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nec users' group NEWSLETTER

BIFM and ICE explore NEC4 facilities management form

SIMON FULLALOVE EDITOR

The British Institute of Facilities Management (BIFM), the UK's professional body for facilities management, and the Institution of Civil Engineers (ICE), publisher of NEC, announced a joint initiative in March to explore developing a new NEC4 facilities management contract.

The initiative follows feedback from BIFM members that existing works and services contracts could be better suited to facilities management projects. Subject to further research, new solutions for procuring facilities management services could be developed as part of the NEC4 contract suite.

Long-term relationship

BIFM chief executive officer Linda Hausmanis said, 'Pursuing the highest standards in the procurement and management of facilities management services is fundamental to our profession's advancement'. She added, 'I am delighted to be deepening the Institute's relationship with ICE, for the benefit of all our members at this critical time for our industry'.

In 2013 BIFM endorsed the NEC3 Term Service Contract (TSC) and Term Service Short Contract (TSSC) for procuring facilities management projects. The following year NEC and BIFM jointly launched the *NEC for FM* box set of contracts, including the TSC, TSSC, a new NEC guide *How to use NEC3 contracts in facilities management* and the BIFM *FM Procurement* good practice guide.

In 2015 the BIFM procurement special interest group published a free-to-download guidance note for users of the *NEC for FM* box set entitled *Getting Started with the NEC3*.

Collaborative research

Under a memorandum of understanding signed by Hausmanis and ICE director general Nick Baveystock, BIFM and ICE will initially undertake collaborative research to identify the contract-related needs and challenges of organisations and individuals working in the facilities management sectors.

The results of the research and a subsequent programme of agreed actions will be announced at the NEC Users' Group annual seminar in London on 20 June and the BIFM Smart Client Programme at the Facilities Show in London on 19–21 June.

Further activity covered by the memorandum of understanding includes collaboration on training and up-skilling opportunities for facilities managers to optimise the impact of the new contracts in service.

A step forward

NEC global head Rekha Thawrani said, 'I am delighted with this move for closer collaboration between our organisations. This represents a good step forward for support in procuring facilities management.'

Founded in 1993, BIFM has over 17,000 individual and corporate members around the world and represents thousands more through qualifications and training. ICE has over 90,000 members worldwide and publishes the NEC3 and NEC4 contract suites through its knowledge business Thomas Telford Limited.

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For further information *on the research NEC is undertaking visit neccontract.com.*

▲ International energy and chemical group Sasol used NEC contracts to deliver a R13.6 billion (£800 million) expansion of its synthetic wax manufacturing facility in Sasolburg, South Africa. Completed in February 2018, the project was procured using more than 100 NEC3 Professional Services Contracts (PSC) and Engineering and Construction Contracts (ECC). Main options were A, B and E and values ranged from R100,000 (£6000) to more than R1 billion (£60 million). Sasol has used NEC since the mid-1990s and now uses the NEC3 suite for all its chemical, oil and gas projects in southern Africa. Abdullah Gamieldien, principal contract management specialist, says, 'NEC provides Sasol with a standardised contract approach which streamlines the engagement between contractor and employer. It also allows for flexibility of contracting with different formats for different types of scope and pricing options'.

Changing and improving the way we operate

DAVID HANCOCK NEC USERS' GROUP CHAIR

Many NEC users may now have seen the UK government's recently published *Transforming Infrastructure Performance* report (Infrastructure and Projects Authority, 2017). For those who have not, one of its key themes was collaboration and promoting a more joined-up approach to procurement, contracting and risk allocation.

Seeking standardisation

In particular the UK government is looking to standardise and simplify construction and infrastructure contracts. This involves reducing unnecessary bespoke amendments made to standard forms such as NEC and standardising those that occur frequently across the public sector. This has the potential to reduce ambiguity and create greater efficiency for both the client and the supply chain.

The governments' Infrastructure and Projects Authority (IPA) is working across departments with Crown Commercial Services and the NEC to create a more consistent and harmonised approach to procurement routes – including rationalisation of Z clause amendments within the NEC suite of contracts.

Promoting collaboration

The government also wants to move to contracting approaches that support more collaborative working. The aim is to reduce transaction costs in procurement and maximise innovation throughout the supply chain.

In particular it supports the Institution of Civil Engineers' (ICE) and Infrastructure Client Group's 'Project 13' initiative to promote collaborative rather than transactional approaches to major project delivery (Crudgington, 2017).

The NEC contract suite fosters collaborative working in the industry – and the new NEC4 Alliance Contract will help to drive this.

Encouraging off-site

Another theme of the *Transforming Infrastructure Performance* report was smarter infrastructure. Modern methods of construction such as offsite manufacturing and digital construction can bring greater speed, quality and efficiency – and ultimately deliver better productivity and value for money.

IPA is working closely with five government departments – covering transport, health, education, justice and defence – to put their projects at the forefront of construction innovation and develop a presumption in favour of off-site construction by 2019.

Leading global change

With the *Transforming Infrastructure Performance* report and other initiatives in the construction industry aligned, the year ahead looks to be an exciting one.

I believe we will start to see some real changes in the way the industry operates to deliver both public and private construction and infrastructure projects in a more innovative and efficient way.

References

1. IPA (2017) *Transforming Infrastructure Performance,* Infrastructure and Projects Authority https://www.gov.uk/government/publications/transforming-infrastructure-performance (accessed 6 April 2018).
2. Crudginton A (2017) *Project 13: From Transactions to Enterprises*, Institution of Civil Engineers https://www.ice.org.uk/knowledge-and-resources/best-practice/project-13-from-transactions-to-enterprises (accessed 6 April 2018).

Hong Kong government tenders NEC4 PSC

IVAN CHEUNG NEC ASIA-PACIFIC USERS' GROUP SECRETARY

The Hong Kong government has put its first NEC4 contract out to tender. An 18-month consultancy agreement for investigating drainage improvement works in Mong Kok, Kowloon will be let under the NEC Professional Service Contract option A (priced contract with activity schedule).

The Drainage Services Department (DSD), which also let Hong Kong's first public-sector NEC3 contract 9 years ago, invited expressions of interest in January 2018 and expects to make an award in June 2018. DSD's pioneering role in delivering NEC drainage, sewerage, mechanical and electrical projects in Asia led to it winning NEC Client of the Year in 2016.

Water supply contracts

Other Hong Kong government departments continue to roll out new NEC projects on a regular basis. Not least is the Water Supplies Department (WSD), where former DSD chief engineer Luk Wai-king is now deputy director for new works.

▲ Over 50 delegates attended the NEC Asia-Pacific Users' Group breakfast briefing on collaboration in February

WSD recently let six schemes worth HK$1,865 million (£170 million) under the NEC3 Engineering and Construction Contract (ECC). Main options included A, B (priced contract with bill of quantities), C (target contract with activity schedule) and D (target contract with bill of quantities).

New building projects

Following successful delivery of the HK$2,968 million (£270 million) Tin Shui Wai Hospital under ECC Option A in 2016, the Architectural Services Department (ArchSD) is planning to let further NEC design and build contracts next year.

Forthcoming ArchSD projects include a HK$400 million (£36 million) secondary school in Kwun Tong and a HK$500 million (£45 million) DSD building in Cheung Sha Wan, both of which will be procured using ECC Option C.

Breakfast briefings

The NEC Asia-Pacific Users' Group continues to provide comprehensive help and support to Hong Kong government staff and their NEC supply chains through regular training courses, seminars and breakfast briefings.

For example, over 50 delegates attended the breakfast briefing hosted by construction trainer BK Surco in February 2018 entitled 'The pillars of NEC collaboration'. BK consultant director Robert Pegg and NEC partnering facilitator Vip Vyas explained how to achieve NEC project excellence through collaborative working, team-building and working towards a one-team culture.

The next briefing will be hosted by law firm Hogan Lovells' Hong Kong office on 10 May 2018..

For further information *on future events visit neccontract.com/products/events and for case studies see neccontract.com/case-studies*

NEC pool project voted public favourite

SIMON FULLALOVE EDITOR

An NEC-procured outdoor pool revamp has been voted the UK public's favourite civil engineering project, winning the Institution of Civil Engineers' People's Choice Award in December last year.

Jubilee Pool is a spectacular Art Deco lido in Penzance, Cornwall and the largest seawater swimming pool in the UK. Built in 1935, the triangular 100 m long pool has been extensively repaired and updated following a two-year NEC-procured restoration.

The winter storms of February 2014 caused major damage to the pool's seawalls, changing cubicles and concrete base, resulting in its closure. Cornwall Council – in partnership with Penzance Town Council, operator Tempus Leisure and the Friends of Jubilee Pool – put together a £2.9 million funding package for its restoration, including a £2 million grant from the UK's Coastal Communities Fund.

Complex works

Repairing the storm damage included installing 155 rock anchors into the underlying granite to stabilise the pool base, plus significant grouting of voids in the terraces and outer seawalls. As well as fixing the cubicles, the opportunity was taken to update other elements including resurfacing the terrace walkways with 1363 m² of resin-bound-recycled-glass, installing new seawater gate valves, improving disabled access and decorating.

The work was let under an NEC3 Engineering and Construction Contract (ECC) Option B (priced contract with bill of quantities) to Cormac Solutions, which also provided design and engineering under an NEC3 Professional Services Contract (PSC) option A (priced contract with activity schedule). Mott MacDonald and Currie & Brown were engaged as NEC project manager and supervisor under PSC option A.

Work started in January 2015 and the pool was completed on time and within the allocated funding in May 2016, with an official opening by Prince Charles in July 2016. The pool received 42,000 visitors in 2016 – 160% up on previous years and has been recognised in various industry awards. Works started in February 2018 on a geothermally heated section, which is due for completion in 2019.

Preferred contracts

Mark Harvey, commissioning support officer for the council's capital projects team, says, 'We use NEC contracts throughout our capital projects framework. They set out procedures to manage each project, ensuring all parties are aware of where they stand.

'NEC processes for notifications and change control enable problems to be dealt with as they arise, rather than at the end of the project. There is also a less adversarial approach to dealing with any disputes as the team are working 'in a spirit of mutual trust and co-operation'.

'Furthermore, use of NEC dovetails neatly with our policies and procedures. The contracts enable adoption of the UK government's Prince 2 project management method, and their flexibility allows us to tailor contracts to suit the preferred risk profile.'

Delivering flexibility

According to Harvey, flexibility was key for the Jubilee Pool project and this was delivered by ECC Option B. 'Quick decisions were required to meet the completion date, which could not be extended due to the beginning of the May-to-September operating season.'

He says the NEC notification process was vital to successful delivery of the project. 'The pool is over 80 years old and, although extensive surveys were carried out during the design process, there were many unknowns surrounding the condition and original construction.

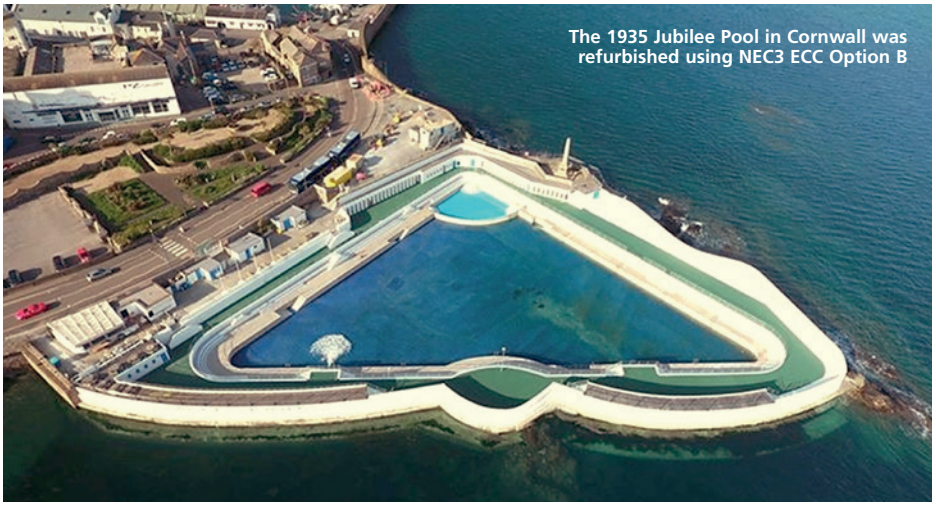
'It was important to have the flexibility to make changes to the design and construction methods as the project progressed to manage unforeseen events. The NEC early warning and compensation event process has enabled us to be aware of and approve any additional costs throughout the project without facing additional unknown costs at the end.'

Solving problems

The risk management processes in NEC also lead to innovative solutions to problems. 'The pool is in an exposed tidal location at the edge of Mounts Bay and, with construction taking place over autumn and winter 2015/16, progress was very much at the mercy of the elements,' says Harvey. 'Following particularly bad weather, the contractor issued an NEC early warning notice of delay – which in turn raised an issue with the specified waterproof paint finish for the pool base.

'The curing time for the paint meant the pool could not be filled until after the planned opening date. But, by issuing an early warning notice as soon as the issue arose, the project team had time to hold a risk-reduction meeting to look at alternatives.'

The agreed solution was to replace the paint finish with a coloured surface hardener in the pool base concrete. 'This was cheaper than painting, it enabled the programme to be maintained and it removed the need for future repainting. Instead, the pool base can be jet washed when required as the colour is sealed within the concrete,' says Harvey.



The 1935 Jubilee Pool in Cornwall was refurbished using NEC3 ECC Option B

New NEC4 training courses

JASON DELA CRUZ NEC MARKETING

NEC has launched two new NEC4 training courses, one classroom-based and the other online.

'NEC3 and NEC4 Compared: ECC and TSC' is for people who have experience in NEC3 but are new to NEC4 contracts. This latest classroom course looks at differences between NEC3 and NEC4 versions of the Engineering and Construction Contract (ECC) and Term Service Contract (TSC).

The first course will be held in London on 19 July. The cost of £325 per delegate includes printed copies of the NEC4 ECC and TSC, worth £130.

E-learning

'NEC4: Introduction to the Engineering and Construction Short Contract (ECSC)' is a new e-learning course designed to help you know when to use the NEC4 ECSC, how to put it together, what contract strategy to use and how to manage it effectively.

The £120 delegate cost covers six months access to the online course material and includes six months access to 'eView' versions of NEC4 ECSE and guides to preparing and managing the contract, worth £45.

For further information *and to book visit neccontract.com/nec4-products/nec4-training.*

Hong Kong waste facilities

SIMON FULLALOVE EDITOR

Two major construction waste reception facilities in Hong Kong have been successfully operated and maintained for the past three years under an NEC3 Term Service Contract (TSC). The government's Civil Engineering and Development Department (CEDD) let the three-year TSC option A (priced contract with price list) to Hanison Construction Company Limited in 2015.

▲ Chai Wan public fill barging point on Hong Kong Island is operated under NEC3 TSC.

The HK$52 million (£5 million) contract covers Chai Wan public fill barging point on Hong Kong Island and Mui Wo temporary public fill reception facility on Lantau Island. Together with sites at Tseung Kwan O and Tuen Mun in the New Territories, the facilities receive over 15 Mt of construction waste each year for beneficial re-use.

Major items in the TSC include collection of public fill from Chai Wan and Mui Wo and delivering them by barge to Tseung Kwan O for sorting; collection of bituminous materials from Chai Wan and delivering them by truck to Tseung Kwan O; carrying out environmental monitoring and auditing; and implementing environmental mitigation measures.

Partnering spirit

According to Louis Chan of CEDD's fill management division, 'A partnering spirit and risk sharing have been fully implemented on the contract. A number of partnering workshops were held and these have helped to build a strong trust between the employer, contractor and service manager.

He says the contracting parties have been willing to initiate early warnings to seek prompt solutions to any issues arising. 'In the first two years, the contractor and service manager have raised nine early warnings between them. With timely implementation of compensation events to tackle unexpected problems, we have been able to maintain smooth operation of both facilities.'

For example, NEC risk management processes have enabled the contractor to manage the number of dump trucks arriving at Chai Wan barging point. Leo Lam of the fill management division says, 'Excessive incoming dump trucks can lead to traffic congestion in public streets in Chai Wan. With the contractor's cooperation and implementation of compensation events, there has so far been no traffic congestion in Ka Yip Street caused by the site's operation.'

Reducing financial risks

Lam adds that one of the early warnings from the contractor related to excessive handling of bituminous material at Chai Wan, even though this was a non-remeasurable item. 'This led to a risk reduction meeting in November 2016 and a proposal from the contractor to sort incoming material using its existing plant and labour.

'The sorting work proactively done by the contractor suppressed the increasing amount of handling required, helping the contractor to avoid any monetary loss from its lump-sum reimbursement for handling costs. The sorting work also led to benefits in re-using the material.'

He says following successful completion of the three-year contract, a new NEC3 TSC will be let this month.

Insurance: what every ECC PM should know

DAVID HUNTER DANIEL CONTRACT MANAGEMENT SERVICES

Construction and engineering activities are often hazardous. Sites can be dangerous places to work, ground conditions are frequently unexpected, existing structures can have hidden defects and the weather is always unpredictable. These uncertainties give rise to risks of loss, damage and injury – all of which have financial consequences.

Insurance enables clients and contractors to transfer some of their financial risks to a third party in exchange for a premium, and has become a fundamental part of construction contracts. NEC is no exception. This article provides an overview of the insurance aspects of the NEC3 and NEC4 Engineering and Construction Contracts (ECC) and looks in particular at the ECC project manager's duties.

Liability and insurance

It is important to recognise that liability and insurance are not the same. A contractor's liability for specified types of loss or damage may be capped using ECC secondary option X18 on limitation of liability. However, it is not uncommon for the contractor's total liability to be stated as 'unlimited'.

A contract for insurance will include a maximum sum payable for the event covered, so unlimited liability means there may be an amount of uninsured loss that the party which is liable may be unable to pay.

Insurance policies also normally have an initial amount for which the assured is not covered. This is commonly known as the excess and referred to in ECC contract data as 'deductibles'. A client wishing to know the deductibles for insurance provided by the contractor would need to request this information at tender stage.

Allocation of liability

Liability for risk is allocated between the parties under ECC core clause 8, which is called 'Risks and insurance' in NEC3 and 'Liabilities and insurance' in NEC4. Client's liabilities are listed in clause 80.1 and include, for example, loss of or damage to the works, plant and materials due to war, strikes and civil commotion.

NEC4 takes a different approach to NEC3 in how the allocation of liability is expressed. Instead of listing only events that the client is liable for and stating everything is else is for the contractor, clause 81.1 of NEC4 ECC states the four specific events for which the contractor is liable. These are claims from third parties; loss or damage to works, plant, materials and equipment; loss or damage to client property; and death or injury of employees.

Minimum cover requirements

The default position under NEC4 ECC is that the contractor has to insure against the specific events it is liable for (clause 83.3), while the client has no such obligation. The contractor's insurance is required to be in place from the starting date until the defects certificate is issued. This means the contractor must have a policy in place beyond the date of completion. With the exception of professional indemnity insurance, the obligation to be insured ceases after the defects certificate is issued.

The insurance table (NEC3 ECC clause 84.2 and NEC4 ECC clause 83.3) lists four events against which the contractor is to insure with a minimum amount of cover. Effectively these are the same as the contractor's specific liabilities in NEC4 ECC clause 81.1. The fourth event, death of or injury to employees, is required by UK law under the Employers' Liability (Compulsory Insurance) Act 1969 with a minimum cover of £5 million.

Checking insurance certificates

One of the ECC project manager's duties is to review the contractor's insurance certificates

Tower Bridge re-decking

SIMON FULLALOVE EDITOR

The timber decks and approach viaducts of the iconic grade 1 listed Tower Bridge in central London, UK have been extensively refurbished under an NEC works contract. The contract was voted Civil Engineering Project of the Year Award (up to £10 million) at the 2017 British Construction Industry Awards.

Built in 1894, the 244 m long crossing of the River Thames now carries around 40,000 people and 21,000 vehicles a day, resulting in the need to renovate its timber decking installed in 1970. City of London Corporation initially appointed Bam Nuttall under its bespoke Pre-Construction Services Agreement for early contractor involvement in November 2015.

High profile project

The works were then carried out under an NEC3 Engineering and Construction Contract (ECC) Option A (priced contract with activity schedule) during a three-month road traffic closure at the end of 2016. The high-profile, £5 million project included removing and replacing the carriageway surfaces plus installing expansion joints and waterproofing.

Particular care had to be taken to keep bridge open to pedestrian and river traffic, the latter requiring the bascules to be raised up to seven times a day. This in turn required each bascule to be ballasted as sections of deck were removed so as to keep the lift-motor loads in balance.

Through a combination of early contractor involvement, close collaboration, careful planning and value engineering, the bridge re-opened to traffic on budget and a week ahead of schedule on 22 December 2016.

Early contractor involvement

City of London assistant director of engineering Paul Monaghan says, 'The main reason we chose NEC for the Tower Bridge refurbishment works contract was that it fitted very well with our bespoke Pre-Construction Service Agreement for early contractor involvement with planning and design.

'In addition, our experience is that the market reacts adversely to some of the older, traditional contracts, particularly in relation to liabilities and allocation of risk. This often leads to tenders being heavily qualified or carrying a high premium.

'At Tower Bridge, the project risks were fully established and quantified as the design was developed under the Pre-Construction Services Agreement. In this way, risks were costed and allocated by agreement in the ECC Option A contract.

Monaghan says the high level of planning meant very few issues arose during the relatively short duration of the refurbishment works. 'However, for those issues that did arise, early communication and early discussion of potential compensation events was promoted by the contract, as well as through the contractor's own project management procedures.'

He says the communication timescales required by NEC proved quite challenging for the City of London, where officers' delegated powers are limited by standing orders and some decision have to be referred to committees. 'However, overall the NEC worked well and resulted in the bridge reopening to road traffic a week ahead of schedule and to all stakeholders' complete satisfaction.'

▲ London's Tower Bridge decking was refurbished using ECC Option A.

and decide to accept or reject them (NEC3 ECC clause 85.1 and NEC4 ECC clause 84.1). In making this decision, the project manager is required to ascertain if the insurance complies with the contract and assess the commercial position of the insurer.

Some easy checks can be made. For example, make sure that the name of the contractor is stated in the certificate, that the certificate is current and that the amount of cover is equal to or greater than that specified in the contract data. Beyond this project managers should seek competent advice – the client's insurance broker or surety provider is a good place to start.

Indeed, it is becoming increasingly common for clients to provide project-wide insurance. In this case the project manager will need to obtain and submit for acceptance the insurance certificates to the contractor before the starting date (NEC3 ECC clause 87.1 and NEC4 ECC clause 86.1).

Design liability cover

The ECC core clauses do not require the contractor to insure against claims of negligence in its design. If the contractor's liability is not limited to the standard of 'reasonable skill and care' (NEC3 ECC) or 'skill and care normally used by professionals designing works similar' (NEC4 ECC) by selecting secondary option X15, it is advisable that additional insurance for professional indemnity is stated by the client in contract data part one.

The first item from the insurance table in the NEC4 Professional Service Contract (PSC) (clause 83.3) and the relevant section of PSC contract data could be used to do this. That said, insurance cover for a fitness-for-purpose standard is unlikely to be available or competitive.

If secondary option X15 is chosen in NEC4 ECC, clause X15.5 requires the contractor to take out a professional indemnity insurance policy.

Co-insurance requirement

With the exception of employer's liability insurance, ECC requires contracts for insurance to be in joint names (NEC3 ECC clause 84.2 and NEC4 ECC clause 83.3) and preclude a right of subrogation by the insurer (NEC3 ECC clause 85.2 and NEC4 ECC clause 84.2).

Subrogation is the act of the insurer stepping into the shoes of the assured with the intention of seeking damages from the party allegedly responsible for the loss or damage. A waiver of subrogation rights under a co-insured policy addresses the circuitry argument by preventing the insurer from making a claim against an insured party for the amount paid out to the other.

Conclusion

The ECC project manager's duties in respect of insurance matters are limited but highly significant. Insurance and construction contracts are inextricably linked so a basic understanding of these is important and competent advice from a specialist is always recommended.

PSC case – a response

TERRENCE DAVIS LINDSAY KELLER

In issue 88, Shy Jackson discussed the 2017 case *Northern Ireland Housing Executive v. Healthy Buildings (Ireland) Limited* in an article entitled, 'Assessing compensation events retrospectively'. In my view the entire case should have been avoided.

Records must be made available to employer

The case arose from a review arbitration during a NEC3 Professional Services Contract (PSC) option G (term contract). The employer required the consultant to provide its actual records and costs relating to a compensation event arising from an instruction which changed the scope. The consultant refused on the basis that actual costs were irrelevant to assessing its claim. NEC3 PSC covers this in core clause 52.2, which reads, 'The *Consultant* keeps accounts and records of his Time Charge and his expenses, and allows the *Employer* to inspect them at any time within working hours.'

Indeed it would have taken an adjudicator no time at all to decide the consultant must make its records available to the employer.

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Design of equipment in the ECC


RICHARD PATTERSON MOTT MACDONALD AND **ROB HORNE** OSBORNE CLARKE LLP

In the NEC3 and NEC4 Engineering and Construction Contract (ECC), equipment is defined as what the contractor uses to provide the works. In NEC contracts, '*works*' is what in other contracts is known as the permanent works (what is left behind) whereas 'Equipment' includes what is sometimes referred to as temporary works or construction plant.

On some projects the design of equipment, for example propping a significant excavation, can be critical to the project and to health and safety. For a tunnel project, the tunnel boring machine is absolutely critical – and is also part of equipment. So too are sacrificial piles to a railway embankment and major scaffolding for a stadium.

This FAQ-style article aims to help NEC users understand how design of equipment is dealt with by the contracts.

Who designs what?

NEC4 ECC clause 21.1 ('The *Contractor's* design') is very clear, stating that the contractor designs the parts of the works which the scope (or works information in NEC3) says the contractor is to design.

In contrast there is no explicit statement that the contractor has to design its equipment – the implication being that, if there is any need for design, it will be carried out by the contractor.

What designs have to be submitted for acceptance?

NEC4 ECC clause 21.2 is also very clear in that the contractor submits the 'particulars' of its design of the works as the scope requires to the project manager for acceptance.

In contrast, clause 23.1 ('Design of Equipment') provides no explicit prompt for the scope to state what equipment design is to be submitted for acceptance. However, if the client does want certain equipment designs to be submitted, it should list these in the scope.

What if, after award, the client wants to see more designs?

In the case of more designs for the works, this would require an instruction to change the scope (clause 14.3), which would lead to a compensation event (clause 60.1(1)). This is appropriate as the further item for project manager review may well impact on the contractor's programme.

In contrast, if the client wants to see equipment designs in addition to those stated in the scope, it can simply instruct this under clause 23.1. Such an instruction is not one of the list of compensation events in clause 60.1. The logic appears to be that the contractor will in any case have to carry out the design and, as explained below, the need to submit the design for acceptance will not hold up the contractor.

What are the reasons for not accepting designs?

The project manager can not accept a design for any reason but, if that reason is not in the contract, this will trigger a compensation event (clause 60.1(9)).

Reasons stated in the contract for not accepting a particular of design of the works are that it does not comply with either the scope or applicable law (clause 21.2). Reasons stated for not accepting a particular equipment design are that it will not allow the contractor to provide the works in accordance with either the scope, the applicable law or the already accepted contractor's design of the works (clause 23.1).

What if the project manager does not accept a design?

Clause 21.2 says the contractor cannot proceed with 'relevant work' until the project manager has accepted its particular design for that work. In contrast, this hold on the contractor does not apply to a particular equipment design that has not been accepted.

So what is the point of submitting equipment designs?

In an extreme case the project manager could use clause 31.4 to instruct the contractor not to start any work involving an unacceptable equipment design. Normally this would trigger a compensation event. However, the project manager could argue this is the 'fault' of the contractor (clause 61.1 or 61.3) because the contractor is not designing as required by the contract. If so, it would not be a compensation event – but this may result in a dispute.

Are special provisions required?

If there is some critical equipment design and the client wants there to be hold point on that design while it is reviewed and accepted by the project manager, it may be best to make a special provision in the contract.

The easiest solution would be simply to state in the scope that, 'The *Contractor* submits the design of the [item of Equipment] for the acceptance of the *Project Manager*. The *Contractor* does not proceed with the relevant work until the *Project Manager* has accepted that design.'

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However, instead of opting for a simple adjudication, the litigants, 'agreed that the matter was more appropriately dealt with by way of preliminary issues in the review arbitration.

The litigants formulated the following two questions for the court to consider in the hope that the answers would resolve the dispute concerning disclosure.

- On the true construction of the contract, and in particular clauses 60 to 65 of the contract, is the assessment of the compensation event calculated by the reference to the forecast time charge or the actual cost incurred by the consultant?
- Are the actual costs relevant to the assessment process in clauses 60 to 65 of the contract?

Compensation event did not change prices

For a start, the first question is formulated incorrectly. Core clause 63.1, although under the heading 'Assessing compensation events', does not provide for the assessment of a compensation event, but rather it deals with 'the changes to the Prices', which changes 'are assessed as the effect of the compensation event upon … the forecast Time Charge of the work not yet done.'

The consultant argued that the employer's instruction required the consultant to take more samples than was required in the initial scope of the work and that this constituted extra work not envisaged originally in the contract. In other words, the consultant had to do more of the same service than it was obliged to do in terms of the original contract, and for which there was an agreed staff rate. As the compensation event only increased the time required to provide the services, it did not require new staff rates to be added to the prices.

The staff rates are usually expressed at a staff member's rate per hour, and after any particular staff member properly performs work, the consultant is remunerated on a monthly basis by the employer in terms of core clause 50. If the employer was to fail to pay the amount due to the consultant for the price for services provided to date in terms of core clause 50, a simple referral of the dispute to the adjudicator would resolve the matter.

As such, the answers to both parts of the first question should have been in the negative.

Actual costs were not relevant to assessment process

The answer to the second question, 'Are the actual costs relevant to the assessment process of clauses 60 to 65 of the contract?' should also have been in the negative. If the consultant tendered a low staff rate to the employer, this price is not changed if the consultant were required to do more work at this low contractual staff rate.

The PSC makes no reference to actual costs of either the consultant or employer, and such actual costs have no bearing on the prices. There is no need to examine the actual costs of the parties, as actual costs are irrelevant in the determination of the prices.

Conclusions

The resolution of the dispute between the parties concerning discovery of the consultant's actual records and costs is contained within the PSC itself.

It neither justified an application to court, nor warranted an interpretation by the judge of the terms of the contract, or the assessment of 'compensation' to the consultant, or the examination of the method of calculating such 'compensation'.

As the judge stated, 'It is not about damages for breach of contract,' and, 'I am not left in a real state of uncertainty as to the correct interpretation of the contract'.

The judge's passing observation as to the interpretation of the contract is not supported by the terms of the PSC.

FAQs

ROBERT GERRARD NEC USERS' GROUP SECRETARY

This is a selection of recent questions to the NEC Users' Group helpline and answers given. In all cases it is assumed there are no amendments that materially affect the standard NEC contract referred to.

Start of defect correction period

Question

We are a client planning to use NEC4 Engineering and Construction Contract (ECC). Clause 44.2 states, 'The *Contractor* corrects a notified Defect before the end of the *defect correction period*. The *defect correction period* begins at Completion for Defects notified before Completion and when the Defect is notified for other Defects'. What is the purpose (or benefit) of having the defect correction period start at completion (for defects notified before completion) rather than when the defect is notified?

Answer

As with all construction contracts the contractor is not obliged to get things right until completion is achieved. Up until then the works are in progress, and how and when the contractor produces those is its decision – subject, of course, to any constraints in the scope. Clause 44.2 is written to reflect that basic principle of construction contracts (and is the same in NEC3 ECC).

If you want some work to be completed earlier than completion of all of the works, such that other contractors can start their works, you should cater for that in your contract by either using sectional completion, as in option X5, or by using key dates, as set out in clauses 11.2(11) and 25.3.

It is also important to understand that completion is a defined term, see clause 11.2(2). It cannot be achieved if there are defects that would prevent you from using the works or would prevent others from doing their work. Therefore, your project manager should not certify completion until such times as the defects you are referring to have been corrected.

Finally, the contractor is obliged to correct each defect within its defect correction period, see clause 44.2. If it does not do so it is in breach of contract, which could attract damages. In addition, your project manager must deal with that in accordance with clause 46.1. You can get others to correct the defect and the project manager assesses the cost of that and deducts it from any payments due to the contractor.

Application of secondary option X1

Question

We are a contractor under an NEC3 ECC Option C (target contract with activity schedule) with secondary option X1 (price adjustment for inflation). Can you advise when inflation is to be applied? The employer has stipulated the base date for the indices is December 2017 with a contract start date of 1 May 2018. Would we apply inflation on that month, on the anniversary of the contract start date or on each anniversary from the base date?

Answer

The price adjustment calculation is made each time an amount due is assessed (see clause X1.5), which will depend upon the assessment interval in your contract (see clauses 50 and 51). Therefore, if your assessment intervals are monthly, it will be calculated each month. The calculation is made in accordance with clause X1.5.

It is important to understand that, in ECC Options C and D, the amount for price adjustment is added to the total of the prices – the 'target'. It is not added to the amount you get paid – the price for work done to date – because that will have been calculated based upon the actual defined cost you have spent, which is the already-inflated figure.

Finally, you should be aware that if option X1 is used, then the value of each compensation event has to be adjusted to base date levels (in your case December 2017) by using the calculation set out in clause X1.3.

Unworkable periods for replying

Question

We are a subcontractor engaged by a contractor under an NEC3 Engineering and Construction Subcontract (ECS). In this, clause 13.3 provides, 'If this subcontract requires the *Contractor* or the *Subcontractor* to reply to a communication, unless otherwise stated in this subcontract, he replies within the *period for reply*.' The period for reply under this contract is 21 days for the contractor and 14 days for ourselves. Our question relates to the applicability of this provision in respect of the entirety of the contract documents. Is there any guidance, case law or other authority which deals with the applicability of the stated period for reply to an approvals process set out in the works specification which would likely result in the programme being unworkable? For example, allowing the contractor a 21 day period for reply in respect of each and every approval required under the approvals process would prolong the programme to such an extent that it would be unreasonable and impractical.

Answer

The reference to 'this subcontract' in clause 13.3 can only be a reference to the entirety of the subcontract, including any requirements in the subcontract works information. Where the contract specifically limits things to NEC3 conditions of contract, then it uses the terms 'conditions of subcontract'. This is an identified term (see clause 11.1) and is identified in the contract data (see the first entry in the contract data). This term is used, for example, in clause 12.3.

You should have been aware of the period for reply and the requirements of the subcontract works information with regard to approvals when tendering and should have allowed for them in your tender. You should therefore have made sure that you got the necessary information in to the contractor early enough to accommodate the reply period in the contract. All of this had to be shown on your programme issued for acceptance (see the 4th and 7th main bullets of clause 31.2). This may well make your obligations 'more difficult than normal' or even 'very onerous', but that is not the same as them being 'unworkable' or impossible.

If you thought you could not comply with the requirements of the subcontract, then the time to raise that was before the subcontract was entered into rather than afterwards.

Changes to the schedule of cost components

Question

We are a contractor currently pricing our first tender under NEC4 ECC Option C and would like to clarify some items within the schedule of cost components. This is to ensure we calculate our fee percentage correctly. Any cost not recovered through the schedule of cost components is deemed to be in included within the fee. The items in question would have previously been covered in NEC3 ECC by the working areas overhead percentage. We have reviewed the schedule of cost components and the defined terms for equipment and plant and materials, and think the following items are covered by the following cost component: (a) catering = equipment, (b) medical facilities and first aid = equipment, (c) recreation = fee, (d) sanitation = equipment, (e) security = people / equipment (dependent on solution), (f) copying = equipment, (g) telephone, telex, fax, radio and CCTV = charges, (h) surveying and setting out = equipment, (i) computing = equipment, and (j) hand tools not powered by compressed air = equipment. We note the guidance notes suggest that items provided under item 53(h) but used by the contractor are recovered as equipment. Are we correct here?

Answer

Generally speaking you are on the right lines, although it will depend upon the individual items, and there may be a few items which may not fall within the definition of equipment for various reasons that you will not get paid for. We doubt that telex, radio or CCTV will be covered by charges, although the latter two items will probably be considered to be equipment.

Another thing you will need to consider is that the cost or people for security has always been paid for anyway under NEC3 ECC. In addition, it may be that items such as security or surveying could be paid for as a subcontractor, as defined in the contract.

Finally, with regards to items under 53(h), these will normally be recovered as part of item 53 rather than specifically as equipment.

ICE Register for Accredited NEC Professionals

Below are new entrants on the Institution of Civil Engineers (ICE) Register for Accredited NEC Professionals at **necprofessionals.ice.org.uk**. The register recognises the technical and practical skills required of project managers and supervisors using the NEC3 Engineering and Construction Contract (ECC) and service managers using the NEC3 Term Service Contract (TSC). All individuals on the register have completed the relevant NEC3 accreditation programme and successfully passed the stage 1 and stage 2 assessments.

Accredited NEC3 ECC Project Managers

Gary Armstrong
Barry Ashbee
Wesley Bathgate
James Brokenbrow
Michael Busby
Chun Tao Chan
Kam Wah Chan
David Ferguson
Joseph Gilfeather
Jill Kennedy
Amy Leader
Carman Lee
Alex Ling
Catherine Martin
Thomas Smith
Mark Wardill
Daniel Wells

Accredited NEC3 TSC Service Managers

Joseph Gilfeather
Martin Mannix
Tom Putt

nec DIARY

02 May	NEC4: Introduction to the ECC	Hong Kong
03 May	NEC3: Introduction to the ECC	Manchester
03 May	NEC4: Introduction to the TSC	Hong Kong
04 May	NEC3 to NEC4: ECC PMA extension	Hong Kong
07 May	NEC3: ECC PMA	Hong Kong
09 May	NEC3: Introduction to the TSC	London
10 May	NEC4: Introduction to the ECC	London
14 May	NEC3: ECC PMA	Hong Kong
17 May	NEC4: Introduction to the DBO	Birmingham
17 May	**NEC South Africa Conference 2018**	**South Africa**
11 June	NEC3: ECC PMA	Bristol
11 June	NEC3: ECC PMA	Birmingham
14 June	NEC3: ECC programming workshop	London
20 June	**NEC Users' Group Annual Seminar**	**London**
26 June	NEC4: Introduction to the PSC	Birmingham
27 June	NEC3 to NEC4: ECC PMA extension	Birmingham

Key: DBO – Design Build and Operate Contract, ECC – Engineering and Construction Contract, PMA – Project Manager Accreditation, PSC – Professional Service Contract, TSC – Term Service Contract

NEC Users' Group members

A warm welcome is extended to all new members, highlighted in **bold** in the membership category lists below.

PLATINUM

AWE
Birmingham International Airport Limited
Cambridgeshire County Council
Department for Transport
Geoffrey Osborne Ltd
Gloucestershire County Council
High Speed Two (HS2)
Highways England Co Ltd
Innogy Renewables UK Limited
INOVYN ChlorVinyls Ltd
Lafarge Tarmac
Magnox Limited
Pinsent Masons LLP
Sellafield Ltd
Southend Borough Council
Southern Water
Strategic Estates, House of Commons
Surrey County Council
Transport for London
Yorkshire Highway Alliance

GOLD

AECOM Professional Services LLP
Aggregate Industries UK
Amec Foster Wheeler Nuclear UK Ltd
Ansaldo Nuclear
Arcadis
Areva SA
Atkins UK
Balfour Beatty (Newcastle)
BAM Construct UK Ltd
BAM Nuttall (Kent)
Belfast City Council
Bell Contracts & Co Ltd
Bird & Bird LLP
Bolton Metropolitan Borough Council
Bristol City Council
Brodies LLP
Buckingham Group Contracting Ltd
CampbellReith (Surrey)
Canal & River Trust
Cavendish Nuclear Ltd (Aztec West)
CCS Group PLC
CEMAR
Central Procurement Directorate
City of Edinburgh Council
CMS Cameron McKenna Nabarro Olswang LLP
Costain Limited
CPMS
Cubic Transportation Systems (ITMS) Ltd (Stockton on Tees)
Defence Infrastructure Organisation (DIO)
Dover Harbour Board
Dundee City Council
East Sussex County Council
EDF Energy (Sizewell B)
Eurovia Group Ltd
Farrans (Construction) Ltd
Foreign and Commonwealth Office
FTI Consulting
Galliford Try
Gatwick Airport Ltd
Geldards LLP
Gleeds Corporate Services Ltd
Imperial College London
Instalcom Ltd
Interserve Construction Ltd
Interserve Facilities Management Ltd
J Murphy & Sons Ltd
Jackson Civil Engineering Group Ltd
John Sisk & Son Ltd
KAEFER Ltd
Kings College London
Laing O'Rourke
Lincolnshire County Council
Low Level Waste Repository Ltd
Mace Group
Maris Interiors LLP
Ministry of Justice
Moreton Hayward Limited
Morgan Sindall Construction and Infrastructure plc
MWH UK Ltd
National Grid Plc
Network Rail
NG Bailey
NHS National Services Scotland
Norfolk County Council
Northumbrian Water Limited
Ove Arup & Partners International Ltd
Oxfordshire County Council
Perth and Kinross Council
QinetiQ Ltd
Rider Levett Bucknall
RPS Consulting Engineers
RWE Technology UK Limited
Scottish Water
Sharpe Pritchard LLP
SKA Organisation
Skanska Construction UK Limited
Springfields Fuels Ltd
Synergie Training
Telford & Wrekin Council
The British Museum
The Coal Authority
The Orange Partnership
The Spencer Group
Turner & Townsend
UK Power Networks
Vinci Construction UK Limited
Volker Services Ltd
VVB Engineering Ltd
Warwickshire County Council
WSP UK Ltd
WYG Management Services
YGC
Yorkshire Water Services Ltd

SILVER

Aberdeenshire Council
Angus Council
Anthony Collins Solicitors LLP
Aquila Nuclear Engineering Ltd
Ashfords LLP
BAE Systems Properties Ltd
Barhale Plc
Beale & Company
BEP Delivery Team
Blake Newport Associates
Borough of Poole
Boskalis Westminster Ltd
Bournemouth Borough Council
Brink Management & Advies
Built Intelligence Ltd
Cambridge City Council
Cambridgeshire County Council
Capita
Capula Ltd
CH2M HILL Halcrow
Clarke Willmott LLP
CNS Planning Ltd
Colas Ltd
Connect Plus (M25) Ltd
Cornwall Council
Currie & Brown UK Ltd
Dee Valley Water Plc
Defence Science & Technology Laboratory
Doig & Smith Ltd
Dyer & Butler Ltd
Dynniq Uk Ltd
East Ayrshire Council
East Riding of Yorkshire Council
Eastern Solent Coastal Partnership
Environment Agency
Faithful+Gould
Foster Contracts Limited
George Leslie Ltd
GMH Planning
Graham Construction
GVE Commercial Solutions
Heathrow Airport Limited
Hill & Smith Ltd T/A Techspan Systems
HKA Global Ltd
HKA Global Ltd
Holman Fenwick Willan LLP
Ikon Management Ltd
Jacobs UK Ltd
Jersey Electricity Co Ltd
K&L Gates
Keith Farley Ltd
Kelly Rail
Knights Brown Construction Ltd
Leading Edge Projects Consulting Ltd
Leicestershire County Council
Lexius Limited
Linesight
MacKenzie Construction Limited
Management Process Systems Ltd
Medway NHS Foundation Trust
Mott MacDonald Limited
Mulvaney Consultants Ltd
National Museum Wales
NBS Services
Newcastle City Council
Nexus Rail
North Ayrshire Council
Northern Ireland Housing Executive
Northumberland County Council
Osborne Clarke
Palm Commercial Services Ltd
PD Group Management
Pick Everard
Plan Procure Manage Limited
Playle & Partners LLP
Project Centre Limited
Prysmian Cables & Systems Ltd
R G Carter Construction Ltd
Raymond Brown
Renfrewshire Council
Resolute Project Services Ltd
Robertson Construction Northern Limited
Sam Gilpin Demolition Ltd
SemLogistics Milford Haven Ltd
South East Water Ltd
South Eastern health and Social Care trust
South Gloucestershire Council
South Lanarkshire Council
South West Water Ltd
States of Jersey
Stepstone Consult Limited
Temple Group Ltd
The Capita Group PLC
TLT LLP
Topbond
University of Glasgow
Via East Midlands
Walter Thompson (Contractors) Ltd
Wardell Armstrong LLP
West Berkshire Council
West London Mental Health NHS Trust
Wilsons of Cambridge
Worcestershire County Council

BRONZE

AMEC Foster Wheeler Environment & Infrastructure UK Limited
Andrew Sinclair Ltd
Beattie Communications
Bennetts Associates
Bezzant Ltd
Bilfinger Industrial Services UK Ltd
Black & Veatch Ltd
Caledonian Maritime Assets Limited (CMAL)
Castle Hayes Pursey LLP
Chandler KBS
City of York Council (Transport Division)
City Surveys & Monitoring Ltd
Coborn Ltd
Conject
Construction Dispute Resolution
Corrie Consulting Ltd
Cripps LLP
Crummock (Scotland) Limited
Ctori Construction Consultants Limited
Deane Public Works Ltd
Department of Health ProCure22
Diamond Light Source Ltd
Docté Consulting
Doig & Smith Ltd
Doncaster Council
Dumfries & Galloway Council
dunstan-consulting Ltd
East Lothian Council
Engineering Contract Strategies
Fife Council
First Choice Homes Oldham
Fulkers
George Corderoy & Co
GHD (Manchester)
Glanville Projects Ltd
Glasgow City Council
Griffiths & Armour
Hanley Pepper Ltd
Hanover Housing Association
Haskoning DHV UK Ltd
HLG Associates Limited
Hydro International (Wastewater) Limited
IN Construction Consulting Limited
Ironside Farrar Ltd
J Breheny Contractors Ltd
JJL Consultancy Ltd
John F Hunt Demolition
John Papworth Ltd
K J Taylor Consulting Ltd.
Lagoni Engineering Limited
Lancaster City Council
Land & Water Group
Lilleker Bros Ltd
Lintott Control Systems Limited
LM Services
London Borough of Hillingdon
Mangotree Kent Limited
Martin Warren Associates
McAdam Design
Met Office
MM Miller (Wick) Ltd
Natural Resources Wales
Novi Projects
Orkney Islands Council
Palbro Consulting Limited
Pangea Professional Services
Pat Munro (Alness) Ltd
pdConsult
Peter Brett Associates (Reading)
Peter Cousins & Associates
Plan Ahead
Portsmouth City Council
Pro Eng
Procom-IM Ltd
Pyments Ltd
Quigg Golden Ltd
RA Gerrard Ltd
Ramboll
Rex Procter & Partners
Reynolds Porter Chamberlain LLP
Ridge and Partners
Ronez
RSK
Russell Scott Ltd
RWJP Ltd
Salvation Army
Shropshire County Council
Solomons Europe Ltd
Specialist Engineering Contractor's Group
SPQS Associates Ltd
States Property Services
Summers-Inman LLP
Supacat Ltd
Sutton & East Surrey Water Plc
Sypro Management Ltd
T & N Gilmartin
Tanner Project Management Ltd
The Big Red Apple Company Ltd
The Highland Council
TKR Consultancy Ltd
Trebes Consulting Limited
Trowers & Hamlins
Veale Wasbrough Vizards LLP
VHE Construction Plc
Wallace Stone LLP
WDR & RT Taggart
Wrekin Consulting Limited

ASIA PACIFIC

Airport Authority Hong Kong
Arup (Hong Kong)
Atkins China Ltd
BK Surco Ltd
BKAsiaPacific (Malaysia) Sdn Bhd
Black & Veatch Hong Kong Ltd
Build King Construction Limited
Chevalier (Envirotech) Ltd.
Chinese University of Hong Kong
Chun Wo Construction & Engineering Co Ltd
Civil Engineering & Development Department, HKSAR
CLP Power Hong Kong Ltd
Clyde & Co
Contract Communicator Systems
Deacons
Development Bureau, HKSAR
Dragages Hong Kong Ltd
Drainage Services Department
Driver Trett (Hong Kong) Ltd
Gammon Construction Ltd
Hargreaves Industrial Services HK Ltd
Highways Department, HKSAR
HKA Global Limited
Hogan Lovells (Hong Kong)
Hong Kong Construction Industry Council
Hsin Chong Group Holdings Limited
JHL Engineering
KCI Management Consultancy Ltd
Kum Shing (KF) Construction Co Ltd
Mannings (Asia) Consultants Ltd
Meinhardt Infrastructure & Environment Ltd
Mott MacDonald Hong Kong Ltd
MY Cheng & Co (Engineering) Ltd
Navigant Consulting (Hong Kong) Ltd
Paul Y Construction Company, Limited
Pinsent Masons
Sum Kee Construction Ltd
The Contracts Group Ltd
Thomas Telford Ltd
Turner & Townsend (HK)
Vasteam Construction Limited
VSL Intrafor (HK)
Water Supplies Department, HKSAR

REST OF WORLD

Cameron Staude Attorneys
ConsulCAD
Egis Road & Tunnel Operation Ireland
Hawkins 2017 Ltd
Stephanie McDonald