clause structure; avoids legalistic terminology
- Subjective decisions minimised
- Provision of guidance notes and flow charts

History & Philosophy

Provide a stimulus to good management

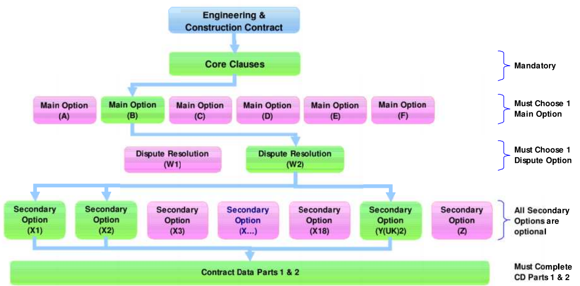
- The ECC is a management tool as well as a contract
- Requires timely and clear decision making process
- Clear allocation of responsibility
- Proactive risk management procedures
- Encourages collaborative working

Contract Documents & Structure

- Documents within the NEC suite:
  - The Engineering and Construction Contract (ECC)
  - The Engineering and Construction Subcontract (ECS)
  - The Engineering and Construction Short Contract (ECSC)
  - The Engineering and Construction Short Subcontract (ECSS)
  - The Professional Services Contract (PSC)
  - Term Service Contract (TSC)
  - Framework Contract
  - The Adjudicators Contract
  - Supply Contract and Supply Short Contract

  Also included are…
  - Guidance Notes
  - Flow Charts
  - Procurement and Contract Strategies Guide

ECC Structure



Core Clauses

Common to all options and form around 85% of the contract:

1 - General
2 - The Contractor's main responsibilities
3 - Time
4 - Testing and Defects
5 - Payment
6 - Compensation events
7 - Title
8 - Risks and insurance
9 - Termination

Main Options

There are 6 Main Option clauses

(generally run to between 1 and 3 pages in addition to core clauses)

- Employer must select 1 of these:
- A – Priced contract with Activity Schedule
- B – Priced contract with Bill of Quantities
- C – Target contract with Activity Schedule
- D – Target contract with Bill of Quantities
- E – Cost Reimbursable contract
- F – Management contract

Option A

Priced contract with Activity Schedule

- Lump sum contract
- Project should be well defined at tender and subject to only minimal change
- Payment based on Activity Schedule defined and priced by the contractor
- Activity Schedule should align with programme to allow ease of administration
- Contractor only paid for completed activities
- Financial risk and therefore, reward largely borne by the contractor
- Suited to design and construct
- Risk is included in the activities and paid regardless of whether they occur
- Greater certainty of price
- Contractor has an interest in minimising cost

Option B

Priced contract with Bill of Quantities

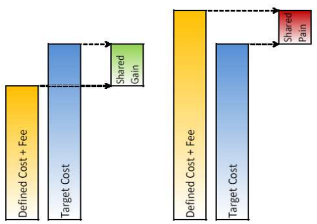
- Remeasurement contract
- BoQ produced by the employer, rates priced by contractor
- Contractor paid for quantity of work completed each month
- Risk of quantities / errors in BoQ borne by Employer
- Financial risk of rates largely borne by the Contractor
- Not suited to design and construct
- Works should be well defined at tender
- Risks are included in the BoQ and paid regardless of whether they occur
- Contractor has an interest in minimising cost

Options C & D

Target contract with Activity Schedule (C) / Bill of Quantities (D)

- Target cost contracts
- Works should be adequately defined to allow target to be set
- Target Cost set via Activity Schedule or Bill of Quantities
- Target Cost moves with changes (Compensation Events)
- Greater flexibility for the employer to develop his design
- Financial risk shared between the contractor and employer
- Contractor paid on a cost reimbursable (Defined Cost) basis
- Gain / pain shared (see illustration)
- Contractor and Employer both encouraged to control costs

OPTIONS C & D: Target Cost Illustration



- Proportion of saving / overspend received / paid by contractor is be determined by employer

Option E

Option E – Cost Reimbursable contract

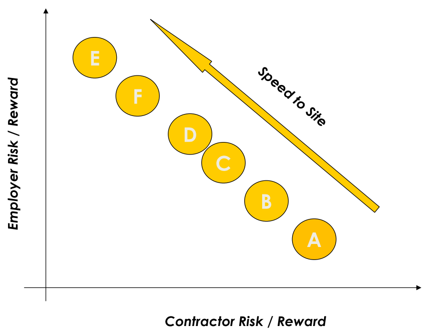
- Limited / no project definition required at tender stage
- Immediate / earlier start on site
- Contractor paid on a cost reimbursable basis
- Employer carries risk of cost increases
- Employer gets the benefit of all savings
- Limited financial risk borne by the Contractor ('disallowed' cost)
- Full flexibility available to the Employer
- Simpler post contract financial management (no contract sum)
- Potential for claims / disputes virtually eliminated

Option F

Option F – Management contract

- Limited project definition required at tender stage
- Earlier start on site
- Employer carries risk of cost increases
- Suitable for contracts with a high degree of specialist contractors
- Contractor directly employees subcontractors
- Contractor responsible for managing the subcontractors to time and quality
- Works subcontractors paid on prime cost
- Contractor tenders preliminaries and Fee

FINANCIAL RISK / REWARD OF MAIN OPTIONS



Proactive Management

- Contract imposes a heavy administrative burden on parties (even more so now with time bar to CE's)
- PM and Contractor must be supported by appropriately resourced team to deliver the benefits
- Intention is to administer contract during currency of works to avoid lengthy and costly resolution of claims after completion

Key Considerations in Hong Kong

- Parties' knowledge and experience in NEC
- Parties' behaviours and attitudes in risk sharing and managing the contract
- Employer's procedures not align with the NEC (e.g. contractual timescale)
- Collaborative working
- Open book accounting
- Cultural changes
- ICAC

Feature Provisions

Co-operation

Clause 10.1:

"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."

Philosophy of risk allocation

NEC:

"*Risks belong with those who are best able to evaluate, control, bear the cost and benefit from their assumption.*"

- Risk – parties over amend the form

Use of clear plain English

- Non legal terms, use of present tense to impose obligations, italics for definitions
- For example:
  - 20.1 The *Contractor* Provides the Works in accordance with the Works Information.
  - 21.1 The *Contractor* designs the parts of the works which the Works Information states he is to design.

Flexibility

- The modular ease to use different pricing options (priced, reimbursable, target cost etc) whilst maintaining the same rigour and provision for project management
- NB predominant importance of the Works Information

Strong programme provisions

- The usual way: programme of peripheral importance
- Common mindset for employers: contractor's end date
- Common mindset for contractors: time can be made up one way or another
- Result: employer faces costs of delay, contractor faces liquidated damages
- The NEC way: programme the corner stone of the contract eg key dates, compensation events lever off it
- IGNORE AT YOUR PERIL (and use the best programming software you can get)

Early warning system

- Must be given in a party becomes aware of any matter that could:
  - Increase price
  - Delay completion
  - Delay meeting a key date
  - Impair performance of the works in use
- Sanction on contractor: assessment of compensation event cannot be any higher than it would have been, had the early warning been given
- Sanction on employer: breach of contract (damages or compensation event) if it or project manager fails to give

Compensation Events

- The time and cost impact of Compensation Events is normally to be the result of Quotations by the Contractor, once accepted not to be revisited.
- No final account

NEC projects in the UK

- **Civil Engineering**
  - British Airports Authority
  - UK Water Companies
  - Environment Agency
  - Highways Agency
  - Rail eg Crossrail
  - Power

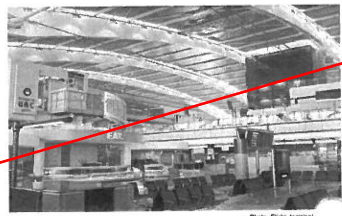


Photo: Flickr, terminal

NEC projects in the UK

- UK **Office of Government Commerce** recommends the use of the NEC 3rd edition
  - Central and Local Government
  - London 2012 Olympics
- Other
  - BBC – 5 year framework contracts for professional services and construction, across the BBC's property portfolio

CHAPTER 1 CHAPTER 2 CHAPTER 3 CHAPTER 4 CHAPTER 5 CHAPTER 6 CHAPTER 7 APPENDIX 1

5.2 ACTIVITY SCHEDULE (OPTIONS A AND C)

The *activity schedule* is prepared and priced by the *Contractor*. Its use varies between Options A and C. An example *activity schedule* is provided below.

ACTIVITY NUMBER	ACTIVITY DESCRIPTION	LUMP SUM PRICE
1		
2		
3		
	Total of the Prices =	

The *Contractor* is required to provide information which shows how each activity on the *activity schedule* relates to the operations on each programme submitted for acceptance. This can be provided by including the information:

- in an additional column in the *activity schedule*,
- as part of the programme or
- in a separate document.

The prices entered for each activity are lump sums, not unit rates as in a bill of quantities. The *Contractor* decides how to break up its work into activities, enters them on the schedule and prices each one. It should be clear from the activity description when it is complete. For regularly occurring costs (e.g. for renting site accommodation and welfare facilities) an activity for each assessment interval should be included.

When using Options A and C, the *Contractor* is responsible for calculating quantities from the Scope where they need to know a quantity in order to estimate the cost of the work. For many contracts (including process plant, building construction, etc.) this is a significant task.

If using Option A, the lump sum price for each activity is the Price for Work Done to Date (PWDD) on completion of each activity unless it is in a group. Payment for each group of activities becomes due when all the activities in that group are completed. Consequently, the *Client* may wish to identify groups of activities to specify stage payments.

If using Option C it is not necessary for groups of activities to be identified because the *activity schedule* is not used to assess the PWDD. It is only used to adjust the Prices when compensation events occur and subsequently for calculating the *Contractor's* share after Completion (see Volume 4 – Managing an Engineering and Construction Contract).

When using Option X23 the *activity schedule* at the Contract Date includes the Prices for the work in Stage One only. This will be adjusted during the contract to include the prices for Stage Two. The Pricing Information is used for these adjustments – the *Client* must decide how he wishes this information to be used and state its requirements in the Scope.

Further guidance on the use of the *activity schedule* when selecting a supplier is included in Volume 3 – Selecting a Supplier.