An overview of the Option C: target cost contract

Ron Watermeyer          (April 2007)

Note:  1) Terms which appear in italics in the NEC3 Engineering and Construction Contract are defined in the Contract Data. Terms commencing with capital letters are defined in the NEC3 Engineering and Construction Contract (ECC).
       2) Whilst every care has been taken in this overview to accurately describe the provisions of the NEC3 ECC, the reader is nevertheless advised to obtain the true meaning and intent of a clause from the text of the NEC3 ECC.

1 Introduction to the NEC3 Contracting system

The NEC3 family of standard contracts is an integrated and multidiscipline set of contracts for engineering and construction projects. The family includes contracts for engineering and construction works, professional services, term services contracts and supplies. The family also includes back to back subcontracts for engineering and construction works.

The Engineering and Construction Contract (ECC) is more than just a contract. It incorporates three key components, namely:

- conditions of contract;
- risk management; and
- process/ project management.

In effect, it establishes a “real time” contract management process, which may require operation across multiple locations and organisational boundaries. It addresses within these management processes the “when”, the “what” in the form of instructions, compensation events, early warnings and supporting documents, and the “how” and identifies the “who” (Project Manager, Contractor and Supervisor).

The unique process / project management features complete with time constraints provided for in the Engineering and Construction Contract (ECC) are summarised and illustrated in Figure 1.

The NEC3 contracts are designed to encourage collaboration and teamwork. They provide as such effective control of change, speedy agreement of time, quality and cost impacts of change, improved early forecasting of end costs, greater accuracy of end date forecasts, early warning of risks and potential change and quick dispute resolution mechanisms. They facilitate the proactive management of risk and monthly payments eliminating the need for a final account and time bars “contractual claims” after completion.

2 Parties to the engineering and construction works contracts

The Parties to the Engineering and Construction Contract are the Employer and the Contractor. The Employer appoints professional service providers to function as the Project Manager and the Supervisor.

The Project Manager is appointed by the Employer to manage the contract and to achieve the Employer’s objectives. The contract grants the Project Manager considerable authority on the assumption that he has the Employer’s authority to carry out the actions and make the decisions required of him. The Project Manager is free to seek the Employer’s views as much or as little as his relationship and contract with the Employer requires.

The Contractor will expect that all decisions which the contract envisages will be taken by the Project Manager within the time limits stated in the contract.

The Supervisor has a separate role defined in the contract. His main function is to check that the work is carried out in compliance with the Works Information which is found in the scope of work. This may
include testing of materials and workmanship and observing tests which the Contractor carries out. He is also concerned with identifying and correcting Defects, and eventually certifying the remaining Defects when he issues the Defects Certificate. His activities may have financial consequences, but he is not directly involved in financial matters.

The actions of the Supervisor and Project Manager are independent of each other. There is no appeal from the Supervisor to the Project Manager where the actions of the Supervisor are questioned by the Contractor. If the Contractor is dissatisfied with an action of either the Project Manager or the Supervisor, his appeal is with the Adjudicator.

**Figure 1: Contract management processes contained in the ECC**

### 3 Basic contracting strategies

The NEC3 family of contracts furthermore provides flexibility in the procurement options and allocation of risk. It offers a range of options that allows a contract to be formulated to suit the required works or services. At the heart of the individual contracts within the family of contracts are core clauses which contain the common terms, to which must be added option clauses to provide the complete contract, viz:

- **Option A**: Priced contract with activity schedule
- **Option B**: Priced contract with bill of quantities
- **Option C**: Target contract with activity schedule
- **Option D**: Target contract with bill of quantities
Option E: Cost reimbursable contract
Option F: Management contract

This approach gives even greater choice to contracting parties to assemble the appropriate contract conditions for specific applications and to appropriately allocate risk between the parties.

4 Target contract with activity schedule

4.1 Introduction

The target contract with activity schedule (Options C) is a development of cost reimbursable contracts, the idea being that the Contractor tenders a target based on assumed work or a target is set jointly by the parties where the Employer sees a direct and significant benefit in encouraging collaboration through the target mechanism itself. Financial risks are shared, proportionally through the Contractor’s share percentages, between the Employer and the Contractor. A Contractor is required to tender a target price using an activity schedule (Option C) which he prepares. This target is adjusted for compensation events in accordance with the provisions of the contract.

During the course of the contract, the Contractor is paid his costs as defined in the contract and at the end of the contract, the Contractor is paid (or pays) his share of the difference between the target cost and his cost according to an agreed formula. If the final cost (Prices for Work Done to Date) is greater than the target cost (Prices), the Contractor pays his share of the difference. This motivates the Contractor to decrease costs as illustrated in Figure 2.

![Figure 2: Target cost contracts (Option C) – the concept](image-url)

**Note:** Target cost is referred to as the Prices in the Contract i.e. the sum of the lump sum prices for each activity in the Activity Schedule adjusted for compensation events, if any.

The cost is the referred to in the contract as the Price for Work Done to Date i.e. the total Defined Cost plus the Fee.
**Example:** The contract data provides for the following:

<table>
<thead>
<tr>
<th>Share range</th>
<th>Contractor’s share percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 80%</td>
<td>20%</td>
</tr>
<tr>
<td>From 80% to 90%</td>
<td>40%</td>
</tr>
<tr>
<td>From 90% to 100%</td>
<td>50%</td>
</tr>
<tr>
<td>From 100% to 110%</td>
<td>50%</td>
</tr>
<tr>
<td>From 110% to 120%</td>
<td>75%</td>
</tr>
<tr>
<td>Greater than 120%</td>
<td>100%</td>
</tr>
</tbody>
</table>

If the target cost (Prices) at the end of the contract is R 55,0 million and the Contractor’s cost (Price for Work Done to Date is R 42,0 million, then the Contractor’s share is:

\[
\frac{20}{100} (0.8 \times 55 - 42) + \frac{40}{100} \times 10/100 \times 55 + \frac{50}{100} \times 10/100 \times 55 = 0.4 + 2.2 + 2.75 = R5.35 \text{ million}
\]

and the contractor is paid R42,0 + R5,35 = R47,35 million

If however, the target cost (Prices) at the end of the contract is R 55,0 million and the Contractor’s cost (Price for Work Done to Date is R 68 million, then the Contractor’s share is:

\[
\frac{50}{100} \times 10/100 \times 55 + \frac{75}{100} \times 10/100 \times 55 + \frac{100}{100} \times (68-55 \times 1.2) = 2.75 + 4.125 + 2.0 = R8,875 \text{ million}
\]

and the employer pays the contractor R68,0 – R8,875 = R59,125

It should be noted that the share percentages can be set to discourage contractors from cutting corners in order to maximise their share and to encourage contractors to contain cost overruns.

**4.2 Prices**

The Contract states that the Prices are “the lump sum prices for each of the activities on the Activity Schedule unless changed in accordance with this contract.” Compensation events may lead to a change in the Activity Schedule.

It should be noted that the Activity Schedule is only a payment document. It cannot be used to determine what the Contractor is required to build. It is important that the Activity Schedule relates to the programme and is always compatible with it in order to make compensation events and financial forecasting easier. It is also possible that the Activity Schedule contains more activities than the number of operations in the programme.

**4.3 Compensation events**

Compensation events (see clause 60.1) are events that are at the Employer’s risk under the Contract and entitle the Contractor to an assessment of the effect the event has on the Prices and the Completion Date. It should be noted that risks that are not specifically identified as being the Employer’s risk are at the Contractor’s risk.

The assessment of a compensation event is always on its effect on both the Prices and the Completion Date i.e. on the Prices (lump sum prices for each of the activities on the Activity Schedule as adjusted for compensation events) and the programme.

The ECC is based on the principle that collaborative foresight mitigates problems and shrinks risk. Another principle is that the Project Manager, acting on behalf of the Employer, should be presented with options for dealing with a problem while the Contractor should be indifferent to the choice made in terms of time and money.
This is achieved by basing the valuation of compensation events on the Contractor's forecast on their impact upon the cost in carrying out the works at the time the event is assessed. Where alternative ways are possible, the Contractor prepares quotations for different ways of tackling the problem. The Project Manager selects the one which best serves the interests of the Employer.

A quotation is not a free submission of an offer. Quotations are based on an assessment of forecast or recorded Defined Cost (see 4.4) and time. A build-up of each quotation must be submitted by the Contractor using the Schedule of Cost Components or the Shorter Schedule of Cost Components. The quotation should also, where re-programming of the remaining work is affected, include a revised programme, showing amongst other things, any change to planned Completion or a Key Date. Revised quotations may be required following discussions with the Project Manager.

In target cost contracts, the Contractor carries some of the risk if his forecast is wrong as it will affect his final share from the target mechanism.

Only a change in the Works Information other than a change proposed by the Contractor or a correction to an assumption stated by the Project Manager for assessing an earlier compensation event may lead to a reduction in Prices.

### 4.4 Price for Work Done to Date

The Prices for Work Done to Date is the total Defined Cost which the Project Manager forecasts will have been paid by the Contractor before the next assessment date plus the Fee.

Defined Cost is the amount due to subcontractors before any deductions for retention, delay damages etc. plus the cost of components in the Schedule of Cost Components for other work less Disallowed Cost.

The Disallowed Costs identify the circumstances in which costs will be excluded from Defined Cost. Disallowed Cost is:

a) the cost which the Project Manager decides:
   - is not justified by the Contractor's accounts and records
   - should not have been paid to a Subcontractor or supplier in accordance with his contract; or
   - was incurred only because the Contractor did not follow an acceptance or procurement procedure stated in the Works Information or give an early warning which the contract required him to give; or

b) the cost of
   - correcting Defects after Completion;
   - correcting Defects caused by the Contractor not complying with a constraint on how he is to Provide the Works stated in the Works Information;
   - Plant and Materials not used to Provide the Works (after allowing for reasonable wastage) unless resulting from a change to the Works Information;
   - resources not used to Provide the Works (after allowing for reasonable availability and utilisation) or not taking away from the Working Areas when the Project Manager requested; or
   - preparation for and conduct of an adjudication or proceedings of the tribunal.

The Fee is the sum of amounts calculated by applying the subcontracted fee percentage to the Defined Cost of subcontracted work and the direct fee percentage to the Defined Cost of other work. Contractors are required to tender these fee percentages in part 2 of the Contract Data.
The Contractor is required to keep records of accounts of payment of Defined Cost, proof that payments have been made, communications about and assessments of compensation events for Subcontractors and other records that may be required. The Project Manager is permitted to inspect accounts and record.

4.4 Schedule of Cost Components

The Schedule of Cost Components (SCC) have two uses in the case of the target contract option (C). They:

a) define the cost components, which are included in an assessment of changed costs arising from a compensation event; and
b) define the cost components for which the Contractor will be directly reimbursed.

The Shorter Schedule of Cost Components (SSCC) is used to define cost components only when assessing a compensation event and may only be used by agreement between the Contractor and Project Manager.

The Schedule of Cost Components is based on the following:

a) Plant and Materials are items intended to be included in the works.
b) Equipment is items provided by the Contractor and used by him to Provide the Works and which the Works information does not require him to include in the works.
c) Items not listed in the SCC are covered by the Fee.

The Site is the area within the boundaries of the site and the volume above and below it which are affected by work included in this contract. This area will comprise locations provided by the Employer for the works. Contractors may make use of other areas, sometimes adjacent to the Site, for a variety of purposes. On some contracts the Contractor may establish depots which are distant from the Site. Where these areas are specific to the contract and closely associated with the Site activity, their costs should be included in the SCC rather than covered by the Fee.

In order to achieve this, the concept of the Working Area is introduced. The Working Area are those parts of the working areas which are necessary for Providing the Works.

The SCC is broken down into 7 components as follows:

- people
- Equipment
- Pant and Materials
- charges
- manufacture and fabrication
- design
- insurance

The SCC establishes what is included and excluded under each component and how cost is assessed as outlined in Table 1. Costs not included in Defined Cost are treated as being in the Fee. Examples of cost components not included in the SCC are:

- Head office charges and overheads save for those in the overhead percentages for design and manufacture and fabrication.
- Insurance premiums and Corporation tax
- Advertisement and recruiting costs
- Securities and guarantees required for the contract

The Contractor’s profit is also excluded from the SCC and must therefore be included in the Fee.
Table 1: An overview of the components in the Schedule of Cost Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 People</td>
<td>Cost relates to people who are directly employed by the Contractor whose normal place of working is in the Working Area or whose normal place of working is not in the Working Areas but who are working in the Working Areas. Cost based on wages, salaries and amounts paid according to time worked in the Working Area; payments to people for bonuses and incentives, overtime, working in special circumstances, special allowances, absence due to sickness and holidays and severance related to work on this contract; and payments made in relation to people for travel, subsistence and lodging, relocation, medical examinations, passports and visas, travel insurance, protective clothing, meeting the requirements of the law, pensions and life assurance, death benefit, occupational accident benefits, medical aid, a vehicle, safety training. Cost also based on amounts paid by Contractor to people not directly employed him according to time worked in the Working Areas. This component does not apply to manufacture and fabrication done by Subcontractors irrespective of where the work is done.</td>
</tr>
<tr>
<td>2 Equipment</td>
<td>Cost covers Contractor’s materials, fuels and other consumables, scaffolding, machinery, testing equipment, transport, construction plant, temporary works and all types of accommodation including cabins, workshops, laboratories etc. and accommodation for the Employer. It covers Equipment hired from sources external to the Contractor, owned by the Contractor, purchased by the Contractor under a hire purchase or lease agreement or hired from a subsidiary or from a member or company of the Contractor’s parent group. It excludes costs covered by the percentage for Working Areas overheads and the cost of operatives included in the cost of people. It includes, if not included in the hire/rental rate, the cost of transporting Equipment to and from Working Areas other than for repair and maintenance, erecting and dismantling Equipment, and construction, fabricating or modifying Equipment as a result of a compensation event. Cost for Equipment based on payments the time for which the Equipment is required multiplied by: - if not owned by Contractor, a parent company or a company owned by the parent company, the hire or rental rate - if not listed in the Contract Data but is owned or purchased under a hire purchase or lease agreement by the Contractor or hired from a parent company or from a company with the same parent, at “open market rates” - the rates stated in the Contract Data for special Equipment Cost of Equipment also based on the change in value over the period for which the Equipment is used i.e. difference between purchase price and sale price at the end of the period for which such Equipment is used, and on the cost charge stated in the Contract Data; and the purchase price of Equipment which is consumed; and the purchase of materials used to construct or fabricate Equipment.</td>
</tr>
<tr>
<td>3 Plant and materials</td>
<td>Based on payments for purchasing Plant and Materials, delivery to and removal from the Working Areas, providing and removing of packaging and samples and tests but excludes the cost of Plant and Materials that are surplus to requirements. The Works Information may require that a particular procurement procedure be followed.</td>
</tr>
<tr>
<td>4 Charges</td>
<td>Based on payments: - for the provision and use of water, gas and electricity in the Working Areas; - to public authorities and other properly constituted authorities of charges that they are authorized to make in respect of the works; - for cancellation charges arising from a compensation event, buying or leasing land, compensation for loss of crops or buildings, royalties, inspection certificates, charges for access to the Working Areas, facilities for visits to the Working Areas by Others, specialist services, and consumables and equipment provided by the Contractor for the Project Manager’s and Supervisor’s offices. A charge for overhead costs incurred within the Working Areas calculated by applying the percentage for Working Areas overheads stated in the Contract Data multiplied by the costs for the people component of the SCC. These charges cover the costs of payments for the provision and use of equipment, supplies and services relating to catering, medical facilities and first aid, recreation, sanitation, security, copying, telephone, telex, fax, radio and CCTV, surveying and setting out, computing and hand tools not powered by compressed air. This charge, however, excludes accommodation with is dealt with under Equipment.</td>
</tr>
<tr>
<td>5 Manufacture and fabrication</td>
<td>Cost relates to components of the cost of manufacture and fabrication of Plant and Material which are wholly or partly designed specifically for the works and manufactured or fabricated outside of the Working Areas. Based on total number of hours worked by employees multiplied by the hourly rates stated in the Contract Data for the employees listed plus an overheads percentage. Cost component 2 (Equipment) is restricted to Equipment used within Working Areas and equipment and therefore equipment, machinery, tools, etc used in the fabrication shops outside of the working areas must be allowed for in the overheads percentage. Excludes the cost of manufacture and fabrication of Plant and Materials which are “off the shelf” as these are covered in component 3. This component does not apply to manufacture and fabrication done by Subcontractors irrespective of where the work is done.</td>
</tr>
<tr>
<td>6 Design</td>
<td>Covers the cost of design of the works and Equipment done outside the Working Areas. Based on total number of hours worked by employees listed in the Contract Data multiplied by the hourly rates stated in the Contract Data for the employees listed plus an overheads percentage and the cost of travel to and from the Working Areas. The percentage for overheads should include the cost of computer facilities, reprographic facilities etc.</td>
</tr>
<tr>
<td>7 Insurance</td>
<td>The cost of events for which the contract requires the Contractor to insure and other costs paid to the Contractor by insurers are deducted from cost.</td>
</tr>
</tbody>
</table>
4.5 Schedule of Shorter Cost Components

The Contractor and Project Manager may agree to use the Shorter Schedule of Cost Component where there are a large number of small compensation events. The Shorter SCC (SSCC) has been developed from the full SCC. There are however, differences between the full SCC and the shorter SCC.

The SSCC establishes what is included and excluded under each component and how cost is assessed as outlined in Table 2.

Table 2: An overview of the components in the Schedule of Cost Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 People</td>
<td>Cost relates to people who are - directly employed by the contractor whose normal place of working is in the Working areas or whose normal place of work is not in the working areas but who are working in the Working Area; and</td>
</tr>
<tr>
<td></td>
<td>- not directly employed by the Contractor according to time worked in the Working Area. Cost based on amounts paid by the Contractor including those relating to the meeting the requirements of the law and for pension provisions (SSCC simplifies matters as it only requires the Contractor to justify the amounts paid for people).</td>
</tr>
<tr>
<td>2 Equipment</td>
<td>Cost covers items as described in Table 1 for Equipment. Cost for Equipment based on payments the time for which the Equipment is required multiplied by: - the published list prices multiplied by the percentage adjustment for published list stated in the Contract Data; and - the rates stated in the Contract Data for other Equipment - open market rates where the Equipment is not in the published list or in other Equipment listed in the Contract Data It excludes the cost of operatives included in the cost of people. It includes, it if not included in the hire/rental rate, the cost of transporting Equipment to and from Working Areas other than for repair and maintenance; erecting and dismantling Equipment, and construction, fabricating or modifying Equipment as a result of a compensation event; and the purchase price of Equipment consumed.</td>
</tr>
<tr>
<td>3 Plant and materials</td>
<td>Identical to full SCC – see Table 1</td>
</tr>
<tr>
<td>4 Charges</td>
<td>Based on payments: - for cancellation charges arising form a compensation event - to public authorities and other properly constituted authorities of charges that they are authorized to make in respect of the works; - for consumables and equipment provided by the Contractor for the Project Manager’s and Supervisor’s offices - for specialist services (other than services of people which are covered in the cost of people) A charge for people overheads incurred within the Working Areas calculated by applying the percentage for people overheads stated in the Contract Data multiplied by the costs for the people component of the SSCC. These charges cover the costs of payments: - for the provision and use of water, gas and electricity in the Working Areas; - for buying or leasing land, compensation for loss of crops or buildings, royalties, inspection certificates, charges for access to the Working Areas, facilities for visits to the Working Areas by Others; - for equipment, supplies and services for offices, drawing office, laboratories, workshops, stores and compounds, labour camps, cabins, catering, medical facilities and first aid, recreation, sanitation, security, copying, telephone, telefax, radio, CCTV, surveying and setting out, computing, and hand tools not powered by compressed air.</td>
</tr>
<tr>
<td>5 Manufacture and fabrication</td>
<td>Cost relates to amounts paid by the Contractor for manufacture and fabrication of Plant and Materials, which are wholly or partly designed specifically for the works and manufactured or fabricated outside of the Working Areas.</td>
</tr>
<tr>
<td>6 Design</td>
<td>Identical to full SCC – see Table 1</td>
</tr>
<tr>
<td>7 Insurance</td>
<td>Identical to the full SCC – see Table 1</td>
</tr>
</tbody>
</table>

Note: Further information and guidance may be found in:

1) NEC3 Engineering and Construction Contract Guidance Notes; and
2) Managing reality series by Bronwyn Mitchell and Barry Trebes (published by Thomas Telford, which may be ordered on line from the Institution of Civil Engineer’s website www.ice.org.uk)

Part 2: NEC Managing Reality: Procuring an Engineering and Construction Contract
Part 3: NEC Managing Reality: Managing the Contract
Part 4: NEC Managing Reality: Managing Change
Part 5: NEC Managing Reality: Managing Procedures