

Contractual arrangement

Jan Karlshøj, IDM Coordinator
buildingSMART Process Room
Waltham, March 13, 2013

Status Part 2 Interaction framework

- Delay in getting access to ISO Proof version postponed the review
- Material distributed to ITM and IUG members, February 2, 2013
 - ISO Proof reading version of 29481-2
 - VISI system guideline version 1.3
 - Guideline for VISI communications on the basis of SOAP
- ISO version available at ISO web site
- Presentation of IDM Part 2 at ISG, Waltham March 12, 2013
- Immediately comments from ITM?
 - Need for a new deadline e.g. May 1?

Existing contracts

- **US**

- ConsensusDOCS

- 301 - Building Information Modeling (BIM) Addendum

- The first standard contract document that globally addresses legal and administration issues associated with using BIM, it is intended to be used as an identical contract addendum for all project participants inputting information into a BIM Model. It also includes a BIM Execution Plan, which allows the parties to determine the level of reliance for the BIM model.

- Integrated Project Delivery (IPD)

- <http://www.aia.org/aiaucmp/groups/aia/documents/document/aiab085539.pdf>

- Construction Manager at Risk
 - Whereas the traditional CMc delivery model, in which the CMc is brought onto the project prior to construction but otherwise follows traditional service scopes for both architect and constructor, might be considered at least partially integrated, a fully integrated CMc project might see the architect and the constructor working with the owner to establish project goals, **utilize BIM, and adopt other principles of integration and implementation techniques**

Existing contracts

- **US**
 - AIA
 - Document E202 – Building information modelling protocol exhibit.
 - E202–2008 tackles head-on the following questions:
 - Who is responsible for each element of the model and to what level of development?
 - What are authorized uses for the model?
 - To what extent can users rely on the model?
 - Who will manage the model?
 - Who owns the model?

§ 2.2 Model Ownership

In contributing content to the Model, the Model Element Author does not convey any ownership right in the content provided or in the software used to generate the content. Unless otherwise granted in a separate license, any subsequent Model Element Author's and Model User's right to use, modify, or further transmit the Model is specifically limited to the design and construction of the Project, and nothing contained in this Exhibit conveys any other right to use the Model for another purpose.

- According to Brodie McAdam, University of Salford, Salford, UK
 - The document expressly takes precedence over any other contract terms if there is a conflict.

Existing contracts

- **Singapore**

- <http://www.kpkqs.com/download/KPK%20Research%20Digest%20-%20BIM%20Key%20Contractual%20Perspectives%20-%20Jan%202012%20-%20KPK%20Website.pdf>

CONTRACTUAL CHALLENGES MATRIX

A snapshot of the contractual challenges presented is set out in the matrix below.

Contractual Challenges

Design Responsibility	<ul style="list-style-type: none">▪ Acceptance of design responsibility for BIM model which other participants and users have contributed, updated or modified
Discrepancies in Contract Documents	<ul style="list-style-type: none">▪ Extent of applicability of current contractual provisions in the resolution of discrepancies when working on a BIM-based project
Defects Liability and Interoperability Issues	<ul style="list-style-type: none">▪ Design defects appearing during construction, after handover or emerging as a latent defect caused by software interoperability issues▪ Response by professional indemnity insurers to design errors arising from interoperability problems
Intellectual Property Rights	<ul style="list-style-type: none">▪ Ownership of BIM model and layers of intellectual property rights▪ Use of BIM model for future refurbishment and extension works by third party design consultants

Existing contracts

- **Sweden**

- openBIM Sweden

- Contract 2012 <http://www.openbim.se/sa/node.asp?node=1341>

- In case of a conflict

- » Digital information takes precedence
 - » Or specification takes precedence

- **Denmark**

- Associate of

- IDM is mentioned

- <http://www.frinet.dk/media/402170/fri%20ydelsesbeskrivelse%20for%20byggeri%20og%20planl%C3%A6gning%202012.pdf>

- Mandatory to use IFC

- <https://www.retsinformation.dk/Forms/R0710.aspx?id=144517>
 - <https://www.retsinformation.dk/Forms/R0710.aspx?id=145421>

Existing contracts

- **UK**

- NBS, Koko Udom NBS Contracts & Law Manager

- <http://www.thenbs.com/topics/bim/articles/bimMappingOutTheLegalIssues.asp>

- Conclusion

- In writing this article I sought a wide range of views; one interesting input was that the BIM technology has been in use for sometime in some selected high value projects in UK and Ireland. When I enquired how those projects handled the legal issues arising from adoption of the BIM process, I was informed that the BIM information was shown to the client (Employer) and its advisors on the basis that it was **'indicative', 'for information only' and 'subject to change without notice'**. Obviously such blanket limitation of liability would not be a part of the BIM collaboration being envisaged.
 - The landscape of professional practice and construction will change with the introduction of BIM. **The risks of using BIM are far outweighed by its benefits.** The issues I have identified above could be covered in a simple standard amendment that can be incorporated by reference into the various contracts in use in the industry to minimize risks and ensure successful BIM powered projects.

Journal paper: UK context

- **Building information modelling: the UK legal context**
 - Brodie McAdam, University of Salford, Salford, UK
- **Process**
 - Who is required to produce what from the BIM, and when? Who is allowed to amend the BIM? How are the contractual structures to be implemented to facilitate the BIM process?
 - Contracts are historically bipartite agreements. BIM is a collaborative process. **There is an immediate conflict between these two conceptions, and one which needs to be addressed.** Possible solutions are discussed later in this paper.
- **Interoperability**
 - Will all participants be expected to use the same commercial BIM product? If not, how robust and faithful will be the interoperability of different BIMs? And how reliable will the software itself be? **Ashcraft (2009) cites one example where a bid based on BIM produced data were \$1.95 m low owing to software flaws, but the software supplier's liability was limited to the software acquisition cost owing to a limitation of liability clause in the supply agreement.**

Journal paper: UK context

- **Use of the model**
 - The intended use of the model(s) can also raise legal issues. **Ashcraft (2009) points out that a BIM which resolves to a definition fine enough to accommodate steelwork tolerances, may not be adequate for installation of curtain walling.** Olatunji and Sher (2009) **confirm that BIMs could be used to generate estimating information, but only if the requisite elemental cost data has already been inputted accurately and early enough.**
- **Status of the model**
 - Moreover, Hurtado and O'Connor (2008) and Ashcraft (2009) both **flag up the potential for ambiguity and complexity if the “contract” documents are 2D, and yet the project is constructed in accordance with the virtual, collaboratively produced BIM design.**

Journal paper: UK context

- **Cost of BIM process**
 - Ashcraft (2009) notes that without a change in practices the immediate adopter – the designer – **could bear the cost of BIM implementation without reaping the rewards.**
- **Design liability**
 - On a related point, Ashcraft (2009) identifies that a corollary of one of the key perceived benefits of BIM – the ability to detect design “clashes” virtually, rather than when workers are on-site – could ultimately result in an increase in the standard of performance expected of professionals; whereas in the **pre-BIM days, clashes were an unfortunate** but inevitable fact of construction life, perhaps in the **post-BIM era they will become instances of negligent practice.**

Journal paper: UK context

- **Design delegation**

- However, Ashcraft (2009) highlights a related issue that could prove problematic, even in the UK. **Some BIMs can be pre-loaded with data which is supposed to comply with local building regulations in order to assist designers, but what if the pre-loaded data is in fact non-compliant?** Where will responsibility for non compliance lie?

- **Ownership and protection of data**

- For example, if a specialist M&E contractor inputs all the fine specification detail into a model which is shared with all team participants, **what happens to that data when the project is over?**
- - however, that such concerns are not exclusive to BIM projects, albeit the severity of the ramifications may justify taking greater steps to protect against losses. **Ashcraft argues this should include archiving protocols, and data protection insurance (Ashcraft, 2009)**

Research

- **CIB Research TG80 - Legal & Regulatory Aspects of BIM**
 - <http://www.tg80.org/>
 - CIB World Congress May 2013
 - **Session themes:** sustainability, **law**, procurement, regulation, economics, marketing, management, IT, health, education, safety, planning, culture, clients, disasters, performance and contexts.

Process Room

- **Input from Chapter?**
- **Actions**
 - Wait and see
 - Collect material
 - Stimulate networking between professional association on BIM/law
 - Share experiences among buildingSMART members
 - Initiate buildingSMART activities in this area?
 - Develop recommendation
 - Develop templates for project BIM contracts