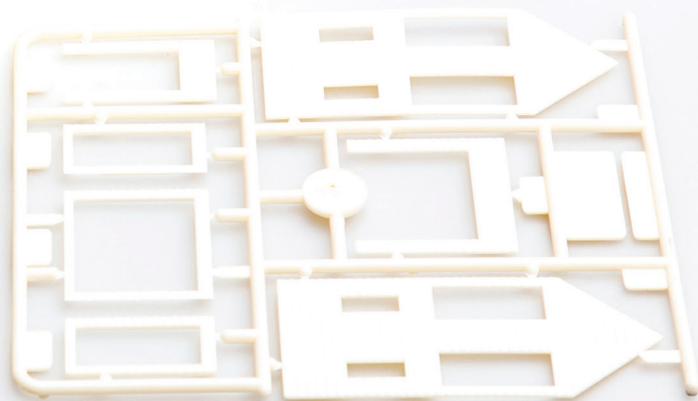
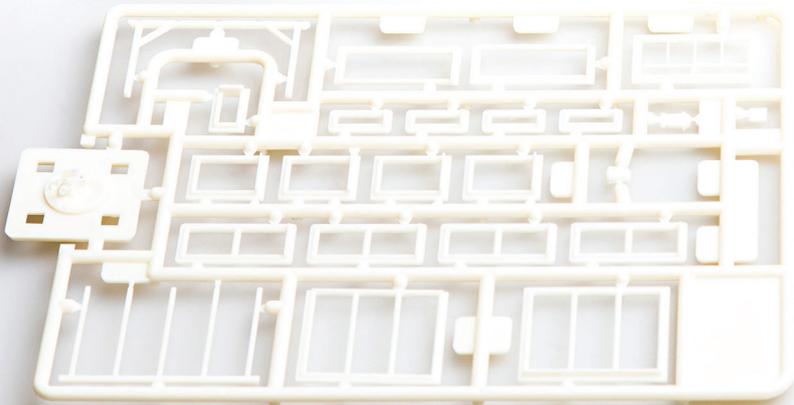
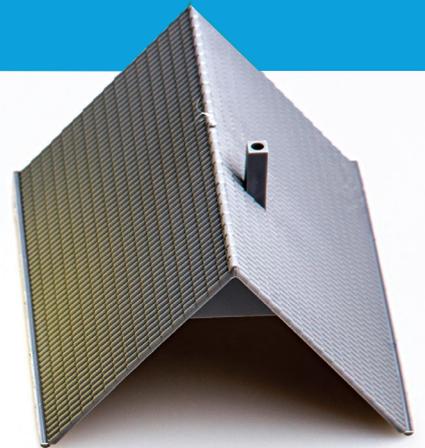
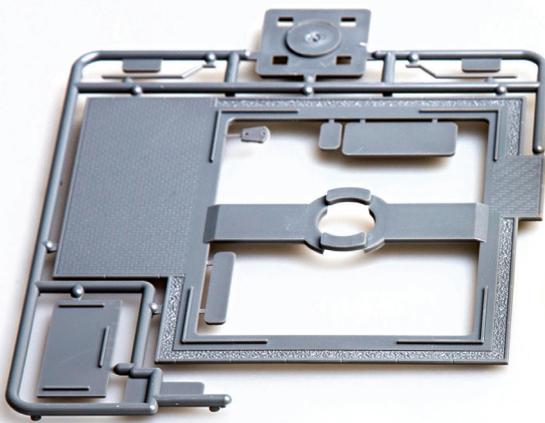




**CONSTRUCTING
EXCELLENCE**
South West

Legal guide to off-site manufacturing



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Introduction

Constructing Excellence South West's Offsite Technologies group and the Procurement group have identified that the construction sector needs to adapt its construction processes to make the best use of off-site technologies. Further, it seems that the construction sector is being asked to look at a range of construction methods and techniques in order to facilitate an anticipated larger demand in both housing and public buildings. This is on the understanding that this demand will be prolonged rather than a mere blip.

Statistics show that this demand cannot be met by the use of traditional on-site construction methods alone. Moreover, some have argued that despite the decades of experience of traditional on-site methods of construction, the construction sector still suffers from headline making defective and unsatisfactory work. The combination of these two factors and other factors has brought off-site manufacturing into the spotlight as a solution to these points.

Of course, off-site manufacturing is not a new concept. Arguably, where a commercial advantage can be shown, the construction industry has always used off-site manufacturing processes for specific elements of a building as part of the construction process. What seems to be different this time is that off-site manufacturing could become commercially viable and a main stream solution, if there is the demand. As such, there is no reason why the construction sector shouldn't develop its own procurement methodology for off-site manufacturing.

To assist with the development of a procurement methodology, this guide has been drafted to highlight some aspects of off-site manufacturing processes which need consideration from a legal perspective. Each firm of solicitors has produced a number of articles which highlight a particular aspect based upon their experience of advising on off-site manufacturing.

Whilst these articles highlight a number of considerations, it has not been possible to cover every type of off-site manufacturing product and system, each of which will have their own specific points. Nor is this meant to be a definitive guide but it is hoped that some of the points made in these articles will assist in formulating a procurement methodology which the construction sector can adopt for off-site manufacturing.

The guide has firstly abstracted the key points from each article and then the full articles follow in the order listed.

Of course, if there are any specific points you would like to discuss then please contact Constructing Excellence South West or any of the authors.

Constructing Excellence South West would like to thank everyone who has made this guide possible.

Alan Tate
Partner
Michelmores LLP

Executive Summary – Key Points

Procurement

Early contractor involvement

- Early contractor involvement (“ECI”) is key to ensuring the “buildability” of a proposed development
- The contractor’s input into the design of an off-site manufacturing (“OSM”) development should be sought, and wider involvement of and collaboration with each member of the project team should be encouraged
- One-stage procurement methods ordinarily do not allow for ECI for the purposes of OSM
- A two-stage procurement process should be utilised for OSM developments in order to attain the benefits of ECI
- A move towards the standardisation of two-stage procurement processes may help reduce industry and market reluctance to embrace OSM technology

Looking after your supply chain

- Government support clients engaging with supply chains
 - A key to achieving social value objectives
 - The use of the selection questionnaire produced by the Crown Commercial Services is encouraged
 - A direct link to the supply chain minimises the consequences of main contractor insolvency
- New procurement structures and the RIBA Overlay**
- Implementation of new, collaborative procurement structures is vital for off-site to be successful
 - Integrated design processes like the Design for Manufacturing Assembly (DfMA) model facilitate off-site manufacturing
 - The RIBA’s DfMA overlay works with the RIBA Plan of Work 2013 to assist design teams in considering DfMA at each stage of a project
 - The DfMA overlay can be used as a tool for increasing industry knowledge and providing a greater understanding of off-site construction as a whole

Contracts

The use of NEC4 contracts in off-site

- The NEC Supply Contract and NEC Supply Short Contract provide a welcome attempt at incorporating manufacturers within the contractual supply chain framework
- Contractors under the NEC who act as purchasers of the goods can benefit from an approach consistent to its own contract framework and their suppliers benefit from well thought out concise provisions without inappropriate or irrelevant dumping of risk
- The NEC Supply Contract can readily be utilised for international fabrication and supply arrangements

Do we need assembly rather than design and build contracts?

- A design and build contract duplicates risk and liability
- Should a main contractor be responsible for the off-site manufacturer’s design and assembly?
- There are other published forms of contract which can be adapted and used
- Latent defects insurers may need to re-look at their policies

Ownership and security over advanced payment of monies

- Advance payments made in respect of off-site materials present a risk for employers
- Employers can protect advance payments by asserting their ownership of goods purchased with such payments, or by requiring other payment security
- Establishing ownership (under a sale/supply contract and/or a vesting certificate) provides some protection for the employer, but may be of limited use where the contractor becomes insolvent
- Security can be provided by a third party (in the form of a guarantee or bond) as an alternative means of protecting advance payments
- The type of security required in relation to advance payments should be carefully considered in the circumstances of the development

The off-site rules explained

Trading with overseas manufacturers

- International supply contracts comprise a higher commercial risk for both parties
- Bills of lading are a natural consequence of longer delivery and payment periods
- The use of Incoterms is to be encouraged to clarify delivery obligations but care must be taken to choose the most applicable incoterm and ensure the supply contract aligns with its requirements
- Advance payment is likely to be required and parties must take care to choose the appropriate consequential security document
- Advice is required in choosing both the jurisdiction and applicable governing law

Health and Safety

- There are numerous benefits of off-site construction on occupational health and safety
- Employers should adopt a best practice practical approach to health and safety
- Be mindful of duties under the Health and Safety at Work etc Act 1974 and duties under The Construction (Design and Management) Regulations 2015
- Health and Safety Executive (HSE) will need to be notified of the project if it is of a certain time scale or involves a certain amount of people
- Risk and liability for health and safety needs to be carefully documented in building contracts and sub contracts.

Off-site, on-site – Pop-ups

- Some of the larger developments have established that it is commercially advantageous to construct an off-site facility, on-site
- Planning permission for these semi-permanent facilities is likely to be required
- A separate lease or licence should be drafted to control the occupation and use of these facilities

Keeping disputes out of sight

Mediation

- The three main causes of a dispute are: the failure to administer the contract; incomplete design information; and failure to understand the contractual obligations
- The pre-action protocol requires the parties to consider whether the dispute can be resolved without recourse to litigation
- There are 7 stages in a mediation
- The use of Constructing Excellence South West’s *Mediation Guide and Protocol*



Early contractor involvement

Why is ECI important?

Where an employer has decided to utilise off-site manufacturing (“OSM”) within its development, early contractor involvement (“ECI”) is important in ensuring that the development can be built in the way intended in the detailed design, and in accordance with the timescales and the cost plan for the development (i.e. the development’s “buildability”).

Some examples of how ECI can achieve this are as follows:

Design Freeze

OSM by its nature integrates design and manufacturing, and as such necessitates a highly detailed final design at an early stage in the project programme (and before any OSM works are commenced), so that the off-site manufacturer is clear as to the exact specifications of their product. This is known as “design freeze”.

Such detailed design will need to consider all aspects of an OSM development to ensure the success of the development: design for manufacture and assembly; design for installation; and design for operation. ECI is key to ensuring that practical considerations (such as resourcing, site conditions, and pricing), together with the contractor’s experience and expertise, are factored into such considerations.

Failure to address each of these elements may result in the final design being impractical within the intended timelines or cost plans, or even impossible to achieve. Should any adjustments to the detailed design be required following the commencement of off-site works, this will inevitably be accompanied by (potentially significant) delays and abortive/additional costs.

Project team (“PT”) interface

Early engagement of the key members of the PT (including the off-site manufacturer) facilitates a strong project partnership amongst the PT, and establishes the interface required to ensure that the detailed design can be finalised at an early stage (as discussed above). It also allows each PT member to be clear as to their respective responsibilities and deadlines in the context of the wider project (and the overarching aims and values of the employer). This also limits the potential for unclear or outdated information to be circulated within the PT (which may cause confusion, delays, errors, and the potential for disputes). Each PT member should also provide their expertise at an early stage of the design process in order to maximise the benefits of OSM.

Formalising ECI

Single-stage procurement methods, whether traditional or design and build (“D&B”), do not accommodate ECI, as the contractor is not made aware of the design until it is fully developed. As such, unless the issues set out above in respect of buildability are not a concern for an employer (e.g. where the design is straightforward, and changes during construction are unlikely), single-stage procurement does not address the buildability constraints of OSM.

Two-stage procurement methods are therefore recommended in order to ensure the benefits of ECI can be realised on an OSM development. The two-stages of procurement can be generally categorised as follows:

- **Stage 1** The contractor is engaged to develop and optimise the design in conjunction with the design team, consider construction planning, and conduct procurement activities that lead up to the physical construction of the work;
- **Stage 2** The contractor is engaged to construct the works (and accept responsibility for the design of the development if using a D&B arrangement).

Some of the forms of contracts that can be used in order to achieve two-stage procurement are as follows:

- The supplementary ECI clause issued by NEC (for use with NEC EEC contracts (options C and E)) provides basic pre-construction provisions. This clause offers two alternative approaches to early collaboration (which concern whether the contractor assists with the design, or undertakes the design with assistance from designers);
- The JCT Pre-Construction Services Agreement (General Contractor or Specialist) contracts are intended to supplement the JCT standard forms of construction contract (whether traditional or D&B);
- Bespoke pre-construction services agreements can be prepared in order to address the specific risk factors and practical difficulties of a particular development.

Whichever form of agreement is preferred, in order to contract Stage 1 services with the contractor, care should be taken to ensure that the following key factors are clearly agreed and documented:

- the contractor’s scope of services;
- reimbursement (if any) of the contractor for the Stage 1 services;
- termination of the development and/or the contractor’s involvement;
- notices to proceed to Stage 2; and
- intellectual property (etc.).

Contractual requirements that promote a collaborative/inclusive environment amongst the members of the PT should also be considered in order to best ensure the buildability of the development.

Two-stage procurement does however present risks for the employer, most of which centre around the limited contractual certainty which is in place from the outset of the development. For instance, there is a risk that the contractor may become “embedded” in the development after the completion of Stage 1, and difficult to replace in practice (irrespective of any contractual provisions to the contrary). This can lead to extensions to completion dates and price escalation, and can also cause deterioration in the employer/contractor relationship. Stage 1 should therefore be carefully managed so as to mitigate this risk to the employer as far as possible (e.g. by ensuring that the employer has allowed sufficient “float” in his programme to re-tender the Stage 2 works if necessary).

Looking forwards, broader utilisation and standardisation of the two-stage procurement arrangements that enable ECI may assist in expanding OSM utilisation, as this will introduce some familiarity to the OSM contractual structure, thereby helping to overcome a known barrier to OSM uptake – resistance from a traditional industry and market culture.

Looking after your supply chain

For off-site manufacturing projects where key design and construction will take place off-site it is more important than ever for public sector clients to engage with all tiers of their main contractors' supply chains. Here are some key issues for clients to consider.

Government best practice and guidance supports clients engaging with supply chains at an early stage but traditionally this hasn't been the case with many public sector clients preferring to rely upon their main contractors to manage and pay sub-contractors.

In the public sector, where the Industrial Strategy 2017 and the impact of the Farmer report "Modernise or Die" is encouraging more off-site manufacturing, clients are also having to deal with a number of recent legislative changes to ensure supply chains are compliant and effective.

In addition, pressures of cost cutting within the public sector, and the anticipated impact of Brexit on the cost and availability of labour and materials, places a further onus on public sector clients to engage with their supply chains and explore opportunities for cost savings and improved delivery.

Legislation affecting public sector supply chains

Some of the legislation affecting treatment of the public sector supply chain includes:

- **Public Contracts Regulations 2015** – These requirements have been around since early 2015 but still aren't widely known or adhered to. Contracting authorities are required to ensure all "public contracts" procured in line with the Regulations contain terms to pay contractors within 30 days of an undisputed invoice. In addition, contracting authorities must also ensure that their main contractors pay their sub-contractors within 30 days, and that the sub-contractors have equivalent terms in their contracts with sub-sub-contractors.

- **Modern Slavery Act 2015** – This Act imposes obligations on public sector clients as employers to ensure that their supply chain is compliant with Section 54. This is the requirement to publish a statement which documents the steps the organisation has taken to ensure that slavery and human trafficking is not taking place within any of its supply chains.

- **General Data Protection Regulations** – These regulations come into force on 25 May 2018, and impose greater restrictions on processing data in the EU. Public sector clients must now ensure that any Personal Data held by their contractors and their supply chains is protected and not unnecessarily disclosed.

To comply with these rules, public sector clients must now take greater steps to ensure that their main contractor and supply chain contracts are compliant. Standard form contracts (JCT, PPC/TAC, NEC) contain terms covering prompt payment of the main contractor, but further drafting will be required to cover payment to the supply chain, and the Modern Slavery and Data Protection amendments.

Public sector clients should ensure that all forms of contract used, whether bespoke or standard forms, contain these terms. Alternatively, public sector clients should be asking to review and approve forms of sub-contract, to ensure that these obligations are covered. For existing contracts and frameworks, public sector clients should be looking to vary the contract terms with their contractors and service providers.

Using procurement to understand your supply chain

As well as legal compliance, there are a number of commercial benefits that can be generated from engaging with the supply chain. Understanding where your supply chain sources their labour and materials from will be increasingly important in a post-Brexit economy, which is already experiencing increases in material costs and

a shortage in skilled labour. Public sector clients can engage with their supply chains or indirectly via their main contractors, and agree volume supply agreements to ensure a consistent supply of labour and materials for long-term projects. Providing the supply chain with some assurances as to workflow can also be useful in negotiating extended and improved warranties and guarantees on materials and service delivery.

Engaging with the supply chain often holds the key to achieving social value objectives. Many contractors do not engage labour directly and are less able to provide apprenticeships and work experience opportunities. Engaging with your existing supply chain, or requiring contractors to pass social value obligations down to the supply chain, can be a more effective means of achieving these objectives.

Public sector clients who opt to engage directly with the supply chain have the advantage of being able to negotiate directly, and exercise more control over selection. However, this will usually require public sector clients to run a procurement process under the Public Contracts Regulations. For this reason, many public sector clients prefer to engage with their supply chain via their main contractors. While this does not give as much control over selection, public sector clients can benefit from the management experience of the main contractor.

Public sector clients can use the procurement process as a due diligence exercise, to ensure that their contractors and supply chains are suitably qualified and compliant. The Crown Commercial Service's Standard Selection Questionnaire includes a number of questions focusing on supply chains. Question 6.2 can be utilised to obtain evidence of bidders' experience of maintaining healthy supply chains. Similarly, Question 8.2(c) can be used to demonstrate that the bidders support skills development and apprenticeships in their supply chains. Public sector clients can also supplement these questions as required.

Procurement exercises can also be used to gather information about how bidders will utilise their supply chain to deliver the contract, and their willingness to offer volume supply deals and offer social value opportunities. The HACT Toolkit on Social Value and Procurement can be used to set suitable correct criteria to evaluate social value and embody any social value objectives in the delivery contract.

Operational benefits for off-site manufacturing

Regardless of the procurement model used, there are a number of operational benefits to engaging with the supply chain. Disputes and differences, especially around timescales and complaints around service delivery, can be resolved more easily when you have direct communication with the supply chain. Inviting the supply chain to attend key strategy meetings and participate in cost review exercises will also benefit from the supply chain's operational understanding of the contract. Having a direct link with the supply chain also provides an in-built safety mechanism for clients in the event of main contractor insolvency.

New procurement structures and the RIBA Overlay

Early Engagement: The procurement challenge

One of the key challenges for those looking to drive off-site construction forward is procurement. The approach taken to the procurement of construction projects in the UK is generally one which follows a tried and tested route from client, to designer, to contractor, to subcontractor, to sub-subcontractor etc. – each party being seen as a separate part of the process – with little to no engagement taking place with specialist subcontractors or suppliers until much later on in the project. Where off-site construction is concerned, this traditional approach simply doesn't fit. Inappropriate procurement strategies with packages of work split across different elements can compromise off-site solutions.

New procurement strategies focusing on collaborative working between consultants, contractors and manufacturers are vital for off-site construction to be successful and early engagement with the supply chain is paramount. This will no doubt require a change of mind-set for the industry but could bring about significant benefits.

New frameworks are already beginning to appear across England, Wales and Scotland which operate on an alternative 'design, manufacture, supply and installation' approach. Integrated design processes like the Design for Manufacturing Assembly (DfMA) model are also being used to demonstrate a new approach which facilitates off-site manufacturing and engages multi-discipline and multi-tier suppliers early in the design process.

RIBA Plan of Work 2013:

Designing for Manufacture and Assembly

In a joint publication by the Royal Institute of British Architects (RIBA) and the Off-site Management School, "RIBA Plan of Work 2013: Designing for Manufacture and Assembly", DfMA is discussed as an essential topic for all designers. The underlying goal of DfMA being the use of design processes which help to facilitate a collaborative approach along the entire supply chain, using a variety of techniques including:

- Volumetric approaches;
- 'Flat pack' solutions; and
- Prefabricated sub-assemblies.

The guide seeks to contribute to the process of driving radical improvements in productivity. It does this by the use of the DfMA approach of facilitating greater off-site manufacturing and minimising on-site construction which allows buildings to be constructed in a more cost-effective way.

A key point made by the working group behind the guide is that DfMA requires designers to think differently at Stage 2 (Concept Design) and to consider the buildability and the modern methods of construction at Stage 3 (Developed Design) and Stage 4 (Technical Design). Put simply, designers need to understand the technologies and processes which off-site manufacturers can, and do use and in particular, how the product or element is assembled rather than constructed. The guide also identifies the increasing use of Building Information Modelling which underpins the collaborative and innovative culture that off-site manufacturing can engender.

The guide considers that DfMA has the following benefits:

- 20%-60% reduction in construction programme time
- Greater programme certainty
- 20%-40% reduction in construction costs
- 70% reduction in on-site labour
- Better construction quality

A view which is supported by a number of case studies which are included within the guide.

Also highlighted by the guide are the following traits of a project which has used DfMA:

- Design solution minimises risk and increases certainty of delivery
- Project includes aspects of the design that have been standardised or repeated without stifling creativity and innovation
- Allows time and effort of the design team on the 'bespoke' elements of a project
- Streamlines delivery and allows creative skills to be deployed where they will be most valuable
- Reduces that proportion of the construction costs that adds little value

The guide also looks at DfMA and how it should be used against the 'RIBA Plan of Works 2013', noting the challenges that need to be addressed when using the Plan of Work in a "design-to-assembly" process. What the working group for the publication has produced to assist the industry in overcoming these challenges, is a new DfMA overlay to the RIBA Plan of Work 2013.

The DfMA overlay

The DfMA overlay can be found at the back of the guide and has been created with the intention of it being used in conjunction with the existing Stages of the RIBA Plan of Work 2013, and its core objectives.

For each of the RIBA stages, 0 through to 7, the DfMA overlay provides new task bars which are supplemental to the eight already included in the RIBA Plan of Work 2013 and which state the activities which should be carried out or considered at the various stages. These new tasks bars include:

- Guidance in support of DfMA Strategy;
 - Suggested BIM Tasks for DfMA; and
 - Suggested Procurement Tasks for DfMA (emphasising the need to engage design team members who have had DfMA experience),
- and are aimed assisting the design team in considering DfMA at each stage.

The RIBA and the Off-Site Management School hope the overlay will encourage designers to engage with off-site manufacturing and assembly and to be more receptive to its benefits. It is also intended as a tool for increasing industry knowledge and providing a greater understanding of off-site construction as a whole, which is all important for parties to be able to consider off-site early on in the procurement process.

The key messages to be taken from the guide are:

- That the use of DfMA has to be considered at the outset of the project
- An off-site solution cannot be levered in half-way through a design process
- A strong recommendation of early contractor involvement and a collaborative method of working

The use of NEC4 contracts in off-site manufacturing



For the purpose of this article it is assumed that the contractor will be contracting with the manufacturer rather than the project client.

Introduction

Both off-site manufacturers and the buyers of their goods often face problems in determining the basis for the contractual arrangements between them where the goods are required for construction projects.

Manufacturers will wish to use their terms and conditions of supply. Where they are required to accept the form of contract proposed by a contractor or subcontractor of a construction project they sometimes face a contract containing an inappropriate flow down of conditions from the main contract by the contractor.

From a contractor's perspective, particularly on a large project where multiple manufacturers are to be used dealing with either an assortment of bespoke terms from various manufacturers or seeking to determine which provisions of a construction contract should apply to the manufacturer can be time consuming. The contractor will wish the manufacturers to fit in as far as possible with the relevant administrative procedures relevant to applications for payment, quality management systems, site protocol, audit rights and dispute resolution provisions. The Contractor will wish, as far as possible, for a consistent approach in gauging the risk profile applicable to the manufacturer, its product and the delivery of the goods being manufactured by it to the approach used for other parts of the supply chain.

NEC4 Supply Contract and Supply Short Contract

The NEC Supply Contract and NEC Supply Short Contract introduced in 2010 and now updated as part of the wider launch in July 2017 of NEC4 sit within the family of construction and engineering contracts but are tailored to be used by the manufacturing supply chain to the construction and engineering industry.

The Supply Contract is a contract for the supply of bespoke or high value items, those designed and manufactured for the project. Examples of the type of products likely to be the subject of such a contract are endless. By way of example the author has recently dealt with pumps, turbines, furnaces and off gas systems for use in the water, and renewables and energy from waste sectors.

A Supply Short Contract is meant to be used for commoditised products and capable of batch supply.

Specific Manufacturing Provisions in the Supply Contract

Whilst there remains a limitation date to be set out within the limitation of liability option the use of Option X25 "Supplier Warranties" is more reflective of the liability of the manufacturer given the nature of the product.

Option X25 provides as follows:

"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"

Provisions of this nature will help deflect a contractor who cannot understand why a pump fabricator should simply accept a 12 year limitation date in respect of the product.

Obligations to programme the deliveries, undertake factory tests, allow inspections and maintain the programme are all useful provisions which do not often appear on manufacturers' standard terms.

The customary NEC early warning procedure is tailored to the requirements of the manufacturer and the purchaser by subtle changes to the usual NEC provisions. The parties are to warn of events that may affect the price, delay the delivery or impair the performance of the goods or impair the usefulness of the services to the Purchaser.

Despite the fact that the Supply Contract and Supply Short Contract are not drafted in such a way that they will be considered a "construction contract" for the purposes of the Housing Grants, Construction and Regeneration Act 1996, the contracts contain simple adjudication procedures as the first formal stage of dispute resolution

International Supply

The use of the Supply Contract on international projects is made possible through the use of options relating to changes in the law and multiple currencies.

Additionally, the contract was designed to be used easily alongside incoterms (see the chapter on Trading with Overseas Manufacturers). The document entitled "Preparing a supply Contract Volume 2" which performs the role of a guidance note provides an example Supply Requirements document which contains a prompt for the relevant incoterm to be selected based on classification, term and delivery place.

Projects requiring a lengthy design and fabrication process are also catered for through the use of options allowing for price adjustment for inflation, advance payment provisions and corresponding advance payment bond provision and project bank accounts.

Missing Provisions

One valid criticism of the Supply Contract, although probably not of the Supply Short Contract, is the absence of installation provisions. The drafters of the NEC would argue that an NEC Short Contract form or an NEC Short Subcontract form could be utilised but it is a missed opportunity for simple installation provision as an option clause has not been included.

A further criticism made of the Supply Contract is that the test provisions are too basic. Clause 41 provides a rudimentary test provision but all such test provisions are highly conditional on the nature of the product and the necessary testing stages. Any product requiring, for example, an installation test, cold commissioning, hot commissioning and further final performance tests is likely to require its own specific test regime.

Do we need assembly contracts rather than building contracts?

Introduction

The purpose of this article is to consider whether a project which includes the use of an off-site manufacturing process should engage the off-site manufacturer under a different procurement model than those commonly used where the project is constructed from materials and goods brought onto site. In this context, this article focuses on the contractual arrangements between a 'client' who commissions a project and the construction team. This article also assumes that the off-site manufacturer is one who has previously designed and developed a composite product which has satisfied all statutory approvals and is ready for purchase save that it maybe adjusted at the commissioning stage to suit the particular requirements of the client.

With this in mind, it seems at the moment that the construction sector has responded to an 'off-site project' by treating the off-site manufacturer as merely one of the sub-contractors whereby the responsibilities for the design and construction of the project remains with the main contractor. The use of a contract such as the JCT Design & Build seems to be prevalent together with a letter of intent to start the manufacturing process. Whilst, on the face of it, this provides a single point of responsibility, it is arguably not the most efficient and cost effective way to procure off-site projects, as main contractors are being asked to take responsibility for aspects they have not been involved in. Put simply, the use of the usual design and build procurement method often means that a premium is being added for a main contractor to also take the design responsibility for an off-site manufactured product. This raises the suggestion that this duplication of liability adds an additional layer of cost to the project.

Secondly, a project which uses an off-site manufacture process will normally have a different procurement timeline than an on-site project as the off-site manufacturer will insist that the design is completed and signed-off and a substantial payment has been received from the client or the contractor before the production run is commenced.

Thirdly, in the situation where an off-site manufacturer is designing, providing and assembling a near completed product, should a main contractor be responsible for the timely performance of the off-site manufacturer?

Forms of contract

Based upon these three points, it is worth considering whether some of the other type of contract structures are more suitable than the usual design and build contracts. This again is in the context that a client is engaging a main contractor and a construction team to carry out a project rather than a developer-led housing project. Here are a few suggestions.

For the more experienced client with the resources to manage its construction programme, there is a thought process which suggests that an off-site project does not require a single main contractor but a series of trade contractors which are managed by a construction manager. Each trade contractor is directly engaged by the client and is co-ordinated by the construction manager. The flow of work can be controlled by the client. The JCT publishes a Construction Management Appointment and together with the Construction Management Trade Contract, can be used as the basis of these arrangements and the project. Whilst not for everyone, this is a procurement method which is worth looking at again. Arguably, in the housing sector, some developers adopt this method by the use of trade contractors on the basis that it can manage and control the process. Similarly, a client who wishes to develop and manage its own projects could use the Construction Management Trade Contract as the basis of a contract to engage the supply chain including the off-site manufacture and assembler.

The use of the Named Sub-contractor process under the JCT Intermediate Contract has fallen out of favour by many clients and their advisors as there is a preference that the main contractor is responsible for all sub-contractors as 'domestic sub-contractors'. However, in the context of off-site manufacturing and assembly, it is worth looking at whether the Named Sub-contractor process is a suitable way to procure an off-site manufacturer. By way of a reminder, the Named Sub-contractor process allows early supply chain involvement as the client invites tenders

for certain works before a main contractor has been appointed. The works can include the design element of the sub-contract works and allows the client to have direct dialogue with the proposed sub-contractor. The tender documents indicate the proposed terms of the main contract and list the attendances the main contractor will provide or, which will be required by the sub-contractor. If the tender is acceptable then a Named Sub-Contractor/ Employer Agreement is entered into by the Employer. This agreement allows the Employer to instruct the named sub-contractor to carry out design and proceed with the fabrication of materials and goods. Payment can be made for the design and fabrication if it is stated in the schedules. Otherwise, payment is made through the main contract in the usual way. There are some advantages with this process in the context of off-site manufacturing:

- The client can be in dialogue with the off-site manufacturer and pay for design and works before a main contractor has been appointed
- The design responsibility remains with the off-site manufacturer
- An advanced payment arrangement can be included
- It is a recognised process which is already in place though the JCT suite of contracts

Based upon the above, there are other contractual ways in which off-site manufacturing can be procured by the client and these have the advantage of being procured early in the construction process.

So, to answer the question, do we need assembly contracts rather than building contracts, the answer of course, is maybe. What the construction industry needs to do is use the right form of contract which reflects the off-site manufacturing process being used and, with some adjustment, some of the already published contracts.

The housing sector and latent defects insurance

Turning now specifically to the in the housing sector, in most cases, the off-site manufacturer is manufacturing, delivering and assembling a substantial part (if not all) of the dwelling. Once the dwelling is completed, the developer provides a latent defects insurance policy to the private buyer. Many latent defects insurance policies will initially look to the developer to rectify a notified defect which has caused structural damage to the property. In reality, the developer will notify and rely upon the supply chain to rectify the defect. There are some difficulties with this traditional arrangement:

- Unfortunately, the response time to rectify defects is notoriously long. This is caused by a number of factors including establishing what and who has caused the defect
- The construction sector suffers from a high level of company insolvencies which includes both the developer and the supply chain. When this happens then there is always a further delay in having the defect rectified
- The private buyer is often asked to deal with both the latent defects insurer and the developer. This tends to confuse and delay the rectification of the problem

The encouragement to use off-site manufacturing to produce pre-manufactured dwellings is an opportunity to consider whether the latent defect insurance policies which are currently on the market should be amended to suit this new way of constructing dwellings. Again, this is in the context that the developer is no longer actually constructing all or a substantial part of the dwelling as this is being carried out off-site, by an off-site manufacturer. This raises the question of whether the home owner (and its mortgage lender) would be better served by changing the latent defects insurance policies so that insurers take a greater interest in the dwellings which are being manufactured to the extent that the rectification of defects is no longer dependant upon the developer's willingness or ability to rectify the defect but instead, is rectified by the latent defects insurer.

The suggestion that latent defects insurers should be the single point of responsibility from the home owner's perspective is more feasible where the dwellings have been manufactured, delivered and assembled by the off-site manufacturer. In fact, we are already beginning to see that the insurance market is starting to provide assurance schemes which warrant to lenders that the off-site manufactured properties are durable and maintainable for 60 years. These assurance schemes provide a process of quality control and apply the principles of life planning of constructed assets.¹

If latent defect insurers take on this responsibility then there are a number of advantages from the home owner's (customer's) perspective:

- The home owner has a single point of contact
- The rectification of defects is not dependant upon the developer being able or willing to deal with the issue.

In order to achieve these benefits:

- The latent defects insurer can adopt its own quality assurance process or adopt an assurance scheme from a third party
- The failure of the developer and the off-site manufacturer to meet or continue to meet the assurance scheme will result in them being withdrawn from the scheme
- Any defects found can be fed-back to the manufacturer or assurance scheme who can ensure that the issue is rectified on its future products on a 'lessons learned' basis
- The developer and the off-site manufacture can pay the insurance premium for each dwelling insured together with a lump sum which can be used during the insurance term by the insurance company to rectify the defects which fall within the policy terms.

In the developer-led housing sector, the change to off-site manufacturing ought to prompt the latent defects insurers to feel confident enough to provide cover to the home owner, the success of which is not dependent upon the developer being able or willing to rectify the defects in a dwelling.

Of course, this would be a significant change for the housing sector and even if this is not the solution, the change to off-site manufacturing is an opportunity to consider whether the current insurance arrangements are suitable from a home owner's perspective.

¹ BOPAS – Buildoffsite Property Assurance Scheme

Ownership and security over advanced payment of monies



Introduction

When using off-site manufacturing (“OSM”) within a development, it is likely that an employer will make payments in respect of goods being manufactured long before they are brought on site. This gives rise to the following questions:

- Who owns the goods (particularly where they have been supplied to the contractor by a sub-contractor)?
- Who will be responsible for damage to such goods prior to their arrival on site?
- What happens if the contractor becomes insolvent?

Establishing that the employer owns the goods that have been paid for in advance goes some way to addressing these questions, but there are also instances where alternative/additional security may be required by the employer to protect their advance payments.

Establishing ownership under the sale/supply contract

Establishing ownership of goods which have been purchased with monies that have been paid in advance allows employers to assert that off-site materials are the employer’s property. Any such goods will not therefore be subject to insolvency proceedings concerning the contractor. Provided that the sale/supply contract adequately deals with insurance arrangements in respect of such goods, the employer’s property will also be protected against any damage which occurs off-site.

The ownership of goods which are the subject of advance payments will transfer to the employer when the parties to the contract intend it to be transferred. The underlying sale/supply contract should therefore address the transfer of ownership of such goods (which should be clearly identified), together with the relevant insurance requirements. The manner in which such goods are stored (so as to clearly identify the goods as belonging to the employer) should also be addressed to make this clear to all parties, and ensure that ownership is effectively transferred.

Regard should also be had to the terms of the sub-contract(s) under which any such goods are supplied to the contractor, as the contractor cannot transfer ownership to the employer if they have not first received ownership from any such sub-contractor.

There are, however, reasons why ensuring the transfer of ownership in goods which are the subject of advance payments may not provide sufficient protection for the employer:

Ownership Limitations

- Irrespective of the wording of the sale/supply contract, title in the goods cannot be transferred unless the exact goods which are the employer’s property can in practice be sufficiently identified as belonging to the employer. Though sale/supply contracts can seek to address this by requiring the separation and identification of goods, there is a risk that the contractor may not physically separate the goods in practice. As such, ownership may not transfer to the employer as intended.
- Sub-contractors may have retained title to the goods in the underlying sub-contract, so that ownership is not properly transferred as intended by the supply/sale contract.
- Where ownership is established by the employer, the employer’s recourse is attached to those specific goods. This is of limited use where such goods are removed from the contractor’s factory, or are damaged.

The occurrence of any of the circumstances above can leave the employer with only a breach of contract claim against the contractor, or an insurance claim (where available). These may be of little use where the contractor has become insolvent.

Vesting Certificates

Ownership of goods purchased with advance payments can also be established by requiring the contractor to issue a vesting certificate in respect of those goods. These govern when ownership of off-site materials is transferred, and typically state that such materials shall become the property of the employer upon payment, regardless of the fact that the materials remain off-site. These certificates also address storage, identification and insurance arrangements in respect of such goods (as discussed above).

Vesting certificates are particularly useful where the transfer of ownership in certain goods is not sufficiently addressed in the underlying contract of sale/supply. Care should be taken when using vesting certificates, though, so as not to contradict the terms of the underlying sale/supply contract and cause confusion as to the status of off-site goods and advance payments.

However, vesting certificates protect the employer by attempting to establish ownership in materials that are the subject of advance payments. They are therefore subject to the “Ownership Limitations” listed above.

Advance payment/off-site materials guarantees/bonds

An alternative/additional means of protecting the employer’s advance payments in respect of any off-site materials is to require the contractor to procure an advance payment guarantee or bond. These allow an employer to recover advance payments made to a contractor from the guarantor/issuer should the contractor fail to deliver the materials in accordance with the contract. An off-site material bond is a form of advance payment bond which is connected with the off-site materials, as the value of the bond corresponds with the value of the off-site materials, and reduces as and when such materials are brought on site.

The benefit of advance payment bonds/guarantees is that they protect the advance payments made by the employer, rather than the goods which were purchased with such payments (i.e.. they are not subject to the “Ownership Limitations” above).

Whether or not advance payment bonds/guarantees are appropriate depends on the circumstances of the development. The cost of procuring advance payment bonds and their market availability may limit their practical use. Bonds and guarantees are also only as good as the particular form of bond/guarantee instrument, and consideration should therefore be given as to the type and wording of a bond/guarantee whenever used.

Trading with overseas manufacturers



Introduction

Additional considerations from a logistical and contractual perspective arise where contractors or employers are required to trade with overseas manufacturers. Such considerations increase where the overseas manufacturer is situated outside the European Union, notably in the areas of tax, import and export licences, customs issues, jurisdictional considerations and enforcement concerns.

There are legal and practical drivers which determine the contractual approach to be taken in international contracts. The legal concerns include which governing law is to apply, the forum and venue for dispute resolution and, depending on the governing law, adjusting the contract to take into account the potential disapplication of implied terms and statutory provisions to which either or both the parties are accustomed. By way of example, in an international contract where the governing law is stated to be that of England and Wales the Unfair Contract Terms Act 1977 will largely not apply but the Sale of Goods Act 1979 will apply

The key elements of practical risk are the arrangements for the transportation of goods, the complications due to longer delivery periods such as payment arrangements, cash flow concerns, finance and security arrangements, additional insurance requirements, transfer of title issues and currency fluctuations.

It is often the case in construction or engineering projects that where goods or materials are required to be sourced from overseas such goods are critical or require a lengthy design or fabrication period. Depending on the programme this may make such items long lead items which require payment to be made in advance of any delivery. In such circumstances the parties will need to consider security arrangements, inspection provisions and potentially audit rights to check on the utilisation of funds and the progress of the fabrication of the goods.

Bills of Lading

Even where goods do not require a long manufacturing period the seller will wish to be paid on dispatch of the goods and not on delivery to the buyer. In view of the potential shipping period and customs clearance the seller's position is understandable.

Bills of lading are used to shorten the time the seller will have to wait for payment and still provide comfort to the buyer prior to delivery of the goods.

A bill of lading accomplishes several functions:

- The terms of carriage of the goods are contained within the bill
- It acts as a receipt for the goods to the seller and acts as evidence of good conditions of the goods at loading
- It is evidence of title to the goods.

Different types of bill of lading exist depending on the nature of transport of the goods.

Incoterms

The parties need not draft bespoke arrangements to cover the terms required for delivery, duty payment and insurance arrangements. A standard form contract can be incorporated into the supply contract to cover these issues, the Incoterms.

Incoterms® 2010 are the eighth and latest edition of the rules. The 11 trade terms used in Incoterms® 2010 can, in general terms, be seen as varying by degrees in relation to the allocation of costs to buyer and seller in and allocation of risks. In this context Ex Works (EXW) represents the minimum obligation for the Seller and Deliver Duty Paid (DDP) represents the maximum obligation. Incoterms beginning with "C" or "F" are contracts where the obligations of the seller are undertaken in the country of embarkation. Incoterms beginning with "D" are contracts where the seller is responsible for the goods in the destination country and bears the risks and costs of their transportation.

Examples of areas of confusion commonly seen in the use of incoterms include:

- Mistakenly viewing incoterms as contracts of carriage rather than forming part of a contract of sale. Whilst the contract of sale is necessarily between the seller and the buyer the contract of carriage is between the party responsible for arranging transport within the contract of sale, as determined by the appropriate incoterm, and a shipping company
- Mistakenly considering that incoterms constitute an entire contract of sale rather than being a part of it.

A common area of difficulty is where the procurement teams of traders simply utilise their standard terms and conditions without reconciling these terms to the chosen incoterm.

Financial Security Arrangements

In view of the facts that in international sale of goods contracts:

- it is more difficult to recover goods in the event of non-payment by the buyer,
 - the commercial risk are generally higher, and
 - the supply of goods takes longer and is more costly,
- the Seller is more likely to require payment in advance. Some of the types of payment security relevant in international projects are discussed in the chapter entitled "Ownership and Security over Advanced Payment of Monies".
- Additional security forms particularly relevant to international contracts include bills of exchange and letters of credit. The latter are similar to on demand bonds described elsewhere. A bill of exchange is essentially a document under which one party (the "drawer") orders a bank or other funder (the "drawee") to pay a specified sum of money to a third party (the "payee"). The bill will specify the place of payment and typically:

- the order to pay will be unconditional,
- each obligation is to be in writing,
- the bill is payable on demand or at a fixed future point
- payment can only be demanded by the person holding the bill

Export and Import Licences

The UK government website on import and exports is a good first port of call for an introduction to this area.

It is likely that the responsibility for obtaining export licences will fall on the supplier particularly where the manufacturer is well established and proficient in international trade. The obligation needs to be set out contractually.

Where it is critical to the project that the licence, consent, permit or exemption is obtained, the purchaser will wish to ensure it is granted before the main construction contract, or at least the construction programme, becomes effective, irrespective of whether the purchaser of the goods is the employer or contractor of the project.

Jurisdiction

Clearly the Employer under the main construction contract will wish the same governing law and jurisdiction to apply to each of his contracts. In general terms, the choices of contractual governing law and jurisdiction made by the parties are usually applied subject to the intervention of necessary rules of law. Jurisdiction is concerned with which courts or arbitral tribunal will hear the dispute. Governing law determines which law applies to the contract. In arbitration proceedings the rules governing the procedure of the arbitration, as distinct from the contract in dispute, are the law of the country where the arbitration is held.

If the parties omit to clearly agree the choice of law and jurisdiction these questions will be determined by the rules on jurisdiction and conflict of laws of the forum where the dispute is heard. The rules applicable to determining jurisdiction and governing law between parties based in the EU are much simpler than contracts involving at least one non EU participant.

Health and safety

The financial advantages of off-site manufacturing are frequently reported but moving manufacture away from traditional building sites also carries huge benefits to the health and safety of construction workers. The construction industry is one of the UK's largest employers but its health and safety record is a major concern. In 2016/17, there were approximately 64,000 non-fatal injuries and 30 fatal injuries as reported by the Health and Safety Executive.

The continuing desire to improve health and safety in UK construction has in recent years resulted in the industry being challenged to adopt off-site strategies. It is hoped that the use of contained and controlled factories to pre-manufacture elements of a building project away from building sites will address the poor health and safety record of construction and promote improved health and safety.

Benefits

By using off-site manufacturing, the factory affords greater control over the working environment. Production line techniques provide a safer working environment, eliminating work at height, reducing noise (and therefore damage to hearing), exposure ultra-violet rays, work in confined space and, congested work with trade overlap.

Taking much of the construction process away from the sites and into a quality controlled manufacturing centre will render the process much safer. Windows, for example, can be pre-installed in modules inside the factory, without the need for working at high level on scaffolding. Also because much of the construction and assembly work is carried out off-site, building sites are safer, quieter, cleaner and generally less disruptive for the client. This is an important point where building projects are located next to schools, on busy hospital sites and in residential areas.

Practical approach

A responsible and progressive approach to health and safety management reduces the risk of accidents and injury even further when adopting off-site manufacturing. Clients should consider the following points to ensure best practice within any off-site factory:

- All health and safety procedures should be supported and promoted through the use of bulletins and ongoing information campaigns to create behavioural safety awareness;
- Health and safety objectives and targets should be set and the results shared across the business to create a greater awareness;
- Adopt an open door policy to health and safety which should be promoted and actively encouraged, along with any accident "near misses" to be reported; and
- At all times there should be an overall vision for an accident and incident-free workplace.

Legislation

At all times, compliance with health and safety legislation should be at the fore-front. The legislation governing health and safety comprises the Health and Safety at Work etc Act 1974 and The Construction (Design and Management) Regulations 2015.

Health and Safety at Work etc Act 1974 (the Act)

The Act places a duty on all employers "to ensure, so far as is reasonably practicable, the health, safety and welfare at work" of all their employees.

An employer's duty under the Act is to provide employees with a safe and healthy workplace, and this includes:

- a safe system of work;
- a safe place of work;
- safe equipment, plant and machinery;
- safe and competent people working alongside any workers, because employers are also liable for the actions of their staff and managers;

- carrying out risk assessments, and taking steps to eliminate or control these risks;
- informing workers fully about all potential hazards associated with any work process, chemical substance or activity, including providing instruction, training and supervision;
- appointing a 'competent person' responsible for health and safety (competent persons, such as a head of health and safety, oversee day-to-day safety management, oversee safety inspections, and liaise with staff safety reps);
- consulting with workplace safety representatives; and
- providing adequate facilities for staff welfare at work.

The Construction (Design and Management) Regulations 2015 (the CDM Regulations)

The CDM Regulations apply to all projects whether off-site or on site. The CDM Regulations are a set of regulations for managing the health, safety and welfare of construction projects from start to finish and define the responsibilities according to particular roles.

The CDM Regulations are clearly drafted to deal with on-site issues and the definition of "construction work" explicitly includes on-site assembly and installation, along with the disassembly and removal of prefabricated elements. However there is a risk that responsibilities becomes blurred between the role of principal designer and principal contractor on or off-site.

It is vital that the CDM Regulations are abided by. If Clients do not comply with the CDM Regulations, they may be failing to influence the management of health and safety on the project. This could result in construction work being stopped by the Health and Safety Executive (the HSE). Also, depending on the circumstances, in the most serious breaches you can be prosecuted.

What you need to know as a client

As a client you have a critical influence over how projects are run, which includes the management of health and safety risks. Under the CDM Regulations for modular buildings, clients are responsible for:

- Appointing the right people at the right time. If more than one contractor is involved with any project (e.g. one contractor preparing the ground works and another manufacturing and installing the modular building), a principal contractor and a principal designer will need to be appointed, in writing.
- The principal designer is required to plan, manage and coordinate the planning and design work.
- The principal contractor's role is to plan, manage and coordinate the construction work.
- Under the CDM Regulations 2007, the role of CDM Co-ordinator existed, to advise the client on matters relating to health and safety during the design process and during the planning phases of construction. Revisions to the 2015 CDM Regulations saw the role of CDM Co-ordinator transferred to a Principal Designer and Principal Contractor.
- Ensuring sufficient time and resources are allocated;
- Preparing and providing the relevant information to the designer and contractor;
- Communicating with the designer and building contractor to ensure they carry out their duties; and
- Providing welfare facilities for all workers.

The client is responsible for notifying the HSE if a project is planned to last longer than 30 days and with more than 20 workers working at the same time, or involving 500 person days of work.

To conclude, there are many health and safety benefits to off-site manufacturing. At all times you need to ensure that your workers are kept informed of the importance of taking care of themselves at work. Clients should also play their part and ensure that they comply with their legal requirement.

Off-site, on-site – Pop-ups

Introduction

A number of construction organisations are beginning to develop a construction system whereby the off-site manufacturing process is being carried out in a facility which is on-site or close-by to the site. These temporary, but substantial, facilities are sometimes called ‘pop-ups’. These organisations have identified a number of advantages with this arrangement.

- It allows a process or product to be manufactured under a controlled environment rather than in-situ
- It reduces the transportation cost as it avoids transportation of large, completed, composite products
- It allows a closer management relationship between the manufacturing process and the works on site
- It provides a better, cleaner working environment which is not subject to weather conditions
- It provides a controlled health and safety working environment

From a legal perspective there are number of points which need to be considered with this type of arrangement – especially if the facility is on the land which is being developed. These are broadly split into two categories. Firstly the possible need for a planning permission to erect the temporary facility and secondly, the terms under which the facility can be erected, used and dismantled.

Planning permission

Turning to the question of whether planning permission is required, The General Permitted Development Order 2015 (GPDO) gives planning permission for certain temporary buildings and uses. Class A, Part 4 of Schedule 2 of the GPDO allows development consisting of:

“provision on land of buildings, moveable structures, works, plant or machinery required temporarily in connection with and for the duration of operation, being or to be carried out on, in, under or over the land or on land adjoining that land”.

Whilst on the face of it, the construction of a temporary facility for the works would fall into this category, the local planning authority may take a different view. Whilst not squarely on the point of these types of facilities, the courts have held that, in deciding whether or not a particular building is temporarily required with the works, it is necessary to have regard to all relevant factors. Therefore, it is difficult to say with any certainty whether every one of these facilities will be permitted under Class A of the GPDO. For example, in one case, it was held that a building of permanent construction and substantial size would not normally fall within the GPDO. Further, a substantial temporary building which was to be erected for 2-3 years was considered to be a substantial length of time. The courts have also held that the larger and more permanent the building in question, the less likely it is genuinely ‘required temporarily’ unless there a sensible explanation. In addition, if the development is located in a conservation area or an area of outstanding natural beauty then these are excluded from the GPDO.

Based upon the above it is not certain whether a separate planning permission is required for the temporary facility. Therefore, it is recommended that this on-site facility forms part of the planning discussions with the relevant local planning authority or, as soon as an on-site facility is proposed. In addition, an application for a Lawful Development Certificate can be applied for through the online application service and the local planning authority has 8 weeks to come to a decision as to whether the GPDO can be applied.

Lease or licence for the facility

In respect of the arrangements between the client as landowner and the contractor or off-site manufacturer, there is a strong argument that the facility should not be treated as merely as part of the contractor’s temporary site set-up under the building contract. The reason for this is that this facility is an integral part of the construction process which will have its own team of workers and, invariably, the facility will be run by a member of the contractor’s supply chain/off-site manufacturer. As such, the terms under which the facility is erected and used should be set-out in a licence or lease agreement with the off-site manufacturer, the contractor and the client. Whatever the exact arrangements, the licence or lease should address the following points in addition to the usual points when granting a licence or lease:

- The arrangements in respect of the erection, maintenance and removal of the facility and whether such commitments should be covered by a bond
- The working hours of the facility
- The times, dates and restrictions of deliveries of the materials or completed product
- The permitted noise levels of the facility
- The arrangements if the contractor or the off-site manufacturer ceases work
- Whether the facility can be used to carry out work for other projects
- Arrangements to extend the licence or lease period if the project period is extended
- Arrangements if the project does not proceed
- Clarification on what point does the ownership and risk of the fabricated materials transfer to the client.

Whilst the use of an on-site facility will not be suitable or commercially advantageous for all projects, it can be a viable arrangement as long as this option is considered at the outset of the project. It can be seen that a planning permission is likely to be required and a suitable licence or lease needs to be in place to control where and how the facility should be used.

Mediation

Introduction

The Sixth Annual Arcadis Global Construction Disputes Report 2016 defined a 'dispute' as a situation where two parties typically differ in the assertion of a contractual right, resulting in a decision being given under the contract, which in turn becomes a formal dispute.

The report identifies the top 3 causes of a dispute as:

- Failure to properly administer the contract.
- Incomplete design information or employer requirements (for Design and Build).
- Employer/contractor/subcontractor failing to understand and/or comply with its contractual obligations.

The three most common methods of alternative dispute resolution used in the UK were ranked as:

- Party to party negotiation
- Adjudication
- Mediation

However, fabrication and assembly of building elements off-site for transport to their final on-site location for installation by others might not constitute a relevant "construction contract" and excluded from that definition by section 105(2) of the Construction Act 1996. In those circumstances without an express provision in the contract, the parties may not have a right to refer a dispute to adjudication.

However, adjudication is an adversarial process and a recent study into the use of adjudication in the construction sector revealed a growing dissatisfaction with the process; experience of adjudication significantly reduces the desire to use the process again.¹

Parties to adjudication are unlikely to work together again.² This section of the legal guide to off-site manufacturing therefore promotes a reversal in the culture of adversarial forms of dispute resolution such as litigation, arbitration and adjudication by considering mediating before the more confrontational approaches.

¹Gregory Stevens 2016 ²Mason and Sharrat 2013

What is mediation?

Mediation is a voluntary and confidential process of alternative dispute resolution (ADR), in which a neutral independent person assists the parties to negotiate a settlement of a dispute. The parties retain control of whether or not to settle and on what terms.

The most common style of mediation is facilitative mediation in which the mediator will facilitate agreement between the parties. Unlike a judge, arbitrator or adjudicator the mediator will not be required to make a decision. Instead the parties will need to persuade each other of their positions, facilitated by the mediator. Sometimes, mediators may be asked to adopt a more evaluative style of mediation and evaluate the strengths and weaknesses of a particular case to encourage settlement. This approach is gaining in popularity.

Benefits

By comparison to more adversarial methods of dispute resolution such as litigation, arbitration or adjudication mediation is:

- Quick
- Low cost
- Collaborative
- Less risky

Recent statistics produced by the Centre for Effective Dispute Resolution show that 67% of mediations settle on the day of the mediation and a further 19% settle shortly afterwards. Put another way, 86 out of 100 mediations will result in a settlement because of the mediation process.

Encouragement of the Courts

The courts actively support mediation. The Pre-Action Protocol for Construction and Engineering Disputes 2nd edition published under the Civil Procedure Rules, requires that the parties to a dispute should normally meet in order to agree what are the main issues in the case, to identify the root cause of disagreement, and to consider whether the case might be resolved without recourse to litigation. The meeting can itself take the form of an ADR process such as

mediation. The Courts however cannot order parties to participate in mediation but have held that a party to a dispute who unreasonably refuses to mediate could be liable to cost sanctions.

Mediation in contracts

Contract publishers such as the JCT include provisions within its contracts which encourage the use of mediation. Given its opening emphasis on "a spirit of mutual trust and co-operation" it is perhaps surprising that the NEC suite of contracts has not built in any forms of alternative dispute resolution. However parties may consider provision for mediation by the addition of a mediation incorporation clause. A model form of clause is at item A in the section on resources below.

When to mediate?

Mediation can take place at any time but generally mediation should be used when the parties to the dispute recognise that they have an incentive to settle. This usually occurs once the issues are properly defined and there has been a proper exchange of information and documents. If the parties need further information to properly understand the nature of each other's cases, then it is possible to agree provision of information as part of the mediation process.

If the benefits of mediation are to be realised it is wise to engage in mediation at the earliest possible stage.

The Process

There are 7 stages in a typical mediation:

- Referral: The parties identify the dispute and agree to mediate. A model form of letter proposing mediation is at Resource Item B.
- Agreement to mediate and terms: Identify the mediator and agree terms. A model form of contact for the appointment of a mediator is at Resource Item C and mediation agreement is at Item D.
- Briefing the mediator: Provide the mediator with enough information to understand the dispute to be mediated.

- Setting of the procedure: Establishing the best approach and set the date for the mediation meeting.
- Exchange of Information: Identify and exchange documents subject to any reasonable objection.
- The mediation meeting: The conduct of meeting sessions with the mediator in private.
- The outcome: Record the terms of settlement. An example of a form of settlement agreement is at item E.

If settlement is not reached the parties may use the discussions at the mediation to identify reasons for settlement not being reached and agree further settlement talks will take place after the mediation.

CESW Mediation Guide and Protocol

Constructing Excellence South West, in collaboration with Mediation for Construction and Insurance (M4CI), has identified the need to highlight how mediation can and should be used to resolve disputes and in order to promote the greater use of mediation have produced the Construction Mediation Guide and Protocol: (<https://www.mediation4construction.com/cesw-construction-mediation-guide-and-protocol>).

The Guide provides a set of guidance rules, called the 'Protocol' at each stage of the process, and a number of model documents and clauses which can be used or adapted for mediation.

Resources

Adopting the Guide the following resources are available to download here:

- A** Incorporation Clause
- B** Referral Letter (<https://goo.gl/ICGX54>)
- C** Contract for the Appointment of a Mediator (<https://goo.gl/pbN330>)
- D** Mediation Agreement (<https://goo.gl/IY0qiz>)
- E** Settlement Agreement (<https://goo.gl/bEBtkN>)

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v1 - 05.03.18