



CLYDE & CO

# Smart Construction

How to Tailor for Off-Site Construction in Contract Documentation  
Local Government Association 7<sup>th</sup> National Construction Conference  
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Dr Julie Morrissy

A word of warning...

***“MODERNISE OR DIE”***

## **“Modernise or die...”**

**2016 - The Farmer Review of the UK Construction Labour Model warned that the construction industry must *“modernise or die...”***

**2019 – Government’s commitment to adopting a *“presumption in favour of off-site construction”***

**Construction Sector Deal – *“to transform the sector’s productivity through innovative technologies and a more highly skilled workforce”***

**A key area of focus is the belief that OSM will *“minimise the wastage, inefficiencies and delays that affect on-site construction, and enable production to happen in parallel with site preparation – speeding up construction and reducing disruption”***

# House of Lords Science and Technology Select Committee Report 2018

**Report – “Off Site Manufacturing for Construction: Building for Change” –**

***“the construction sector as it currently operates cannot meet the UK’s need for housing and may struggle to meet the need for infrastructure. Given the UK already lags behind other countries in construction productivity, and is facing a labour shortage, the Government and the construction sector must urgently find solutions.”***

## So what exactly is OSM?

**OSM is the manufacture of components required for the creation of a built asset that takes place remotely from the site where the asset will be constructed. The benefits largely come from the creation of components in a factory setting, protected from the weather and using manufacturing technologies such as assembly lines with dedicated and specialist equipment and the use of technology to:**

- **Increase the speed of construction by increasing the speed of manufacture of component parts**
- **Reduce waste**
- **Increase economies of scale**
- **Improve quality leading to reduction in the whole life cost of assets**
- **Reduce environmental impact such as noise and dust**
- **Reduce accidents and ill-health by reducing on site construction**

# What does off-site manufacturing look like?

- **Not new – HL Report cite off-site manufacturing as early as 1624 where Massachusetts settlers built homes out of prefabricated materials shipped from England – panelised house of wood for use by the fishing fleet (a house that was subsequently disassembled, moved reassembled several times)**
- **Others point to even earlier OSM –**
  - Burnt clay bricks of the Mesopotamian civilisation
  - Concrete moulds used by the Romans for aqueducts and tunnels
  - Prefabricated sections of defences brought by William the Conqueror in 1066

# Putting it into practice - creating a robust legal framework

## **Main considerations:**

- **Which terms and conditions to use – manufacture only?**
  - **Professional indemnity and product liability insurance**
  - **advance payment and insolvency risk**
  - **Title and risk**
  - **Effective regulation of environmental, health and safety and employment issues**
  - **Payment security issues**
- **terms and conditions:**
    - Supply only
    - Supply and installation
    - Main contract/sub-contract
    - Flow down provisions/mirroring risk profiles
    - Administrative procedures –
      - Applications for payment
      - Quality management systems
      - Site protocols
      - Audit rights

# NEC4 Practice Note 4 September 2018 – Offsite modular construction

September 2018 NEC issued its Offsite modular construction practice note

**Summary: “The move to offsite manufacturing coupled with other developing technologies has the potential to greatly increase productivity, efficiency and reduce cost in the creation and maintenance of assets as well as delivering benefits in terms of safety and the environment. The NEC4 suite of contracts is uniquely placed to help Clients and their supply chain to deliver these benefits.”**

## NEC4 Practice Note continued...

- **Key benefits:**
- Effective management of time, risks and interfaces – will allow for coordination of offsite and onsite works so as to ensure components fabricated offsite are delivered to site at the correct time and in the correct sequence for assembly to take place
- Secondary option X12
- Secondary option X10

# NEC4 Supply and Short Supply Contract

- **Contracts tailored to be used by the manufacturing supply chain**
- **Supply contract – for supply of bespoke or high value items, designed and manufactured for the project**
- **Supply short contract – for use with commoditised products and capable of batch supply**
- **Option X25 - *“The Supplier gives the Purchaser warranties for the amounts stated in the Contract Data and in the form set out in the scope. A warranty is given to the Purchaser before Delivery.”***
- **Obligations to programme, deliveries, undertaking factory tests, allow inspection and maintain programme – not often included in manufacturing standard terms and conditions**

# NEC4 Supply Contract and Short Supply Contract continued...

- **Not “construction contracts” for the purposes of the Housing Grants, Construction and Regeneration Act**
- **International contracts will have different requirements**
- **Projects requiring a lengthy design and fabrication process can use options for price adjustment for inflation, advance payment provisions, advance payment bonds and project bank accounts**
- **Gaps:**
  - Absence of installation provisions – NEC Short Contract?
  - Testing provisions basic – more detailed requirements may be needed
  - Clause 41 provides a basic testing regime

# Advance payment and insolvency risk

- **Increased use of OSM will lead to issues associated with move away from established payment regime**
- **Advance payments to suppliers – payments for works that are yet to be carried out or at least not yet carried out on site**
- **Greater risk of insolvency of supply chain members – up-front payments may be at risk**
- **Increased concentration of work in one or two sub-contractors supplying goods or one main contractor**
- **Difficulties with overseas suppliers (insolvency and jurisdiction)**
- **Value of works on modular can be skewed in favour of the supplier**
- **Security: demand bonds, vesting certificates, retention, caps on payment**

# Title and Risk

- **Key risk is transfer of ownership and risk in the manufactured elements**
- **Risk – this is different from ownership and covers risk for risks associated with storage, transport and insurance**
  - Under the ECC title passes to the Client when Plant and Materials are brought within the Working Areas. If outside the Working Areas, title passes to the Client when the Supervisor marks the Plant and Materials as for the contract
  - Components outside the Working Area – Scope should include requirements for passing title
    - **SCC** - default position is that title passes when goods are paid for rather than on Delivery
- JCT – retention of title clauses – payment with title to pass if certain conditions met
- Payment security/vesting certificates may be required

# Insurances – PI and Product Liability

## **Professional Indemnity (PI)**

- **Front-loading design may create risk and error**
- **Challenges for responding to unknown or unforeseen issues**
- **Remedying errors in OSM products**
- **Exclusions in PI policies for workmanship and defective materials and production techniques**

## **Product Liability**

- **Client requirements should be carefully defined**
- **Clarify with manufacturer any implications on product insurance of post delivery/installation issues**

## ***Buildoffsite Property Assurance Scheme***

# Watch that drafting...

## **Bennett (Construction) Limited v CIMC MBS Limited (formerly Verbus Systems Limited)**

- **Payment provisions in amended JCT contract**
  - 5 milestone payments – “sign off”
  - What does “sign off mean” – big argument !
  - TCC found that contract not HGCRA compliant
  - Court of Appeal disagreed
  - Points of note
    - “sign off” an objective and not subjective test
    - HGCRA does **not** apply for off-site elements of manufacture (S105(2)(d))
    - Where manufacture and installation included HGCRA applies

# QUESTIONS

***Any questions?***