Approaching BIM – a legal perspective

Building Information Modelling (BIM) will be compulsory on public sector projects from April, but is the industry ready? Perhaps not fully, but Andrew Croft and Will Buckby of Beale & Company find that the UK is an international leader in BIM take-up in this review of where construction has got to.

**KEY POINTS**

- BIM will be compulsory on all centrally procured public sector projects in England and Wales from 4 April 2016
- Significant steps have been taken in relation to BIM in England and Wales, and the UK construction industry is a leading player internationally
- Other jurisdictions, including Scotland, USA, the Middle East and Singapore have also encouraged the use of BIM
- Whichever jurisdiction a project is based in, where BIM is used it is important that a ‘joined up’ approach by the employer and project team is taken (particularly in respect of the contractual documentation)

The use of Building Information Modelling (BIM) on construction projects in England and Wales is increasingly common practice, following the UK government’s BIM mandate. There is still progress to be made, but the UK construction industry is considered to be a leading player internationally in relation to the use of BIM. In this article we will consider the developments to date in England and Wales regarding the use of BIM, practically and internationally. We will compare this with steps taken elsewhere around the world, including in Scotland, the USA, the Middle East and Singapore.

**England and Wales**

In 2011 the UK government published its construction strategy which included, amongst other things an announcement that all centrally procured government projects in England and Wales would be required to use collaborative BIM (generally understood to be Level 2 BIM) from 2016, in order to make the most of the cost savings and other benefits associated with the use of BIM. It was recently confirmed that this mandate will be implemented from 4 April 2016. Is the industry ready?

Significant progress has been made to date regarding the adoption of BIM on projects in England and Wales. For example, an increasing number of projects are now being carried out in accordance with Publicly Available Specification 1192:2 – the ‘Specification for information management for the capital/delivery phase of construction projects using building information modelling’. This envisages the provision of the ‘Employer’s Information Requirements’ (EIR), setting out what the employer requires from the project team in relation to BIM to which the project team responds by submitting a ‘BIM Execution Plan’ showing how it will meet the EIRs.

Whilst the adoption of BIM has not been consistent across the industry (for example, the NBS National BIM Report 2015 revealed that 59% of respondents were meeting the requirements for Level 2 BIM), the UK construction industry is considered to be a ‘leading light’ as regards the use of BIM.

A number of organisations have taken significant steps to reflect the new approach involved as a result of the use of BIM in their organisations, such as by appointing a BIM manager to address how BIM is used internally and having a clear internal policy regarding the use of BIM.

One area where there is work to be done is how the use of BIM is reflected contractually. The CIC
BIM Protocol (CIC Protocol) (drafted by Beale & Company) was published in 2013 to enable contracts to be amended to include additional provisions in relation to BIM.

The CIC Protocol is one of very few standard form documents for incorporating the use of BIM into a contract. It does so by imposing obligations to produce the models stated in Appendix 1 (the Model Production and Delivery Table) to the Level of Detail stated therein. The CIC Protocol also includes limitations of liability and an intellectual property licence to enable the employer and the project team to use models for the Permitted Purpose (which must be consistent with the Level of Detail).

This CIC Protocol is being used on current projects. For the CIC Protocol to be properly incorporated into a contract an enabling clause must be included. However, often there is no such clause, despite an intention that the CIC Protocol will be used, creating uncertainty. Where the CIC Protocol is not used, it is not unusual for contracts to include ambiguous BIM provisions, such as a requirement to achieve ‘Level 2 BIM’ or provisions which are inconsistent with the approach being taken by the project team. It is therefore important that the contracts on a project on which BIM is being used are carefully considered and that a ‘joined up approach’ is taken when reflecting the use of BIM contractually, involving the commercial, legal and technical functions.

There have, very recently, been further developments regarding the use of BIM in England and Wales which suggest that progress will continue to be made after 4 April 2016. For example, the UK government announced last year that from 3 October 2016 it will ‘electronically validate BIM information delivered from the supply chain’. It is also anticipated that in 2016 the government will announce an updated construction strategy, which is likely to include suggestions in relation to BIM.

Are other countries reflecting or encouraging the uptake in BIM?

Scotland
Starting off close to home, in September 2015 the Scottish BIM Delivery Group, established by the Scottish Futures Trust and the Scottish government, published a ‘BIM Implementation Plan’, which stated that ‘BIM is seen as a key tool for the Scottish construction industry going forward’.

The implementation plan provides a staged roadmap to the implementation of BIM Level 2 by April 2017 on Scottish public sector projects and envisages the use of ‘pathfinder projects’ (which have also been operated in England and Wales) and the publication of guidance, including, amongst other things, a template EIR. The Scottish government is therefore following its English and Welsh neighbours very closely regarding the use of BIM.

USA
The USA was perhaps one of the first countries to adopt the use of BIM and has taken significant steps in this regard. For example, in 2003 the General Services Administration (GSA), which provides centralised procurement for the federal government, established a National 3D-4D-BIM Program through its Public Buildings Service (PBS) to support the use of BIM. The GSA mandated the use of BIM for all projects from 2007.

Steps have also been taken to reflect the use of BIM in contracts in the USA. For example, the American Institute of Architects published a BIM Protocol in 2008 for inclusion in contracts to reflect BIM, an updated version of which was published in 2013.

The AIA BIM Protocol requires Model Elements to be delivered to the Level of Development stated in the Model Element Table and limits the extent of reliance permitted on any model to the extent consistent with that Level of Development.

Also in 2008, ConsensusDocs, a coalition of various industry bodies, published a ‘BIM Addendum’ for use to include additional provisions in a contract to take into account the use of BIM. This, amongst other things, allocates responsibility to each party to the extent they make a contribution to a model and contains intellectual property licences between the project team.

These approaches bear some similarities to the CIC BIM Protocol, but the fact that there are two standard BIM Protocols which, in addition to the GSA’s mandate, have been in place for around seven years demonstrates that the US did perhaps have a ‘head start’ on the UK in relation to the use of BIM.

Middle East
The use of BIM has also been encouraged in the Middle East. For example, in 2013 the Dubai Municipality issued circular (196), which mandated
the use of BIM for the architectural and MEP work 'as a first stage' on:

1. buildings higher than 40 floors;
2. buildings over an area of 300,000 square feet;
3. specialised buildings such as hospitals, universities, and the like; and
4. all buildings provided through a foreign office branch.

In July 2015, circular (196) was updated by circular (207) to widen the use of BIM to also include architectural and mechanical works for:

1. buildings that are above 20 floors;
2. buildings and facilities and compounds with areas larger than 200,000 square foot;
3. buildings and special facilities like hospitals and universities and all that is similar to these; and
4. governmental projects.

The most recent circular therefore widens the number of projects in Dubai on which BIM will be used, which suggests that the use of BIM will become increasingly popular in Dubai.

Even before this development, the use of BIM in Dubai and the rest of the Middle East was widely used. For example, BIM was used on projects such as the Opera House at Downtown Dubai (by Eversendai), the Midfield Terminal Complex Development at Abu Dhabi Airport (by Gulf Steel Industries), and the King Abdullah Financial District and King Abdulaziz Center for World Culture in Saudi Arabia (by Arabian International Company's and Zamil Steel). Qatar Rail has also appointed Hochtief ViCon, a provider of BIM services, as its adviser. BIM is being used on a number of projects in relation to the Qatar 2022 World Cup.

There is not a standard contractual approach for reflecting the use of BIM in the Middle East, so it is important that any contract in the Middle East under which BIM will be used is considered carefully to ensure that it is consistent with the approach to be taken by the project team in relation to the use of BIM.

**Singapore**

Singapore is another jurisdiction which has made real progress regarding the use of BIM. For example, in 2010 the Building and Construction Authority (BCA) adopted a 'BIM Road map', with the target of encouraging BIM to be widely used in the construction industry by 2015 (by more than 80% of the industry). As in England and Wales, this involved the public sector taking the lead. The Singapore BIM fund was set up in June 2010 to cover the costs of training, consultancy, software and hardware and from 2012 BIM was used as part of public sector procurement. A second 'BIM road map' has now been published setting out the plans in relation to BIM up to 2020, which includes plans for greater collaboration, the use of 'design for manufacture' pilots and the use of BIM for facilities management.

Singapore has also led the way in requiring electronic BIM submissions to be made for regulatory approval, to streamline the regulatory process. In 2013 the Singapore government mandated architectural BIM e-submissions for building projects greater than 20,000 square meters, and in 2015 BIM e-submissions were required for all projects greater than 5,000 square meters. It remains to be seen how the use of BIM will impact the process of obtaining planning permission, building regulations consent and other approvals in the UK so this is certainly an advanced step.

In Singapore it is rare for the use of BIM to be reflected contractually and we are not aware that there is a standard contract or protocol for doing so as the team agrees a BIM Execution Plan which sets the agreed approach in relation to the use of BIM, including the key deliverables in relation to BIM. As in other jurisdictions, it will therefore be important to ensure that on projects in Singapore any BIM Execution Plan is consistent with the contracts agreed and that any contract is consistent with the approach to be taken regarding BIM.

**Conclusion**

There does seem to have been acknowledgement globally of the need to make the most of the benefits available from the use of BIM, as shown by developments in Scotland, USA, the Middle East and Singapore in addition to the UK.

The use of BIM and the legal approach to the same understandably differs across jurisdictions (and even within the UK itself) but real strides have been taken in relation to the use of BIM and the UK is certainly one of the leading players. In all jurisdictions, it is important to ensure that the contracts used on a project on which BIM is used are consistent with the approach to be taken by the project team. CL