

## Integrating BIM into NEC Contracts webinar

6 June 2018

### Q&A session

Here are the questions that were not answered during the webinar session.

You can find the full recording here: <https://www.neccontract.com/NEC4-Products/NEC-Webinars/Integrating-BIM-into-NEC-Contracts>

**Q: On the fitness for purpose obligation, are you aware of any insurance issues particularly around professional indemnity insurance?**

**A:** In the ECC, PSC and TSC:

- X10.7 (2) makes clear that the Project Information element of the Contractor's works is subject to a 'skill and care' obligation rather than fitness for purpose.
- X10.7 (3) requires insurance for a failure to use due 'skill and care'.
- If X15 is included in the contract, this obligation will overlap (but not contradict) the obligation in X15.5 to provide such insurance relating to all of the works.
- It is well known in the industry that insurance against the more onerous 'fit for purpose' obligation is more difficult to obtain as it has to cover issue that are not known about by 'professionals providing information similar to the Project Information'.

In the DBO and ALC the Information Model has to be produced on a fitness for purpose basis. A Contractor/Consultant working under these contracts will need to get advice from their insurance advisors on what Professional Indemnity Insurance policies are available to cover the risks these contracts pose.

**Q: How X10 supports or incorporate Employer Information Requirement document?**

**A:** X10.1(4) states 'The Information Model Requirements are the requirements identified in the Scope for creating or changing the Information Model.'

Practice Note 2 "How to use the CIC Protocol with NEC" includes advice for the entry in the Scope of an ECC contract. It states that the 'Employer's Information Requirements' in the CIC Protocol Rev 2 are the 'Information Model Requirements' in X10.

**Q: "Client is liable for fault or error in Information Model... other than defect in Project Information" - Does this mean if a client provides the wrong information they are liable? But if the system glitches and information is lost they are not? Just trying to define what "defect in project information" means.**

**A:** In full, X10.7 (1) is 'The following are Client's liabilities:

- A fault or error in the Information Model other than a Defect in the Project Information.
- A fault in information provided by Information Providers other than the Contractor.'

So the Client takes liability for anything other than a defect in the 'Project Information', which is provided by the Contractor.

**Q: Do you feel that the combination of NEC and CIC adequately defines the difference between responsibility for delivery of as-built modelling and accountability for the content therein?**

**A:** Yes! The 'accountability for the content therein' will be covered by the normal provisions of the contract.

**Q: Is the Information Execution Plan another term for the BIM Execution Plan (outlined in PAS 1192:2) or is it separate?**

**A:** Yes – see the 'term conversion' part of the proposed Scope insertion in Practice Note 2.

**Q: The CIC Protocol 2nd Ed obliges parties to attend meetings. How would you suggest pricing for those meetings fit in to the Total of the Prices?**

**A:** This is no different from any other part of the Scope. BIM Protocol, Clause 2.1 includes:

- 'The Project Team Member shall attend such meetings with the Employer's Information Manager and/or the Other Project Team Members in connection with the co-ordination of Project Information as required in the Agreement and in the Information Particulars.
- The Information Particulars (Appendix2) includes: '3.1 Co-ordination – coordination meetings are to take place on the Project (see clause 2.1) as follows.....'

If that entry says, 'one per week, lasting one hour', then any more or less than that will, in theory, be a compensation event. If the entry says, 'meetings as required' then the bidder will have to take a guess.

This is no different from similar provisions for meetings of other types typically included in a Scope document under any contract.

**Q: Does the contract protect/discuss suppliers' intellectual property which is shared within the model? E.g. a supplier has an advanced piece of equipment which they have developed. They share a 3/4/5D model of their equipment with the client. What is to stop a competitor copying that design?**

**A:** X10.6 includes 'The Client owns the Information Model and the Contractor's rights over Project Information except as stated otherwise in the Information Model Requirements.'

This is quite extreme and many suppliers will want to see some restrictions on the transfer of IP (e.g. to licenses) included in the Information Requirements. But the IP is clearly with the Client, unless the Information requirements have it retained by the supplier.

CIC Protocol Clause 6 deals with 'Use of Information'. 6.1.1 states that because there are provisions for IP in the Agreement (Clause X10.6, above), clauses 6.2 to 6.4 do not apply but the Employer is still able to grant licences to Other Project Team members (CIC) (Information Providers (NEC)) as Clauses 6.5 and/or 6.6 of the Protocol. These clauses grant licenses to use the material for the 'Permitted Purpose'. This is tightly defined in the Protocol (10.20) to relate only to the Project.

The use of that IP by another 'Information Provider' would be theft.

**Q: Do you consider that is useful to include a digital contract into BIM model? Usually contracts are in paper, or in digital format signed electronic signature (ex pdf)**

**A:** The use of 'digital contracts' and electronic signatures is a subject in its own right and are not affected by the fact that the subject of the contract includes Information Modelling.

**Q: Have you had experience of government clients having issues specifying specific software due to competition rules e.g. Bentley/Autodesk.**

**A:** Personally no, and we cannot give legal advice. However, if subject to the government procurement regulations, a Client should only specify a certain product if it has been through a procurement process, compliant with the regulations, to select that product. Many Clients make their choice less restrictive by specifying that the supplier's deliverables must be capable of being read by software X.

**Q: There is no standard level of BIM required by NEC4 – do you see this being defined in the future?**

**A:** No. The 'level' of BIM must be chosen by the parties (led usually by the Client) to be appropriate for the product.

**Q: Does clause X10 replace Employer's Information Requirements (EIR)?**

**A:** No. X10 requires there to be the 'Information Requirements'. This is the equivalent of the EIR in the BIM Protocol and, in NEC, is part of the Scope.

**Q: What is CIC?**

**A:** CIC is the Construction Industry Council, a grouping of many UK based construction organisations.

**Q: Is there an ISO group set up to standardise a global approach to BIM? If so, any drafts of the proposed standard, and outline perhaps?**

**A:** There is a group developing ISO 19650. This is working on:

Stage 1 – concepts and principles

Stage 2 – delivery phase requirements for information

See e.g.: <https://www.iso.org/obp/ui/#iso:std:iso:19650:-1:dis:ed-1:v1:en>

**Q: 4.1.2 does the contract allow for setting your own remedy for supplier being late, i.e. the requirement for the supplier to put additional resources on the project to make-up time?**

**A:** The Responsibility Matrix in Appendix 1 to the Employer's Information Requirements which will form part of the Information Model Requirement's and therefore the Scope in the ECC, should state the time when information is to be 'shared and/or published'. If the Contractor fails to do so they are in breach of their obligation to Provide the Works in accordance with the Scope. There is no mechanism to 'require the supplier' to put in additional resources. However, one could set up 'damages' for being late to 'encourage' the supplier to meet the required dates. This can be done by making the publishing of the specific information a 'condition', subject to a 'key date' in the Contract Data.

Clause 25.3 (in the ECC) has:

'If the Project Manager decides that the work does not meet the Condition stated for a Key Date by the date stated and, as a result, the Client incurs additional cost either in carrying out work or by paying an additional amount to Others in carrying out work on the same project, the additional cost which the Client has paid or will incur is paid by the Contractor. The Project Manager assesses the additional cost within four weeks of the date when the Condition for the Key Date is met. The Client's right to recover the additional cost is its only right in these circumstances.'

However:

- Suppliers tend not to like the lack of definition of this 'damage' and the fact that it is assessed by the Project Manager
- The Employer may find it inappropriate as it may not properly compensate it for the lateness and as 'carrying out work' or 'paying an additional amount to Others in carrying out work' may not be helpful in this circumstance.

Alternatively it may be more useful (and positive) to use Option X12 (Collaborative Working) to jointly incentivise all those contributing to the model to achieve the end result by the desired time or earlier.

**Q: I do not feel that collaboration is the secret factor for project success, but rather the ethical behaviour of the parties. If the parties act ethically, won't collaboration be the natural result? Ethics is the starting point, then collaboration is the result?**

**A:** Behaviour is a really important word to use here. Effective collaboration is about individuals consistently delivering the right behaviours. A lot of these behaviours, such as openness, honesty, giving and receiving effective feedback, making sure there are no surprises etc. are ones which you might also associate with ethical behaviour. It's a bit of a chicken and egg situation. What is vital is that all parties involved agree up front what collaborative and ethical actual mean in terms of how people need to behave in their day to day roles.

**Q: Do you have examples of NEC projects which have incorporated BIM and what challenges have they encountered?**

**A:** This is a very wide question! Yes, many NEC projects have included BIM. As with any contract, the main challenge is in getting the Scope to be complete, concise, coherent and consistent. In this case of BIM the main challenge is to make the Information Requirements consistent. With separate contracts for separate Information Providers, a key challenge is to ensure the Information Requirements and the Responsibility Matrix in each contract is consistent with those in other contracts. This is where using X12 is helpful.

**Q: If client requires NEC form of contract but not interested in BIM (e.g. international clients), If contractor incorporates BIM do they become liable?**

**A:** A Contractor is liable for the outputs it produces and for ensuring those meet the requirements of the contract. If the Contractor unilaterally chooses to use BIM, then yes, it will be liable for whether the BIM (Information Model) meets the requirements of the contract, but this will be judged by the Contractor's obligations as stated in the contract.

**Q: How do you think BIM will influence the contracting approach to delivery of works?**

**A:** Big question! BIM is a logical way to improve the delivery process, especially as models include the time dimension and allow the supplier(s) to model how they intend to deliver as well as what they intend to deliver.

When more than one provider is inputting into the model, BIM should increase collaboration, but it also requires better collaboration to be successful. It is logical to support collaboration with a collaborative contract. All NEC contracts are collaborative (clause 10.2) and this can be extended by including Option X12 (multiparty collaboration) and taken further even through the use of an alliance contract (e.g. using the NEC Alliance Contract, due to be launched at the NEC Annual Users' Group Conference ).

**Q: Can the old MPDT be used as Appendix 1? Some of us still like it...**

**A:** The CIC Protocol Rev 2 uses the term 'Responsibility Matrix' throughout for what was the 'Model Production and Delivery Table' (MPDT) in CIC Protocol Rev 1. RIP the MPDT!

**Q: How can Alliance Contracts fit within the EU Procurement Directive?**

**A:** Compliance with EU Procurement Directives will be achieved through the tender process which takes place before the contract comes into existence. The Alliance contract is already being adopted by UK Clients who are able to work within the EU procurement rules.

**Q: You said the X10 can be used with or without referring to a BIM Protocol. I wonder how it works without a Protocol or Agreement which contains or refers the most important document of BIM – the Information Execution Plan?**

**A:** No protocol we are aware of contains an Information Execution Plan as this document has to be developed specifically for a project. The requirements for Information Execution Plan are determined by the Client (in the Information requirements) and the plan is developed by the supplier. The Information Execution Plan is required by X10 itself. X10 does not rely on the presence of a separate protocol.

**Q: According to the definition, Information Model includes Documentation, Non-graphic information and Graphic information. Must the Documentation and Non-graphic information be related to the Graphic information?**

**A:** Clause 10.10 of the CIC Protocol is:

‘Information Model means a collective set of documentation, non-graphical information and graphical information that represents a constructed, under-construction or to-be constructed physical asset.’

This question should really be directed to the publishers of the CIC Protocol as this is a definition they have created. However, one would expect all the types of information to be related to each other in various ways – as should be set out in the (Employer’s) Information Requirements.

**Q: I'm working in France. Is it intended that these BIM recommendations be applicable Europe wide?**

**A:** The BIM recommendations are not intended to be specific to a jurisdiction and can be used globally.

**Q: Can the BIM software be developed to include absolutely any information such as agency labour supply data i.e. timesheets etc.?**

**A:** This will be dependent on the type of software that is used/developed and is not limited or affected by the use of X10 or the CIC Protocol. The details of the software will form part of the Information Model Requirements in X10 or Appendix 2 in the CIC Protocol.

**Q: What is the best reference to read about the topic? Are there any commented guides available?**

**A:** There are a plethora of references, and whole masters courses on BIM. The material on the interface between BIM and contracts is more limited. The presenters of this webinar referred to:

- Enabling BIM through procurement and contracts’, Kings College London, June 2016
- The Winfield Rock Report, Feb 2018

**Q: BIM can be difficult to implement within local authority projects, would you advise incorporating X10 into future term service contracts to allow future use (if required?) Would this create issues?**

**A:** We would not recommend the incorporation of X10 into a contract unless it is going to be used as it will create an obligation on the Contractor to produce an Information Execution Plan and provide Project Information and yet there will be no Information Model Requirements in the Scope against which the Contractor can produce these documents.

**Q: How do you think a Project 13 approach can use BIM/NEC 4?**

**A:** Project 13 is a new business model that is compatible with both the NEC4, and in particular the new Alliance contract, and the use of BIM.

**Q: What are the legal profession's thoughts on this?**

**A:** This is very broad and general question and we are not able to offer legal advice. NEC4 including X10 as well as Practice Note 2 were all reviewed by legal advisors.

**Q: I get all this about the terminology, but BIM has its own language and introducing another language on the top is not helpful. Why not use a Y clause to reflect the national language? But don't get me wrong – this is in a spirit of 'make it better'. The fact that NEC has had a go at this is brilliant and I am using it.**

**A:** In the guidance document for using the CIC Protocol with X10 we have addressed the different terminologies used in the two documents. We don't believe that even in locations such as the UK that there is a consistent BIM terminology and the CIC Protocol defines its own terminology as does X10. These definitions are specific to these documents.

**Q: Is NEC 4 in full use at the moment i.e. has it superseded NEC 3?**

**A:** Users are progressively moving to NEC4 but NEC3 is still widely used.

**Q: If the protocol uses a certain language or terminology why doesn't the NEC use the same terminology?**

**A:** The CIC Protocol is one of a number of protocols used across the world and different locations use different BIM terminology. X10 is, like all of the NEC4 suite, designed to be used in any jurisdiction and so contains its own definitions that are not specific to a protocol or location.

**Q: We are a county council delivering infrastructure (highway) schemes. We have not had a need to date to require BIM on our schemes, but would like to move towards including a very minimal BIM level 2 in forthcoming contracts. What advice can they give regarding how to specify a minimal BIM level 2 in NEC4 ECC contracts? Please also comment on how to prepare a minimum level of Employer Information Requirements.**

**A:** The specification for the level of BIM required will need to be determined on a contract by contract basis by a Client to meet their needs. We are not aware of any generic BIM specifications and one has not been produced for X10 Information Model Requirements as it will depend on what a Client expects as 'Level 2' information and what BIM "dimensions" the Client wants the Contractor to work to.



**Q: How would change be managed?**

**A:** Change to the Information Model Requirements would be a change in Scope and dealt with in accordance with section 6 of the contract – compensation events. Any changes required to the Information Execution Plan are covered in clause X10.5.

**Q: How do you deal with latent defects?**

**A:** This would be outside of the contract and would depend on the ‘law of the contract’.

**Q: Do you believe that it will be more difficult to adopt BIM with NEC4 because of the different terminology used? There is no inclusion of BIM Information Manager/ BIM coordinator and might create some confusion?**

**A:** We do not believe this will be the case as X10 can be used with or without the CIC BIM Protocol. NEC Practice Note 2 makes it clear that the CIC roles of ‘Employer’s Information Manager’ (and Built Asset Security Manager’ are carried out by the manager of the NEC contract (Project Manager / Service Manger etc.). If there are a number of separate contracts for separate Information Providers, it may be appropriate for the Client to arrange for the Project Managers and Service Mangers for each separate contract to delegate the actions in X10 to the same person, who would effectively become the CIC’s ‘Information Manager’.

If X10 is used with the CIC Protocol, then Practice Note 2 deals with this.

**Q: How NEC4 deals with intellectual property and cyber security?**

**A:** Intellectual property is covered in X10.6. Cyber security will be covered in the Information Model Requirements. The latter will be addressed in Appendix 3 (Security Requirements) if the CIC Protocol is incorporated in the contract.

Answers by **Ian Heaphy**, NEC4 Contract Board and Director at IN Construction Consulting, and **Richard Patterson**, NEC and Procurement Specialist, NEC Advisory Services, Mott MacDonald