



# PERSPECTIVES

---

## **Understanding Developing Issues in Access to Design Data: Implications for Designers**

Our perspectives feature the viewpoints of our subject matter experts on current topics and emerging trends.

## INTRODUCTION

In recent years, the UK Government has pushed for Building Information Modelling (BIM):

*“BIM is a process for creating and managing information on a construction project across the project lifecycle”.*<sup>1</sup>

BIM creates a data model that contains information assembled and updated collaboratively to enable end-users to optimize their actions and get greater whole-life value of their asset.<sup>2</sup> The product of the BIM process is a departure from that generated by earlier Computer-Aided Design (CAD) software that uses standalone two-dimensional drawings, produced independently by each building professional and/or designer. Essentially, BIM is used in place of the traditional 2D CAD drawings at the design stage and throughout the building lifecycle.

Rapid and frequent changes in standards applied to BIM took place, making it fertile ground for legal disputes. In 2016, the UK reported its first formal dispute involving BIM. In *Trant Engineering Limited v Mott MacDonald Ltd*,<sup>3</sup> the claimant applied for an interim injunction until trial (or further order) requiring the defendant provide access to design data the claimant had prepared. The case raised issues about the obligations of the party who has control over the access to design data prepared by the rest of the team, and the realities (and complexities) of the inter-party nature of the use of BIM.

This paper examines the significance of the TEL/MML case which informs designers of their duties for providing design data, and how this data should be managed through clear and agreed contract provisions. It also explains how the standards applied to BIM have changed since this modelling process was first introduced.

## EVOLUTION OF BIM DEVELOPMENT

In support of the design profession’s and construction industry’s increasing use (and limited formal adoption) of BIM, the Construction Industry Council (CIC) published the first edition of its CIC-BIM Protocol (CIC/BIM Pro) in 2013. This protocol was issued with the intention that it be utilised on all UK construction contracts using BIM.<sup>4</sup> The development of the protocol was a response to the publication of the UK Government Construction Strategy in 2011, which aimed to reduce costs of construction projects by up to 20%.<sup>5</sup> In 2013, the UK Government also mandated the use of BIM for all centrally procured government contracts from 2016.<sup>6</sup> This forms part of the UK’s Construction 2025 Strategy.<sup>7</sup> One of the goals stated in that strategy was a reduction of the initial construction costs and the whole life cost of built assets by 33%.

Also in 2013, PAS 1192-2:2013 came into effect,<sup>8</sup> which is the *“specification for information management for the capital/delivery phase of construction projects using building information modelling”*.<sup>9</sup>

The Second Edition of the CIC/BIM Pro was published in 2018 to reflect the ongoing technical and practical development in BIM adoption and use. This updated edition was intended to closely align with PAS 1192-2:2013, which was the updated UK standard at that time.<sup>10</sup> That same year, ISO 19650 was published, creating an international standard for managing information over the whole life cycle of a built asset using BIM. The UK implemented this standard in 2019 through its BS EN 19650 series, the *“Organization and digitization of information about buildings and civil engineering works, including building information modelling -- Information management using building information modelling”*.<sup>11</sup>

<sup>1</sup> National Building Specification (NBS), What is Building Information Modelling (BIM)? <<https://www.thenbs.com/knowledge/what-is-building-information-modelling-bim>> accessed 19 January 2018.

<sup>2</sup> *ibid.*

<sup>3</sup> [2017] EHCW 2061 (TCC)

<sup>4</sup> Construction Industry Council (CIC), Building Information Model (BIM) Protocol – Standard Protocol for use in projects using Building Information Models 1st edition 2013 <[org.uk/download.php?f=the-bim-protocol.pdf](http://org.uk/download.php?f=the-bim-protocol.pdf)> accessed 19 January 2018.

<sup>5</sup> Government Construction Strategy (2011) <[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/61152/Government-Construction-Strategy\\_0.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/61152/Government-Construction-Strategy_0.pdf)> accessed 19 January 2018.

<sup>6</sup> Construction 2025 (2013) <<https://www.gov.uk/government/publications/construction-2025-strategy>> accessed 18 January 2018.

<sup>7</sup> Construction 2025 (2013) <<https://www.gov.uk/government/publications/construction-2025-strategy>> accessed 18 January 2018

<sup>8</sup> PAS 1192-2:2013 came to effect on 28 February 2013. Its Corrigendum No. 1 came to effect on 28 March 2013.

<sup>9</sup> British Standard Institution (BSI), PAS 1192-2:2013 Specification for information management for the capital/delivery phase of construction projects using building information modelling (BSI, 2013).

<sup>10</sup> CIC, Building Information Model (BIM) Protocol – Standard Protocol for use in projects using Building Information Models 2nd edition 2018 (CIC 2018) 4

<sup>11</sup> This standard superseded BS 1192:2007 + A2: 2016, the “Code of Practice for the Collaborative production of architectural, engineering and construction information”. The new standards are founded in the principles of its predecessors, BS 1192:2007 + A2:2016 and PAS 1192-2:2013.

BS EN ISO 19650-1:2018 sets out the concepts and principles for information management, defining a common modelling environment or a “Common Data Environment” (CDE), which allows information to be shared between all members of a project team. A CDE is an *“agreed source of information for any given project or asset, for collecting, managing and disseminating each information container through a managed process.”*<sup>12</sup> Besides defining CDE, the standard also addresses the topic of workflow, thereby providing guidance which may be helpful in mitigating disputes related to a CDE.

In May 2020, to bridge the gap of an Information Protocol to support contracts that use ISO 19650,<sup>13</sup> the UK BIM Framework (in association with the CIC) published the “Information protocol to support BS EN ISO 19650-2 the delivery phase of assets.”

## THE ISSUE IN THE TEL/MML CASE

### Facts

Trant Engineering Limited (TEL) was employed by the Ministry of Defence (MoD) to design and construct a £55 million Mid-Atlantic Power Station Project at the RAF Mount Pleasant Complex in the Falkland Islands. TEL then engaged Mott MacDonald Ltd (MML) *“to provide design consultancy services,”*<sup>14</sup> which included *“preliminary design, detailed design, design co-ordination, preparation and implementation of BIM and procurement support, principal designer responsibilities and development of the DREAM assessment (an environment assessment throughout the design stage) ...”*<sup>15</sup>

In implementing BIM, MML intended to use a project collaboration software called ProjectWise, which created a CDE to enable *“the design teams to manage, share and distribute design data on a single platform.”*<sup>16</sup> A draft

consultancy agreement (DCA) was sent by MML to TEL, and incorporated MML’s standard terms and conditions. The DCA included a clause on the limitation of liability and provisions for payment, following provisions in the Construction Act<sup>17</sup> for interim payments and “contained a provision that the contractor...could suspend works in the event of any failure on the part of the client.”<sup>18</sup>

The DCA provision addressing the intellectual property stated:

*“Upon full payment of the fees due under the consultancy agreement the consultant shall grant to the client an irrevocable royalty-free non-exclusive licence to use all rights, titles and interest in any such intellectual property in connection with the construction, completion, maintenance, re-instatement, repair, promotion and/or advertisement whether by the client or by a third party authorised by the client of the project.”*<sup>19</sup>

TEL received the DCA contract documents but failed to respond. Subsequently, MML claimed no contract had been entered into since its outstanding invoices remained unpaid by TEL. MML then suspended all design efforts and blocked TEL’s access to the design data in the CDE that MML had had provided up to that point. TEL applied for an interim injunction for MML to release the design data.

### Judgement

The court applied the three-stage test in *American Cyanamid Co (No 1) v Ethicon Ltd & Ethicon [1975]*<sup>20</sup> and found that the claim satisfied the test:

(1) Was there a serious question to be tried?

Both parties were clearly in dispute regarding the services to be provided by MML, its value and entitlement for payment, whether a contract existed, if either TEL and MML was in breach of any such contract, and, if so, what were

<sup>12</sup> BS EN ISO 19650-1:2018, Cl 3.3.15

<sup>13</sup> UK BIM Framework, Information protocol to support BS EN ISO 19650-2 the delivery phase of assets (UK BIM Framework 2020) 4

<sup>14</sup> O’Farrell (n 1) [4].

<sup>15</sup> *ibid.*

<sup>16</sup> O’Farrell (n 1) [5].

<sup>17</sup> The Housing Grants, Construction and Regeneration Act 1996, also known as the Construction Act. Amendments were made to the Construction Act in 2011, with the aim to provide increased clarity and certainty to the payment regime.

<sup>18</sup> O’Farrell (n 1) [9].

<sup>19</sup> *ibid.*

<sup>20</sup> [1975] UKHL AC 396

*“the implications...on any entitlement to retain access to and/or use of any design data”.*<sup>21</sup>

### (2) Adequacy of the damages

MML argued damages would be an adequate remedy for TEL, since if there was a delay to the project because of the inability to use the design data that was held on its platform *ProjectWise*, this could be compensated by way of monetary damages. MML invoked its copyright and intellectual property rights in respect to the design data.<sup>22</sup> TEL responded by arguing that the award of monetary damages would likely be wholly insufficient if the injunction was not granted, as the losses resulting from a year’s delay would very probably exceed the DCA’s provision setting the limitation of liability at £1 million. TEL cited *AB v CD*<sup>23</sup> and *Bath v Mowlem*<sup>24</sup> stating:

*“The primary obligation of a party is to perform a contract. The requirement to pay damages in the event of a breach is a secondary obligation and an agreement to restrict the recoverability of damages in the event of a breach cannot be treated as an agreement to excuse performance of that primary obligation ...*

*The rule, if rule is the right word, that an injunction should not be granted when damages would be an adequate remedy should be applied in a way which reflects the substantial justice of the situation: that is, after all, the basis of the jurisdiction under section 37.”*<sup>25</sup> [emphasis added]

The court found that damages would not be an adequate remedy for TEL nor MML, since the likely losses on the project would exceed the limit on damages recoverable from MML and conversely, MML would suffer a loss of bargaining position. If there was a finding that no contract existed, MML might be entitled to more by way of restitution than if the design services that led to the creation of the BIM model were provided under the DCA. In sum, the court found that the financial damages that the parties may experience in the face of such a delay would be difficult to identify and value.

### (3) Balance of convenience

TEL argued that without restoring access to the design data, the project could not move forward, and it would require a virtual restart and a year’s progress would be lost. TEL also argued that the court should allow TEL access to the design data, since MML had already performed the design services that led to the creation of the data, and this would allow TEL to advance the project. TEL further contended that there would be “very little” harm to MML if the court required MML to provide access to design data that it had already produced, particularly when TEL had undertaken to pay for the outstanding fees or damages. The court found that the balance of convenience was with TEL and granted the injunction.

A subsequent case was heard in March 2021 involving the same parties, TEL and MML (and RAF Mount Pleasant) arising from a Settlement and Services Agreement (SSA) the parties entered into on 20 November 2017.<sup>26</sup> MML and TEL entered into the SSA with the intention of not only resolving the existing primary dispute but also to govern the parties’ future actions. The 2021 case focused on the exclusion and limitation clauses in the SSA which MML had against TEL in the event of breach of the SSA. The judge concluded that when properly construed, the exclusion and limitation clauses in question were applicable to any breach by the claimant of the SSA. That meant that MML’s liability was limited to the terms of the liability cap despite TEL’s claims that the losses that stemmed from MML’s breach was considerably more.<sup>27</sup>

## DESIGN WORK STAGES AND DESIGN DATA EXCHANGE

The TEL/MML case illustrates how project workflow has evolved in recent years. Work stages in different jurisdictions may differ slightly in terminology, but in most instances, the general principles of Pre-Design, Design, Construction, Handover, and In-Use are followed.<sup>28</sup>

In 2013, the Royal Institute of British Architects Plan of Work (“RIBA POW”) adopted an 8-stage approach, a change

<sup>21</sup> O’Farrell (n 1) [24].

<sup>22</sup> O’Farrell (n 1) [13].

<sup>23</sup> [2014] EWCA Civ 229.

<sup>24</sup> [2004] EWCA Civ 115.

<sup>25</sup> O’Farrell (n 1) [29].

<sup>26</sup> *Mott Macdonald Ltd v Trant Engineering Ltd* [2021] EWHC 754 (TCC)

<sup>27</sup> Eyre (n23) [87]

from its 2007 POW version which denoted 11 stages. In 2020, the RIBA POW 2020 was published to correspond to the changes in the design and construction industry, notably, digital innovations that affect project workflow.

RIBA POW 2020 maintained the 8-stage approach of 2013 but updated the naming of some work stages. It replaced the “BIM Overlay” with a section on “Information Requirements” with an emphasis on two critical aspects: (1)

client review and sign off; and (2) information produced at the end of each stage that guides the activities to be carried out on the next stage.<sup>29</sup>

Had the RIBA POW 2013 (and the UK Government’s Digital Plan of Work (dPOW) been utilised on the project at the heart of the MML/TEL dispute, Table 1 (below) outlines the comparative level of information that MML would have been required to provide.

**Table 1 - Comparison of MML's scope of services with RIBA Plan of Work 2013 and UK Government's Digital Plan of Work (dPOW). The information provided was based on RIBA Plan of Work 2013 Guide to Information Exchanges by Richard Fairhead<sup>30</sup>**

	PRE-DESIGN		DESIGN			CONSTRUCTION	HANDOVER	IN-USE
<b>RIBA POW 2013</b>	Stage 0 Strategic Definition  Strategic Brief; Report to the client on project viability; Initial advice on likely consultant team  Securing the commission <sup>31</sup>	Stage 1 Preparation and Brief  'High level' information and key project decisions	Stage 2 Concept Design  Final Project Brief; Concept Design, which includes outline building services design; Project Strategies; and Cost Information	Stage 3 Developed Design  Coordinated architectural, structural, and building services design, and updated Cost Information	Stage 4 Technical Design  Comprises documents developed to communicate and describe the construction requirements	Stage 5 Construction  As-constructed information, wherein model data reflects the 'as-constructed' status of all construction disciplines. An accurate representation of the facility and its operational systems	Stage 6 Handover and Close Out  Updated 'As-constructed' information	Stage 7 In-Use  Feed-back and asset information
<b>dPOW</b>		Data Drop 1  Comprises modelled response to the plain language questions (PLQs)	Data Drop 2  Defines level of definition required to tender the design – a Level 2 (BIM) federated model information	Data Drop 3  Assumes that the design developed in Stage 2. Information at stage is to support the agreed maximum price.			Data Drop 4  Maintenance and operational information required to properly use the finished facility	
<b>MML's Scope</b>			Preliminary design	Detailed Design; Design coordination	Preparation and implementation of BIM and procurement support	Principal Designer Responsibilities	Development of the DREAM assessment (an environment assessment throughout the design stage)	

<sup>28</sup> RIBA POW 2020, Figure 1: Comparison of international plans of work.

<sup>29</sup> RIBA POW 2020, p 96

<sup>30</sup> R Fairhead, RIBA Plan of Work 2013 Guide – Information Exchanges (RIBA Publishing 2015)

<sup>31</sup> N Ostime, RIBA Job Book 9th ed (RIBA Publishing 2013) 14

It is noted that although “*Securing the commission*”<sup>32</sup> is not strictly part of the Strategic Definition, a successful working relationship depends on the roles of all parties being established clearly from the beginning.<sup>33</sup> The dispute between TEL and MML was about who had ownership of and access to the data on the CDE, and this could have been established at Stage 0 – Strategic Definition.

The key to having a collaborative working environment was an agreement upon the CDE, which established MML would develop via use of the project collaboration software, *ProjectWise*. Table 1 outlines the extent and nature of design information a designer is to provide at every work stage. If the RIBA POW 2013 had been adhered to, MML would most likely have had to provide a coordinated architectural, structural, and building services design, and updated “Cost Information”, and a BIM Level 2 Model. BIM Level 2 is “*distinguished by collaborative working and requires an information exchange process which is specific to that project and coordinated between various systems and project participants.*”<sup>34</sup>

In summary, clearly establishing the design deliverables flowing from the BIM process at the onset of a project is critical. In the MML/TEL matter, the court declined to address whether a contract did or did not exist but did provide guidance as to how essential agreement upon the details related to these deliverables is. Since the key deliverables are defined by the employer, according to the dPOW, it is critical to know who drives this process, in order to have a clear, concise, and definitive conclusion.

In practical terms, CDE and workflow should be used for managing information during asset management and project delivery where it should be divided into “information containers”: working in progress, shared, or published. The latest standard, set out in BS EN ISO 19650-1:2018, recommends “information container-based collaborative working” to allow for CDE workflow to be distributed across different platforms.

## THE COST OF DESIGN DATA

The generation of design data comes with a cost. In the TEL/MML case, the evidence showed that the financial harm

to MML by a requirement that TEL be given access to the digital deliverable after the first year of design effort was “very little.” This is because the design data was already readily available although not accessible to TEL. In addition, TEL had undertaken to pay the compensation due to MML. But, MML’s (unremunerated) costs would likely have increased if the project proceeded and MML continued to incur costs with respect to the BIM production without clarity on the issues related to the design data model. As acknowledged in the court’s judgement, MML’s entitlement to a fee with respect to the design data would be difficult to identify and to value, barring the parties’ agreement on governing provisions.

## CONCLUSION

This case provides an important lesson for designers, who should be aware that the primary obligation is to perform the contract, with the recoverability of monetary damages coming second. As such, designers should ensure the clarity of their contractual obligations and that the valuation of a breach of contract by the employer provide adequate remedy when the designer incurs such damages. This valuation is readily provided for when the parties follow the POW provisions at “Stage 0 – Strategic Definition.” Such valuations are also affected by the procurement model selected, particularly because the level of information to be provided at Stages 2 and 3 may vary, i.e., two-stage design and build contract. Furthermore, if the designer acts as the coordinator of the CDE, and essentially has control of the host environment, this comes with a weighty obligation to other project members, i.e., coordinating the design information which may have monetary repercussions. These factors need to be considered on the fee entitlement and payment cycle.

<sup>32</sup> Ostime (n 29) 14

<sup>33</sup> Ostime (n 29) 16

<sup>34</sup> R McPartland, NBS <<https://www.thenbs.com/knowledge/bim-levels-explained>> accessed on 1 March 2022

## ACKNOWLEDGMENTS

We would like to thank Joan Kennedy for providing insight and expertise that greatly assisted this research.

Joan Kennedy is an assistant expert witness in Sense Studio, a part of J.S. Held's Construction Advisory Services Practice. She is a designer with a diverse international portfolio, who developed her technical expertise working in Singapore, Kuala Lumpur, and the Philippines. She has been involved in the delivery of high-end residential developments, public housing, conservation buildings, hotel and retail developments, and mixed-used developments. She has worked in the design, project, and contract administration for large scale projects, and has provided technical assistance with complex and high value claims in cases in the UK, Middle East, and Southeast Asia.

Contact Joan Kennedy at [joan.kennedy@jsheld.com](mailto:joan.kennedy@jsheld.com) or +44 20 7438 1550

This publication is for educational and general information purposes only. It may contain errors and is provided as is. It is not intended as specific advice, legal or otherwise. Opinions and views are not necessarily those of J.S. Held or its affiliates and it should not be presumed that J.S. Held subscribes to any particular method, interpretation or analysis merely because it appears in this publication. We disclaim any representation and/or warranty regarding the accuracy, timeliness, quality, or applicability of any of the contents. You should not act, or fail to act, in reliance on this publication and we disclaim all liability in respect to such actions or failure to act. We assume no responsibility for information contained in this publication and disclaim all liability and damages in respect to such information. This publication is not a substitute for competent legal advice. The content herein may be updated or otherwise modified without notice.