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# NEC – New Engineering Contract The Pros and Cons for its use in NZ

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'Productivity and the Future'*

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# My Credentials



- Consulting engineer, also worked for contractors and client organisations
  - 40+ years experience documenting, procuring, administering contracts
  - Have undertaken project work in 16 countries
- In late 1970s, early 1980s:
  - assistant draftsman for industry group preparing drafts of what later became NZS 3910
  - wrote post graduate dissertation on case law background to NZS 3910
- For many years have run training seminars on contract administration
  - (NZS 3910, 3915, FIDICs, ICE6<sup>th</sup> and 7<sup>th</sup>, AS 2124 and recently NEC contracts)
- **A big fan of NZS 3910**, but appreciate its shortcomings and future potential
  - Currently an ACENZ rep looking at possible NZS 3910 revisions for Standards NZ
- Here I try to present a balanced view on the use of NEC contracts

# What is the NEC?

- 28 booklets, containing:
  - 16 separate contracts
    - plus guidance notes, flow charts
- Also available electronically (ePrint)
  - pdf version of each contract
  - various word templates for each contract
    - for Contract Data, Works Information, Site Information
    - and some contract administration forms (rather crude)
- Other information also available:
  - Booklet on 'Procurement Guidelines'
  - Booklet on 'Choosing the right NEC contract'
  - 5 booklets entitled 'Managing Reality' – administration ideas
  - Textbooks (Eggleston, Broome, McInnis)
  - web site [www.neccontract.com](http://www.neccontract.com)
  - blog site, newsletter



# NEC origins

- Somewhat as we did in NZ with NZS 3910's development:
  - In 1985, the Institution of Civil Engineers in UK:
    - recognised the shortcomings of its traditional contracts (e.g. ICE5th)  
19th century legalese, lack of emphasis on co-operative working arrangements
    - started work on developing a new form of contract
    - ICE appointed Dr Martin Barnes to lead the team  
worked for 5 years on the project, must have had a very big budget!
  - the team started with a clean sheet of paper, not constrained
    - the existing ICE conditions of contract were not used as a model  
focus was on less adversarial means of delivering projects
  - In 1991, Cliff Evans visited NZ for IPENZ's Turner lecture
    - he described the early work on what was now called 'NEC'  
which had led to the 1991 publication of NEC's 'Consultative Edition'

# NEC successes in UK

- In 1993, the NEC First Edition was published
  - initially was mostly regarded as an interesting curiosity
  - however got strong endorsement from ‘Latham Report’  
(An investigation into procurement and commercial arrangements of the UK construction industry, commissioned by British Government)
  - Latham endorsed NEC, but recommended some changes
- NEC 2<sup>nd</sup> edition was published in 1995 to include these
  - still regarded as a curiosity, but some Employers were willing to try it
  - Gained traction in UK during late 1990s on big construction projects:
    - e.g. Channel Tunnel Rail Link, London Underground refurbishment
    - National Health Service,
  - there was some litigation on those projects,
    - useful lessons were learned

# NEC 3<sup>rd</sup> edition (NEC3) was published in 2005

- NEC3 had substantial changes throughout the documents
  - was endorsed by UK's Office of Government Commerce
  - with the rest of the NEC suite published during 2005-10
  - now used for many high profile projects
    - e.g. Olympic Games venues, Heathrow Terminal 2 rebuild, Highways Agency
    - most water companies for capital works and professional services
    - also private sector projects
- NEC has become the mainstream document in UK civil construction
  - in August 2010, ICE announced discontinuation of publication of its traditional contracts
- NEC gets some use 'abroad'
  - South Africa (Eskom = large electricity generating utility, an early adopter),
  - New Zealand (especially Meridian Energy, some Local Authorities)
  - Seems to be still largely unknown in Australia, from what I can find
  - United Arab Emirates seem to be using it in preference to FIDIC documents

# The 16 NEC3 contracts:

The Engineering & Construction Contract:	Other contracts:
• ECC Option A: Priced Contract + Activity Schedule	Adjudicator's Contract (AC)
• ECC Option B: Priced Contract + Bill of Quantities	Professional Services Contract (PSC)
• ECC Option C: Target Contract + Activity Schedule	Framework Contract (FC)
• ECC Option D: Target Contract + Bill of Quantities	Term Services Contract (TSC)
• ECC Option E: Cost Reimbursable Contract	Term Services Short Contract (TSSC)
• ECC Option F: Management Contract	Supply Contract (SC)
ECC Short Contract (ECSC)	Supply Short Contract (SSC)
ECC Subcontract (ECSS)	
ECC Short Subcontract (ECSS)	

*A formidable list, but all prepared with common vocabulary and generally consistent clause structure  
I recommend not trying to read them all, but first start with Option A, then E, then C, then ECSC, TSC*

# My exposure to NEC

Was working in UK during 1991-97

- (with WS Atkins Consultants Ltd)
  - mostly on water industry projects
    - attended many briefings on NEC and Latham's recommendations
    - participated in the use of NEC on some smaller ('trial') projects
- Initially I found:
  - it was quite difficult to understand different requirements and disciplines
    - Contractors struggled with new expectations that NEC had of them
    - some unexpected new disciplines needed to be learnt
- On return to NZ in 1998, I tried to interest some clients in using NEC
  - Mostly seen by them as too radical at that time
- Since about 2003 has become more used in NZ

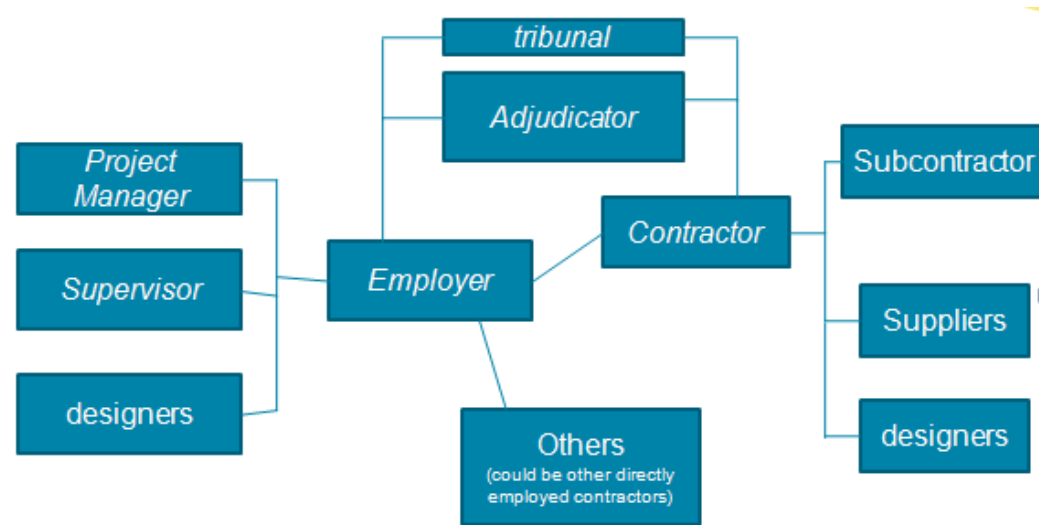
# Key characteristics of NEC

- A new vocabulary:

- Compensation Events
- Defined Cost, Disallowed Cost
- Price for Work Done to Date
- Works Information, Site Information

- A big cast of players

- Employer
- Contractor
- Project Manager
- Supervisor
- Adjudicator
- Not to mention designer, subcontractors, suppliers, and everybody else doing the work



- In other NEC3 contracts, some other roles appear:

- Service Manager in the Term Services Contract
- Supply Manager in the Supply Contract

# Stimulus to good management

- Lots has been written on this
  - foresighted, co-operative management of the project
  - better (or different) management of risk
    - ‘Early Warning’ obligations on both parties
      - of anything that could increase what Employer has to pay or which could delay completion, or impair performance or affect others working on the project
    - There are sanctions if early warnings are not given
- A co-ordinated, consistent set of contracts
  - Fills gaps in what is available locally
    - e.g term service contracts, supply contracts, framework contracts
    - cost reimbursement contracts, compatible subcontracts,
    - optional clauses for inflation, law changes, delay damages, bonus, retention, bonds
    - less likelihood of using inappropriate terms and conditions

# Compensation Events

- An example of the new terminology in NEC3
  - are NEC's provisions for 'variations' and 'time extensions'
  - deals with everything which is at Employer's risk
    - all entitlements of Contractor to extra time and money
    - A mandatory time limit of 8 weeks after the event for claims
      - a 'Time bar' applies if the limit is exceeded
- Compensation Events are valued differently to 3910:
  - dealt with as a package of time and money adjustments
    - weather events only compensatable if extreme, but include time and cost
    - prices stated in the contract are not used for valuing
    - calculated by assessing the impact of the event on contractor's costs
    - quotations are sought

# Use of the 'Programme'

- An important tool, especially to deal with change
  - used by both Contractor and Project Manager
    - both as a scheduling tool,
    - also for pricing, management, change control
  - Programme is more sophisticated than in NZS 3910
    - a mandatory deliverable prepared by Contractor
      - not just a bar chart or list of milestone dates
      - contains 'Key Dates', order and timing of operations,
      - work by Employer and others
      - also Method Statement, resource statement, float and risk allowances
    - Must be kept up to date (tracking progress) and realistic
      - is a basis for assessment of compensation events delays
      - float ownership: dealt with on basis of first call made on float

# Five areas of potential misalignment in NZ

- 1) No invoicing process defined to align with NZ GST Act
  - IRD has been slow to give approval for use of 'buyer created tax invoices' with NEC
- 2) Payment Processes don't align well with CC Act
  - the Payment Claim/Payment Schedule process is ignored
- 3) Dispute processes don't align with CC Act adjudication
  - hence the possibility of two concurrent adjudications under different rules
- 4) Health & Safety in Employment Act roles are not easily identified
- 5) 'the Supervisor' role confuses quality responsibilities (compared to NZS 3910)

NEC in UK and Thomas Telford Publishing were asked in early 2009

- to help rectify these misalignments with NZ legislation and practice
- perhaps by drafting special conditions (called 'Z clauses' in NEC terminology)
- There have been promises, but no final outcomes to date

None of these appear to be are major items but they are taking a long time to fix!

# Litigation on NEC (actually on NEC2)

## Costain v Bechtel [2005] EWHC 1018

- a case regarding construction of Channel Tunnel Rail Link
  - Bechtel was a lead player as Project Manager
  - Costain was part of a consortium of appointed contractors
    - interestingly, the Employer was not a party to the action
- Contractor was to be reimbursed ‘actual cost less disallowed cost’
  - Project Manager was to decide what costs were disallowed
    - after 4 years 1.4M had been disallowed out of 264M
    - but in next month, disallowed costs rose four fold
  - Bechtel had been instructed to ‘adopt a stricter attitude’
    - and to exercise their PM function in the interests of Employer
- Judge was highly critical of this instruction
  - recognised the dual role (*a la* NZS 3910’s cl. 6.2) when instructing
  - but as a certifier, the PM has to act independently and impartially

# Conclusions – the upside on NEC

It's a brilliant piece of work

- has lots of enthusiastic users
  - sometimes quite evangelical in their approach
- gives us wonderful flexibility
  - ways of implementing different procurement strategies
  - and for types of contract other than construction
- aligns well across the whole of the project life cycle

**But:**

- unfamiliarity, means tenderers may shy away from bidding
- it's complex, new business processes need to be learned by all players
- its history has not been as dispute free as some claim
- the brevity of many provisions does cause concern to some users

# How might NZ construction industry react to NEC?

- Maybe as a source book of good ideas?
  - features with which we could enhance NZS 3910
  - 3910 was originally drafted with intention of covering other contract strategies
- Maybe use it as better contracts for non-construction?
  - especially for term services, supply, frameworks
- Maybe as a replacement for NZS 3910?
  - but does it really engender better relationships?
  - is it always a stimulus to good management?
  - while brief, is it too complex for many of our projects?

# Is it appropriate to use NEC3 on your projects?

## The answer varies:

- For a traditional strategy capital works project, **maybe not**
  - it's more complex to administer (although there is the 'ECC Short Contract')
  - the tender market may be confused by the processes involved
  - NZS 3910 does a good job anyway
    - *"why throw out the baby with the bathwater"* – Malcolm Abernathy, NZCF
- For a target price or management contracting arrangement
  - or for cost reimbursable contact, **probably yes**
    - terms and conditions are well thought out and there's good guidance
- For road network maintenance, **it's arguable**, maybe not
  - NZS 3910 + Appendices B & C have worked OK for those contracts
- For a complex operations and maintenance contract, **definitely yes**
  - particularly with asset management obligations
    - **the TSC is superior** to NZS3910 for these contracts

# Sources of more information on NEC3

- New Zealand based training:
  - INGENIUM September seminars “Other Forms of Contract” [www.ingenium.org.nz](http://www.ingenium.org.nz)
  - IPENZ November one-day seminars on “NEC Contracts” [www.ipenz.org.nz](http://www.ipenz.org.nz)
  - Also Thomas Telford NEC one day introductory seminars (expected during October?)
  - General Information and downloads of articles:
    - NEC web site [www.neccontract.com](http://www.neccontract.com)
    - Google search on ‘New Engineering Contract’ yields lots of articles, but few project case studies
- Publications:
  - are available from Thomas Telford Publishing, London
    - can order through web site or email [nec@neccontract.com](mailto:nec@neccontract.com)
  - or can order from NEC’s NZ representative Mr Garry Miller
    - Tel 021 337 280 or email: [garry.miller@neccontract.com](mailto:garry.miller@neccontract.com)
    - a full set of the 28 documents is around \$900
    - or individual documents at between \$25 to \$65 plus postage – but get the latest price list
  - Electronic versions: from [www.neccontract.com](http://www.neccontract.com) (approx. GBP 1,100 for full set)

