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Case No: HT-2020-MAN-000023

IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS IN MANCHESTER
TECHNOLOGY AND CONSTRUCTION COURT (KBD)

Manchester Civil Justice Centre
Date handed down: 17 October 2022

Before His Honour Judge Stephen Davies sitting as a High Court Judge
Between :

THOMAS BARNES & SONS PLC (IN ADMINISTRATION)	**Claimant**
- and -	
BLACKBURN WITH DARWEN BOROUGH COUNCIL	**Defendant**

Jennifer Jones (instructed by **Hill Dickinson LLP, Solicitors, Liverpool**) for the **Claimant**
Lynne McCafferty KC (instructed by **Blake Morgan LLP, Solicitors, Oxford**) for the **Defendant**

Hearing dates: 12 -15,18-22, 25, 27 July 2022
Date draft judgment handed down: 6 October 2022

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APPROVED JUDGMENT

Remote hand-down: This judgment was handed down remotely at 10:30am on 17 October 2022 by circulation to the parties or their representatives by email and by release to The National Archives.

I direct that pursuant to CPR PD 39A paragraph 6.1 no official shorthand note shall be taken of this Judgment and that copies of this version as handed down may be treated as authentic.

His Honour Judge Stephen Davies

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A. Introduction and summary of decision

1. This claim arises out of a contract for the construction of Blackburn Bus Station ("**the bus station**") entered into between the claimant, Thomas Barnes & Sons plc (in administration), as the contractor and the defendant, Blackburn with Darwen Borough Council, as the employer.

2. The bus station is a rectangular shaped structure, built to a contemporary design on the site of the old town market. There is a hub area at one end ("**the hub**"), providing office space on ground and mezzanine first floor levels, with the rest of the structure comprising the concourse ("**the concourse**") affording waiting space and access to buses. The whole structure is encased in structural frameless external glazing running from floor to ceiling. Structural support to the roof is provided in the concourse area by a number of striking U shaped loop steelwork structures encased in white glass reinforced plastic ("**GRP**"), with a number of non-structural similar looking loops suspended from the roof between them. The bus station was shortlisted for a design award and an internet search will show why.

3. Rather more prosaically, however, the construction of the bus station was subject to significant cost increases and delay overruns and it is the allocation of responsibility for these matters, rather than the merits of its design, which is what this case is about.

4. The contract was terminated by the defendant for alleged default by the claimant on 4 June 2015 before work was finished and the defendant proceeded to have the work completed by a replacement contractor.

5. According to the claimant, it was the combination of the defendant's failure to make interim payments and the defendant's wrongful termination of the contract which caused the claimant to go into administration later in 2015.

6. By this action, brought in 2020, the administrators pursue claims for: (a) monies said to be due under the contract on a proper valuation of the works done at termination (including claims for

loss and expense said to have been suffered as a result of the prolongation of the contract period for matters for which the defendant is said to be responsible); and (b) damages for wrongful termination representing the claimant's loss of profit on the remaining works. The administrators have been able to afford to do so through the financial support of members of the Barnes family who were the owners of the claimant company and who are secured creditors in the administration.

7. The claim as advanced at trial is in the sum of £1,788,953.76, net of VAT and interest, which is considerably less than that originally pleaded but is the valuation which the claimant's quantum expert has put on the claim.

8. The defendant disputes the claim in its entirety, alleging that the true final account position, taking into account all monies properly due to the claimant and all monies properly due from the claimant, is that the claimant is indebted to the defendant in the sum of £1,865,975. This is based on the contractual provisions under which where the employer validly terminates the contract for contractor breach it is entitled to charge the contractor with the extra amount it has had to pay to have the works completed, as compared with what it would have paid under the contract and has already paid the contractor. The defendant does not advance a separate counterclaim to seek to recover the alleged overpayment, not surprisingly since that would be a fruitless exercise given that Barnes is in administration with - according to the administrators' progress reports - no prospect of recovery for unsecured creditors, unless the claimant was to recover sufficient in this litigation to discharge what is owed to the Barnes family as secured creditors and leave an excess for distribution to the unsecured creditors.

9. The real significance to this case of the defendant's final account claim is that if – which is hotly disputed by the claimant and which I must determine - the defendant can establish that it validly terminated the contract, it will be able to avoid paying the claimant anything further since, as the claimant realistically accepts – for reasons which I shall explain in due course - the amount paid to the remedial contractor – which is a matter of record – is such that the amount due to the defendant would inevitably exceed the amount due to the claimant, even if the claimant established its full claim.

10. It is apparent that those who were running the claimant company at the time strongly believe that the problems which led to its being removed from the project were, in very large part, a consequence of failings by the property and infrastructure arm of the well known company, Capita plc, which had been hired by the defendant to provide a full design and project administration service on this project. The claimant's case is that those within the defendant and Capita who were responsible for this project were very keen to pin the blame for the serious time and cost overruns on the project on someone else and that the defendant's decision to terminate was both led by Capita and politically motivated to put the blame on the claimant. All of this is disputed by the defendant.

11. In addition to the criticisms made by the claimant against Capita, the arguments advanced also require me to consider certain aspects of the performance of the claimant's subcontractors, particularly its specialist structural glazing sub-contractor, Saint-Gobain Glass (UK) Ltd (trading as and known as "**Glassolutions**") and its specialist GRP cladding subcontractor, Millfield GRP Ltd ("**Millfield**"). Since neither Capita nor these subcontractors are parties to these proceedings, and since none of their present or former employees have given evidence, I should make clear that any views I may express about their performance are made for the purposes of this case only and based solely on the evidence and arguments advanced before me.

12. I heard factual evidence over 4 days and expert evidence over a further 5 days. I then received written and oral closing submissions, including separate supplemental written submissions accompanied by an updated excel spreadsheet produced by the quantum experts in relation to the quantum issues which divided the parties.

13. I am extremely grateful to the legal advisers for their preparation of the case and, in particular, to counsel, Ms Jones for the claimant and Ms McCafferty KC for the defendant, for their comprehensive well-reasoned opening and closing submissions and for their excellent focussed cross-examination and for their co-operation throughout the trial to ensure that it was completed on time despite the sheer quantity of evidence to be addressed.

14. In summary, my decision is as follows:

(a) The claimant has established an entitlement to an extension of time (“**EOT**”) to 10 August 2015, which is greater than that allowed and contended for by the defendant but significantly less than that claimed and contended for by the claimant.

(b) However, the claimant has established an entitlement to prolongation and, hence, an entitlement to delay-related damages, for only 27 days beyond that commensurate with the EOT already granted by the defendant during the course of the contract. This will have a significant impact on the valuation of its delay related claim.

(c) As at 4 June 2015 the defendant was entitled both to terminate the contract under the contractual termination provisions for delay-related default on the part of the claimant and to accept the claimant’s delay-related breaches as repudiatory and thus entitling it to treat the contract as discharged, to remove the claimant from the site and to engage replacement contractors to complete the works.

(d) Although the defendant failed to follow the correct procedure under the contract as regards service of the notice of termination of the contract, that did not invalidate the effectiveness of its acceptance of repudiatory breach and nor in any event was the termination notice itself repudiatory, so that the termination under the contractual provisions was still effective.

(e) It follows that the claimant has no prospect of recovering anything in this litigation, since any entitlement it may establish under a final account analysis would be more than extinguished by the defendant’s right to recover and to set off against such entitlement the net cost of having the contract completed by replacement contractors.

(f) In the circumstances, and in order to avoid significantly over-lengthening this judgment and over-delaying its production, I have not undertaken the lengthy, complex and unnecessary process of conducting a determination of the claimant’s final account entitlement.

15. My reasons follow. It would not have been practicable nor proportionate to investigate and resolve in this judgment each and every disputed matter raised in the contemporaneous correspondence or in the evidence. I have concentrated, therefore, on the issues of substance which divide the parties and have aimed to set out my reasons as succinctly as is possible.

B. The witnesses

(a) The witnesses of fact called

16. The claimant called five witnesses of fact: (a) Mr Thomas Barnes, its former managing director; (b) Mr Alan Cunningham, its former managing director; (c) Mr James O’Brien, its former chief

accountant; (d) Mr Richard Ikin, a former site manager; and (e) Mr Mark Nortley, a former project quantity surveyor ("**QS**").

17. Mr Barnes, Mr Cunningham and Mr O'Brien all continue to harbour a real grievance against the defendant and Capita, who they blame for the failure of the project and, as they see it, the subsequent failure of the claimant (as well as its former holding company Barnes Construction (UK) plc ("**BCUK**")). This is notwithstanding the fact that Mr Cunningham and Mr O'Brien are no longer involved with the Barnes group in any way, having both retired.

18. It is apparent that the termination of the contract by the defendant did indeed have a material adverse impact on the claimant's fortunes and it is likely that non-payment of an April valuation in May 2015 stretched the claimant financially in the immediate run-up to the termination. Nonetheless, it is also clear – as was recorded in the administrators' proposals – that this contract was only one of two contracts which both caused the claimant's financial problems and eventual demise. It is also clear from the company accounts that the claimant was already struggling with a loss of business since the early 2010's caused by public spending cutbacks leading to intense competition for work in the sector in which the claimant had historically specialised, well before it entered into this particular contract. Even before the claimant started on site it had already been decided that the company should be wound down as a trading company and that new business should be undertaken by BCUK from the beginning of 2013. It follows, in my judgment, that the opinion so clearly expressed by all three witnesses, and so resolutely maintained under cross-examination, that the defendant's (and Capita's) conduct was the sole cause of the claimant's demise is quite simply wrong.

19. In my view this misplaced opinion and strong grievance against the defendant and Capita plainly coloured their recollection of events which was, inevitably, poor anyway as to the details, given that they were giving evidence about events occurring 7 to 8 years ago. None of them had much, if any, direct involvement with the project at site level and, thus, much of the detail of their evidence was second hand commentary anyway.

20. Their witness statements were replete with commentary and opinion notwithstanding that each had signed confirmations of compliance which included the required statement that they understood that the purpose of their witness statement was to set out matters of fact of which they had personal knowledge and not to argue the case, either generally or on particular points. Mr Cunningham's witness statement in particular contained copious reference to, and comment upon, various documents, many of which he had not even seen at the time.

21. Mr Barnes' witness statement contained a particularly egregious example when, having stated that he was "conscious that my statement generally needs to provide first hand evidence", he immediately continued by saying "I cannot fail to note that some of the documents so far reviewed from the Council's disclosure indicate some alarming matters which do not, in my view, marry with the Council's current position in this action". He then proceeded to comment in some detail upon these documents, when it was obvious from what he had just said, assuming that he understood what he was saying, that he knew that he ought not to do so in his witness statement.

22. The witness statements from these witnesses all included the required confirmation from the claimant's solicitor that he had discussed with and explained to the witnesses the purpose and proper content of trial witness statements, included the required witness confirmation. It follows that the witnesses could not say, nor did they suggest, that they were unaware of the requirements of the relevant Practice Direction 57AC governing the content of witness statements in

proceedings in the Business and Property Courts. Nonetheless, and notwithstanding these flagrant contraventions, neither Mr Cunningham nor Mr Barnes were prepared to accept when asked that they had not complied with the confirmation which they had signed.

23. In my view a witness who produces and signs a witness statement, which he or she knew or should have known fails to comply with the certificate of compliance which he or she has signed after the appropriate explanation from the appropriate solicitor, cannot complain if a court takes that into account when assessing his or her credibility. In this case I do take that into account. It is, however, far from being the only, or even the principal, reason why I am unable to place any real weight on the uncorroborated evidence of these witnesses.

24. Mr Ikin (site-based project manager from 5 January 2015) and Mr Nortley (site-based quantity surveyor) seemed to me to be far less partisan than the previous three witnesses and I am prepared to place more weight on their evidence insofar as it is necessary to make findings which are not adequately addressed by the contemporaneous documentary evidence. However, given the passage of time I would need to be very convinced before I felt able to prefer their evidence over the contemporaneous documents on a particular point.

25. This is a case where it is necessary to have firmly in mind the well-known observations of Leggatt J in *Gestmin SGPS SA v Credit Suisse (UK) Ltd* [2013] EWHC 3560 (Comm) about the fallibility of human memory and of Males LJ in *Simetra Global Assets Ltd v Ikon Finance Ltd* [2019] EWCA Civ 1413 about the importance of the contemporary documents as a means of getting at the truth, not only of what was going on, but also as to the motivation and state of mind of those concerned. I do however also bear in mind the importance of not making findings solely on the contemporaneous documentation without reference to their reliability as records and without, where necessary, taking into account the evidence of those witnesses who have told a significantly different version of events on a matter of importance.

26. The defendant only called one witness, Mr Leslie Smith, whose only involvement was in the events on site surrounding the termination of the contract. He was able to add some explanation to the contemporaneous documents and the photographs, which was helpful, but otherwise had little to add.

(b) Factual witnesses not called

27. In her opening submissions Ms Jones argued that adverse inferences should be drawn against the defendant as a consequence of its failure to call key witnesses.

28. In her opening submissions Ms McCafferty argued that as a result of the delay in bringing this claim the individuals from whom the defendant would ideally have sought to adduce evidence were unfortunately no longer available, identifying in particular Mr Mike Cliffe, who was the client representative on the project, and who had left the defendant's employment some time ago.

29. A particular issue arose in relation to Clint McIntosh, Capita's quantity surveyor on the project. It was said by the defendant that he had retired early due to ill-health following a serious heart attack. However, the claimant's understanding, confirmed by Mr Barnes in examination in chief on the basis of undocumented discussions with Mr McIntosh, with whom he had kept in contact, was that he had suffered only a minor heart attack, had left Capita after signing a confidentiality agreement, and was still working for another company. Ms McCafferty made clear in reply on instructions that the information provided by the defendant's solicitors had been given on the basis of what the defendant had been told by Capita.

30. I do not doubt that this is what the defendant's solicitors were told. There is no hard evidence as to the actual state of Mr McIntosh's health nor what he told Capita nor what it told the defendant and I am not in a position to determine the true position either way, especially since Mr Barnes' evidence itself came only very late in the day and was not separately confirmed. I should also remind myself that there is of course no property in a witness and, if Mr Barnes had kept in contact with Mr McIntosh and believed that his evidence would support the claimant's case, he could have instructed his solicitors to subpoena him to give evidence.

31. In my view when considering this increasingly frequent argument it is important to distinguish between three commonly encountered situations.

32. At one end of the spectrum is where a party has been unable to call a witness (or one who would give an open and honest account) for reasons outside its control, where it would plainly be wrong for the court to hold that against the party, whether by drawing an adverse inference against that party on a particular issue or by taking the absence of oral evidence from that witness into account more generally (e.g. by finding for the other party on an issue on the basis that there was no oral evidence to contradict what the witness called by the other had said). In such a case that party would need to adduce proof either that it had made reasonable efforts to trace and call the witness but had been reasonably unable to do so, or that the witness was so obviously hostile to that party that it would have been pointless even to try to do so.

33. The intermediate position is where, for reasons which have not been sufficiently explained or justified, a party has not called a witness who was involved in the events in question on that party's side. If the absence of such a witness means that the party is unable to adduce oral evidence in relation to one or more of the factual issues in the case, whereas the other party has adduced such evidence, then it seems to me that the court must make its decision only on the basis of the evidence before it, even if that means there is no evidence from that witness to take into account when deciding the factual issues in dispute, and can take into account the absence of evidence from any witness from that party.

34. At the other end of the spectrum is where the court is being invited to draw a positive adverse inference against that party in relation to a specific issue from its insufficiently explained or unjustified failure to call a crucial witness to give evidence on that issue. As to that, the relevant principles and the recent authorities, including some observations by the Supreme Court, were comprehensively considered by HHJ Hodge QC (sitting as a High Court judge) in *Ahuja Investments v Victorygame* [2021] EWHC 2382 (Ch) at [23] - [25] and at [31] - [33].

35. In my judgment this is not a case where the claimant has identified, let alone established, that there are specific factual issues where a positive adverse inference should be drawn in relation to a failure to call a particular witness. This is another case in my view where these arguments are raised far too late in the day, so that the other party has not even been informed in advance that this was a point to be taken which would have allowed it the opportunity to adduce evidence as to the steps taken to trace and call the witness or, possibly, to obtain such evidence and apply for permission to adduce it late. These arguments are also often raised as a generalised scattergun approach, rather than identifying the specific issue(s) which it is said the other party must have known, well in advance of the time for exchange of witness statements, it needed to have covered by oral evidence and the specific witness(es) who needed to be called to cover it.

36. In my judgment this is an intermediate type case. There has indeed been an almost wholesale failure by the defendant to call any relevant witnesses in relation to most of the contested issues in the case, whether their own employees or former employees or whether Capita existing or

former employees. Little if any hard explanation has been given for that failure. In the case of at least one witness (Mr Laher, an in-house solicitor involved in the service of the termination notice) it was established that the potential witness was still employed by the defendant. However, it must also be borne in mind that the case was brought late in the day by the claimant and now concerns events 7 or 8 years ago, so that the contemporaneous documentary evidence was always likely to be given greater significance than oral evidence of the detail of such events. The defendant could not have compelled its own former employees to give evidence nor Capita's existing or former employees. In my judgment it follows that it is only insofar as the claimant has adduced specific oral evidence from a reliable witness of fact on a point which is not adequately covered by the reliable contemporaneous documentary evidence in any event that the claimant's failure to call its own witness on that point could and should be taken into account when making my decision.

(c) The expert witnesses

37. All of the six expert witnesses were well qualified by qualification and experience to give expert evidence. Subject to the reservations I express below I accept that they were all reasonably independent in their approach and in their evidence and that the evidence given by each was all generally reliable. This is not a case where I could be satisfied that the evidence of any one expert was so unsatisfactory that it should be rejected on all of the significant issues in dispute.

38. As it transpired, it became apparent that the evidence of the structural engineers was of only limited relevance to the issues in the case, primarily due to the acceptance by the claimant's delay expert that the only cause of critical delay to the works so far as the structural steelwork was concerned was the instruction and completion of remedial works to a limited area of the hub to rectify admitted deflection of the structural steelwork in that area, which were completed by around the end of January 2015, so that the evidence of the structural engineers about the wider issues as to whether or not the design and/or installation of the structural steelwork as a whole was defective and, if so, whose fault it was, was largely irrelevant in the absence of any suggestion that this was a cause of continuing critical delay to the works.

39. However, insofar as I do need to make findings I do in general prefer the expert evidence of the defendant's structural engineer, Ms Cruickshank, over that of the claimant's structural engineer Mr Keyes.

40. It did seem to me that Mr Keyes had entered into the forensic fray rather more than had Ms Cruickshank and that the weight to be attached to his evidence suffered in consequence. Thus, I agree with the submission of Ms McCafferty that he had failed to make clear in his report the distinction between Capita's admitted design error in relation to the localised section of the hub area referred to above and the heavily contested design allegations in relation to the concourse area. This was a very significant issue and his failure to understand or to make clear that these were fundamentally separate matters adversely impacted the weight to be attached to his evidence on the latter. I also agree that he had placed undue reliance on fairly thin evidence about cracking in a glass door and tiled finishes to justify or to support what he introduced in his supplemental report as an allegation about the impact of differential foundation settlement which was new, had not been the subject of a thorough investigation, and was essentially speculative. Finally, that approach carried through into his additional report in which, although – as he recorded – his instructions were limited to preparing a report "outlining what [two specific emails] mean from an engineering perspective", he was unable to avoid including argument about the merits in what ought to have been an uncontentious exercise.

41. In contrast, Ms Cruickshank seemed to me to be cautious and careful in her approach, albeit maintaining her essential view that, even though Capita's deflection allowances were close to the limit, they were not exceeded taking realistic figures and built-in tolerances, there was no basis for considering that any calculated or actual deflections could have caused or did cause any difficulties in relation to the structural integrity of the building or the installation of the structural glazing or GRP surrounds.

42. The claimant's delay analyst was Mr Hudson and the defendant's delay analyst was Mr Gunton.

43. The defendant invited me to treat the evidence given by Mr Hudson with circumspection on the basis that: (a) he had failed to follow the specific guidance given in the Delay and Disruption Protocol published by the Society of Construction Law ("**the SCL Protocol**") in relation to the "as-planned versus as-built windows analysis" method which he had said he was using, despite referring to that very guidance in his report; and (b) he had produced an overly-simplified analysis, based on a "retrospective longest path analysis" method, which failed to investigate and engage with all of the potential causes of delay to the critical path of the works.

44. I agree with many of these criticisms. It did seem to me that Mr Hudson had formed a view as to the causes of critical delay from his instructions and his reading of the contemporaneous documents and the claimant's witness statements, which he had then reverse-engineered into his fairly simplistic Gantt chart, subsequently modified when producing his report, without undertaking an open-ended analysis from first principles. Nonetheless, and in fairness to Mr Hudson, it seemed to me that he had a good practical knowledge of planning and delay and had taken a clear view as to the overriding causes of critical delay to the project based on that knowledge, so that it would be wrong of me simply to dismiss that opinion out of hand, rather than considering it on its merits.

45. In contrast the claimant suggested that Mr Gunton's approach was flawed by conflating a prospective and a retrospective approach to critical path analysis and by being unduly reliant on computer modelling, when was what really required was a close focus on actual events.

46. Again, I accept that there was some force in these complaints. However, overall it seemed to me that Mr Gunton had impressive expertise in delay analysis and had undertaken a detailed and conscientious analysis of the project by reference to the contemporaneous documents as and when he was provided with them which was, overall, significantly more convincing than that of Mr Hudson.

47. The quantum experts were Mr Ormston and Mr Strutt respectively. They were both impressive witnesses. I would accept that Mr Ormston was perhaps a little inclined at times to accept at face value the contemporaneous submissions and claims made by the claimant and its subcontractors, although in fairness to him he had also been robust in his report in highlighting those elements of the claim as advanced which he could not support. In the same way I would accept that Mr Strutt was perhaps a little inclined to allow nothing for claims which were not sufficiently supported by the evidence which he would have expected to see, although again in fairness to him he was prepared to offer an alternative valuation should the court not accept that primary view. If I ever have to decide the differences between them, I will do so on the respective merits of their arguments rather than by preferring the evidence of one over the other on all matters.

C. The pleaded cases

48. The claimant's pleaded case is to be found in the Amended Particulars of Claim as supplemented by the Amended Response to the defendant's Request for Further Information. It is to be noted that the amendments to those pleadings, which were founded largely upon the late emerging expert evidence of its delay expert and quantum expert, were themselves made at a late stage but, because the defendant was able to address them in supplemental evidence, it did not object upon condition that the cost of that supplemental evidence was borne by the claimant in any event, which argument I upheld in a ruling on the first day of trial.

49. The claimant's pleaded case is that the contract was a build only contract, so that it had no design responsibility for the works. The defendant accepts that the contract was not a full design and build contract. There was some dispute about the precise nature and extent of the claimant's design-related obligations and, in particular, about the status and effect of a contractual document known as Amendment 1A, which in the end lost most if not all of its significance, since by the start of the trial it was common ground that the claimant as main contractor did have a limited design obligation only where specified as such in the contract documents as well as a limited design co-ordination responsibility and that any criticism of the claimant was really limited to its performance of those limited responsibilities.

50. The claimant pleads, and it is common ground, that the contract was entered into on the terms of the JCT standard form of building contract with quantities 2011 edition ("**the JCT terms**") as amended. I will summarise the more important terms below and will refer to the disputes as to the precise terms and effect of particular clauses as and where necessary when I address the particular issues in dispute to which they are relevant.

51. It is also common ground that Capita was the defendant's professional consultant for the whole project and, in particular, was responsible for the production of the design of the works as combined architect, civil and structural engineer, M&E engineer, and lead consultant, for acting as contract administrator and for providing quantity surveying services. It was recorded in the contract that it was the contract architect / contract administrator (the "**contract administrator**") and the contract quantity surveyor.

52. The claimant contends that this placed Capita in a position where its interests as designer conflicted with its duties as contract administrator when it became apparent, as it says it did, that the design of the structural steelwork was deficient and that this was causing serious delays and other impacts to the contract.

53. It is common ground that the contract sum was £4,456,623 and that the contractual dates for commencement and completion were 31 March 2014 and 19 January 2015 respectively, giving a contract period of 42 weeks.

54. It is also common ground that: (a) on 29 October 2014 the claimant was awarded an extension of time of 40 days giving a revised date for completion of 2 March 2015; and (b) that on 14 November 2014, the claimant issued a request for a further extension of time based on five specified grounds which, it contended, entitled it to an extension to 29 June 2015, whereas on 29 January 2015 it was awarded an extension of time to only 13 April 2015. On 7 May 2015 the claimant made a third request for an extension of time up to 29 October 2015 which had not been determined prior to the termination on 4 June 2015.

55. The claimant's amended case is that in fact it was entitled to an extension of time to 8 November 2015 by reference to the matters identified and particularised by its delay expert and pleaded in its amended Response. The key dispute relates to the allegation that follow-on works after the erection of the structural steelwork were delayed because of deflection and associated issues

requiring remedial works which caused delay to the critical path, in circumstances where it is alleged that the defendant was responsible for the design of the structural steelwork. There is a further allegation of delay to the hub due to setting out changes.

56. It is common ground that on 1 April 2015 and again on 10 April 2015 and 12 May 2015 Capita served delay notices under the JCT terms, although their justification and validity is in issue.

57. It is common ground that on 4 June 2015 the defendant sought to terminate the contract, albeit ineffectively both on substantive and procedural grounds according to the claimant. Thus the claimant contends that the termination and its exclusion from site were both wrongful and repudiatory. This is denied by the defendant, who argues that in any event it was entitled to and did through the termination notice accept the claimant's alleged repudiatory breach as a fallback to contractual termination.

58. The claimant pleads its claim for monies due under the contract or as damages for its breach as amended following its quantum report as follows: (a) preliminaries of £180,655.05; (b) measured works of £1,826,211.56; (c) variations comprising: (i) Architect's Instructions ("**AIs**") of £292,526.38; (ii) informally instructed works of £159,349.97; (iii) remeasure adjustment of £99,398.95; and (iv) loss and expense claims of £1,255,436.81; (d) provisional sums of £77,400; (e) increased costs of £21,980; (f) materials left on site of £387,510.14.

59. The total amounts to £4,300,468.76 which, less £2,511,515 paid to date, leaves a claim of £1,788,953.76 plus VAT as applicable and interest.

60. In its Defence the defendant denies liability on a number of grounds, summarised in paragraph 2.4 as being that the claimant failed to carry out the works in accordance with the terms of the contract in: (a) failing to accept and meet its design obligations under the contract; (b) failing to resource the works adequately; (c) failing to pay its subcontractors, suppliers and consultants on time or at all; (d) failing to perform the works and remedy defects in a proper and workmanlike manner; and (e) thereby and additionally, causing significant delay to the works. The defendant contends that: (i) it was entitled to and did validly terminate the contract under the contract or under the law of contract for repudiatory breach by the claimant; (ii) it was entitled to have the works completed by another contractor; and (iii) it is entitled to recover its net loss of £1,865,957 under the termination provisions of the contract or the general law.

D. Formation of the contract

61. There was a dispute on the statements of case as to the date and mode of contract formation. It was only ever of modest significance because the parties are agreed that there was a contract which was made on JCT terms. It became clear as the case developed that its importance had fallen away almost entirely for all practical purposes. In those circumstances I need deal with it relatively shortly.

62. Following the defendant's confirmation that it accepted the claimant's tender it was envisaged that a formal contract would be produced and signed and two letters of intent were produced to cover the position in the interim, however nothing had been produced in advance of the pre-start meeting which took place on 27 February 2014, the minutes of which record that the formal contract documents would be provided shortly. However that did not happen before the actual start date of 31 March 2014, after which the parties simply proceeded on the basis that a contract was in place on the terms contained in the tender.

63. Sometime in or around July 2014 Capita issued a complete package of contract documents to the claimant for signature. This however deleted recitals 7 to 12 introduced by an amendment numbered 1A and, thus, excluded any reference to a contractor's designed portion ("**CDP**").

64. By 5 November 2014 the claimant had signed and returned contract documents for completion by the defendant, including (as the claimant accepts) an unsigned copy of Amendment 1A. These included details of the contract commencement and completion dates of 31 March 2014 and 19 January 2015 and, thus, a 42 week contract period, reflecting the actual start date on site, and it is not disputed that these apply.

65. For some reason Capita did not action this very speedily. It appears that in April 2015 it finally wrote to the claimant to say that the claimant had not signed and returned Amendment 1A and various other documents including warranties and drawings. However, there is no record of the claimant signing and returning these further documents before the contract was terminated on 4 June 2015.

66. The claimant's pleaded case is that the contract was concluded when it returned the signed contract documents on 5 November 2014. The defendant contests this, saying that the reason it did not sign and return a copy of these signed contract documents was because the claimant had not signed or returned all of the required documents. It contends that the contract had already been concluded when the claimant continued work after expiry of the second letter of intent, although it disputes that the pre-contract meeting minutes became a contractual document.

67. In other cases where it really mattered this might have been a difficult issue to decide, since there might have been scope for real argument as to when and on what basis a contract was concluded and what terms it included. For example, the question as to whether or not a contract was concluded in the absence of signed warranties might have been a significant issue. However, in this case there is very little dispute as to the essential contract terms and the position in my judgment can be stated shortly as follows.

68. First, there is no hard evidence that anything which happened before the start on site on 31 March 2014 led to a substantive contract coming into existence before then. This is particularly so against the backdrop that the tender documents as well as the site meeting all proceeded on the basis that a formal executed contract would be required and in circumstances where: (i) before 31 January 2014 any works were being done under the letter of intent; and (ii) between 31 January 2014 and 31 March 2014 there is no evidence of the claimant and the defendant conducting themselves in such a way that it was clear that an informal contract was in existence.

69. Second, however, once the pre-start meeting had taken place all of the essential terms of the contract had been agreed and it was agreed that the claimant would be making a start on site, although it was still envisaged that a formal contract would be provided and signed before that time. That did not happen but nonetheless the claimant did start on site and both parties proceeded on the basis that the contract was in place.

70. Third, in the circumstances, judged objectively, an informal contract on the agreed JCT terms came into existence once the claimant had started on site, incorporating all of the matters which had been agreed and would be inserted in the formal JCT contract. In my judgment this did include the matters referred to in the pre-start meeting minutes insofar as they related to matters contractual. The objective intention was that this informal contract should continue until the production and execution of the formal contract.

71. Fourth, because the defendant did not countersign and return the contract as executed by the claimant in November 2014, apparently because of the issue as to whether all of the relevant contract documents were signed and returned by the claimant, there never came a time when the informal contract was replaced by a formal contract.

72. Fifth, however, in this case the absence of a formal JCT contract signed by both parties does not matter given the agreements reached between the parties in their statements of case and at trial as to the existence of a contract on JCT terms and its key terms.

E. The relevant contract terms summarised

73. As I have said, it is common ground that the JCT terms as amended applied to the contract. Since the standard JCT terms are well known, I will simply summarise the most important relevant terms in this section and refer further to specific terms and address any disputes about the meaning and effect of particular terms as necessary below.

74. Section 2, headed "carrying out the works", included detailed provisions as to the performance of the contractor's obligation to carry out and complete the works. Clauses 2.26 to 2.29 made provision for the contractor to apply for, and for the contract administrator to give, an EOT to the completion date where completion has been or is likely to be delayed by a "relevant event". The question as to whether or not the detailed notification requirements of this clause were complied with is a matter which I shall need to consider.

75. Relevant events were defined as including such matters as variations, contract administrator instructions and "any impediment, prevention or default, whether by act or omission, of the employer [or the contract administrator or quantity surveyor] except to the extent caused or contributed to by any default, whether by act or omission, of the contractor".

76. The right to an EOT was subject to the contractor's duty to use best endeavours to prevent delay in progress or of the completion date. This general provision was fortified by added clause 2.29A which stated that: "Notwithstanding any other provision, the Contractor shall not become entitled to any extension of time for the completion of the Works or any part of the Works on account of any circumstance arising by reason of any error, omission, negligence or default of the Contractor or of any Sub-Contractor or supplier, or of any of his or their employees or agents".

77. Section 3, headed "control of the works", included provision for the contract administrator to give instructions including variations.

78. Section 4, headed "payment", and section 5, headed "variations", contained detailed provisions about adjustments to the contract sum, payments and the way in which variations should be dealt with. In particular: (a) clause 4.3 provided for adjustments to be made to the contract sum for variations and other amounts required by the contract to be added; and (b) clauses 4.6 to 4.20 contained detailed provisions in relation to payments, certificates and notices.

79. Section 4 also contained provision for the right to recover loss and/or expense in specified circumstances. Thus, in addition to the right to an EOT, the contractor was also entitled under clauses 4.23 and 4.24 to payment for loss and/or expense where the regular progress of the works was affected by relevant matters, including variations, contract administrator instructions and employer default (other than the reasonable exercise of the employer's rights under the contract). However under added clause 4.24A this right did not extend to costs, losses or expenses incurred due to contractor default. There were detailed notification requirements so far as the right to

claim for loss and expense under these provisions. If I had needed to determine the quantum issues I would have needed to consider these provisions.

80. Clause 8 contained detailed provisions for termination by the employer and by the contractor, although only the former are relevant to this case. Under clause 8.4 the contract administrator was permitted to give the contractor a default notice in specified events, including where the contractor without reasonable cause wholly or substantially suspended the carrying out of the works and where it failed to proceed regularly and diligently with the works. If the contractor continued the specified default for 14 days then the employer might terminate within 21 days or, if the default was repeated by the contractor, within a reasonable time of such repetition. However, such termination notices could not be given unreasonably or vexatiously.

81. All such notices had to be given in accordance with clause 1.7.4, which required delivery by hand or recorded or special delivery post. This differed from the general right to give notices by any means, including electronic means, as might be agreed in writing by the parties.

82. Following termination the contractor was obliged to vacate the site and provision was made for the employer to employ another contractor to complete the works and, post-completion, for the contract administrator to prepare a post-completion certificate setting out what sum was payable by the employer to the contractor, or vice versa, depending on how much was due to the contractor and how much it had cost the employer to have the works completed compared with what ought to have been paid by the employer in total under the contract.

F. Contractual design and design co-ordination obligations

83. As I have said, the claimant accepts that as main contractor it owed some limited design-type obligations in respect of the detailed design required in relation to some of the subcontract packages.

84. The limited design obligations which are not in issue are those specifically referred to in the contract preliminaries and drawings and which arise, therefore, regardless of whether or not the contract included the CDP. For example, the structural engineering preliminaries included at clause 230B, under the heading "contractor designed elements", make reference to the contractor being responsible for the design of certain specified structural elements, such as steelwork connection design. Similar provisions are to be found in the annotations to some of the contract structural drawings. There was, however, no general statement that all of the structural steelwork was to be contractor designed and the defendant accepts that the structural steelwork generally was designed by Capita.

85. There are similar express provisions in the specification in relation to the GRP structures ("complete detail design to meet requirements of this specification") and the structural glass.

86. There was a more fundamental dispute as to whether the claimant also owed the defendant the formal and more extensive design obligations applicable to cases where the contract includes a CDP.

87. Insofar as relevant I am satisfied that the detailed contractual requirements which are applicable where there is a CDP under the JCT contract do not apply here since, in my view, the incorporation of Amendment 1A is insufficient to incorporate any CDP obligations in relation to any specific design obligation in the absence of any identified document which could be said to comprise or amount to employer's requirements, contractor's proposals or CDP analysis.

88. To explain this briefly, in summary there was a confusion in the contract documents as to whether or not the contract as formed included the CDP imposing a full design liability on the contractor for the works within the scope of the CDP.

89. Thus, the invitation to tender sent in November 2012 ("**ITT**") included in the preliminaries section a statement in A20 that Recitals 9-12 (which is where reference to the CDP was contained) "will be deleted".

90. The following month, in December 2012, Capita sent an Amendment 1A to the tenderers. This contained an amended Recital 12, which made clear that the claimant was accepting responsibility for any design contained within the employer's requirements, without specifically identifying any specific design to which this would apply. Amendment 1A did not include or make any reference to Recital 9, which is where the relevant design elements would be included. Nonetheless Amendment 1A also contained further detailed requirements consistent with a provision for contractor design responsibility.

91. The impression one receives is that Amendment 1A, drafted by lawyers, was intended to cover all bases and, thus, to ensure that if and insofar as there was any reference to design within the contract documents that it was covered. However, the structure of the JCT contract was such that this could only work as intended if there was an employer's requirements document where such design was to be found, as well as a contractor's proposals document and a CDP Analysis, these being the specific documents referred to in Recitals 10, 11 and 12.

92. The claimant's completed tender dated 9 January 2013 (the tender states 2012, in error) made clear that it accepted the contract as issued and did not challenge Amendment 1A, so that it is common ground that it was incorporated.

93. Ms McCafferty submitted that the specification could be read as if it was the employer's requirements. Ms Jones submitted that this could not work in the absence of contractor's proposals and a CDP analysis. I agree with Ms Jones that it is a step too far to construe the reference to Recital 12 in Amendment 1A as incorporating the full CDP requirements to each and every place in the specification where some reference is made to the contractor undertaking some limited design or quasi-design obligation.

94. One reason for reaching this decision is that there is no compelling need for such a construction, given that the express and implied obligations which would apply as incidents of these obligations forming part of the general works in respect of such limited design obligations are sufficient in any event. Accordingly, the absence of such specific contractual provisions is of no practical effect at least in the context of this case.

95. Finally, it is common ground that clause 2.1A, introduced by Amendment 1A, imposed an obligation in the following terms:

96. "The Contractor shall co-operate and liaise with the Employer, any consultants engaged in respect of the Works and each Sub-Contractor to ensure for the satisfactory completion of the Works:

    2.1A.1 the co-ordination of the Works provided by the Contractor and each Sub-Contractor and the services provided by any consultants engaged in respect of the Works; and

    2.1A.2 the co-ordination and integration into the overall design of the Works the designs of any consultants engaged in respect of the works and the designs of each Sub-Contractor; and

2.1A.3 the obtaining and providing of information needed in connection with the services provided by any consultants and/or Sub-Contractors engaged in respect of the Works and the Works."

97. In my judgment this clause has to be construed in the context that this is not a design and build contract where the design consultants have been novated to the contractor, so that the primary responsibility in relation to co-ordination of designs would remain with Capita as contract administrator and designer but, nonetheless, it is also clear that the claimant did owe this obligation to co-operate and liaise.

98. It is also common ground that clause 2.12A, also introduced by Amendment 1A, provided that: "Notwithstanding clauses 2.11 and 2.12, the Contractor shall ensure that his sub-contractors and suppliers provide to the Architect/Contract Administrator, in sufficient time to permit the unimpeded progress of the Works, such designs, specifications and other information as they are obliged to provide, in such form and detail as is necessary to enable the Works to be completed in accordance with this Contract."

G. The claimant's claims for extensions of time and compensation for prolongation

99. I am considering the liability aspects of this issue separately from and before the issue as to whether or not the claimant was in breach of contract such as would have entitled the defendant to terminate the contract on 4 June 2015, even though there is some overlap between the two issues, because the facts and matters relied upon by the claimant in support of its EOT and prolongation claims and the evidence adduced in support are not entirely the same as those which arise in relation to the contractor's breach issue.

(a) The claimant's case

100. The claimant's claim has altered over time but, as now advanced, it is the case as supported by the expert evidence of Mr Hudson.

101. Its initial pleaded case was to rely upon its second request for an EOT dated 14 November 2014 which, as I have said, sought an EOT based on five specified grounds which, it contended, entitled it to an extension to 29 June 2015, in circumstances where it was only awarded an EOT to 13 April 2015.

102. Its revised case, as pleaded in its response to the defendant's request for further information was that, based upon its expert's current opinion, it was entitled to an EOT of 172 days to 4 September 2015. This was based upon a Gantt chart which compared the critical path items as they were planned and as they were delayed and caused delay, starting with the (admitted) delayed erection of the structural steel, moving onto the delayed concrete topping to the PCC units ("**concrete topping**"), then onto the steel framed section ("**SFS**") enclosing the hub ("**hub SFS**") and finishing with the hub internal finishes ("**hub finishes**"). Although it also identified delay to the concourse glazing and finishes, to the GRP installation and to the external works, it did not suggest that any of these were on the critical path, on the basis that the last item was always going to be the hub finishes.

103. The pleaded case was that on top of the 42 days granted under the first EOT: (a) once the structural steelwork was completed problems with deflection of the steelwork required remedial work which delayed the concrete topping as the next activity on the critical path by 106 days; (b)

subsequently a further delay to the critical path of 38 days was caused by setting out changes instructed by Capita in relation to the hub SFS under Architects Instruction ("**AI**") 33.

104. In his report Mr Hudson maintained his essential view as summarised in the Response albeit his view was subject to some modification. Thus, in the Amended Response it was pleaded, on the basis of his report, that his assessment of the period of delay was: (a) 45 days due to the delay in commencement of the steel frame; (b) a further 133 days in respect of the steel frame deflection causing delay to the concrete topping; (c) mitigated by a 2 day early completion of the concrete topping, resulting in an overall delay under (a) and (b) of 176 days; (c) a further 75 days delay due to hub SFS changes, resulting in an overall delay of 251 days to 8 November 2015.

105. It is important to be clear from the outset that although the claimant's case may have appeared to have been pleaded and supported by Mr Hudson initially on the basis that the steel deflection issue was an item which caused delay to the entire structure, including the concourse as well as the hub, in his evidence to the court Mr Hudson made it very clear that his analysis of delay to the critical path was based solely on the more limited steel frame deflection to the roof beams in the hub area in gridlines 9-11 ("**the hub steel deflection issue**"), which was the subject of AI 18, which is discussed further below.

106. His essential opinion was that: (a) until the hub steel deflection issue was resolved it was simply not possible to begin the pour of the concrete topping to the PCC units at the hub first floor level or, therefore, to make progress on the hub SFS and internal finishes; and (b) it was the lengthy delay in resolving this issue which was the substantial cause of the critical delay over the relevant period.

(b) <u>The defendant's case</u>

107. The defendant's case as supported by its expert evidence is that: (a) the initial delays in commencement of the steel frame and in the removal of deflected steel in the hub area led to a delay which justified an extension of time up to 13 April 2015, as allowed by Capita in its EOT number 2; (b) however, at the same time as the hub steel deflection issue remained unresolved, the critical path was delayed by a separate delay in relation to the roof coverings ("**the roof coverings issue**") totalling 57 days (broken down as to 31 days' delay in commencement and 26 days' delay in completion; (c) upon completion of the roof coverings the hub steel deflection issue then came back into play as a cause of delay to the critical path, with a further net delay of 27 days for which the defendant is responsible, thus justifying a further EOT to 9 May 2015; (d) there was then a further delay of 32 days in undertaking works to the hub SFS which was not the defendant's responsibility; and finally (e) there was a further delay of 24 days in completing the hub internal finishes which, if it is found to be the defendant's responsibility for some or all of that period, justifies a further and final EOT to 2 June 2015.

(c) <u>The SCL Protocol</u>

108. Both experts had referred in their reports to the SCL Protocol. Mr Hudson said that he had chosen the as-planned versus as-built windows analysis method, whereas Mr Gunton said that he had chosen a hybrid of the time slice windows analysis and time impact analysis. Mr Hudson was cross-examined on the basis that he had not in fact followed the as-planned versus as-built method, whereas Mr Gunton was cross-examined on the basis that it was inappropriate to use the time slice windows analysis as that was more suitable for a prospective than a retrospective analysis.

109. Both arguments had some force. However, in my judgment it would be wrong to attach too much importance to a close analysis of whether each had properly chosen or loyally followed the particular method selected. The SCL Protocol itself discourages such an approach. It states in the introduction that: (a) its object is to provide useful guidance; (b) it is not intended to be a contract document nor to be a statement of the law; (c) its aim is to be consistent with good practice rather than to be a benchmark of best practice; and (d) its recommendations should be applied with common sense. It states under paragraph 11.2 that "irrespective of which method of delay analysis is deployed, there is an overriding objective of ensuring that the conclusions derived from that analysis are sound from a common sense perspective".

110. Thus, it would be wrong to proceed on the basis that, because the SCL Protocol identifies six commonly used methods of delay analysis, an expert is only allowed to choose one such method and any deviation from that stated approach renders their opinion fundamentally unreliable. It must be borne in mind that the common objective of each is to enable the assessment of the impact of any delay to practical completion caused by particular items on the critical path to completion. However, I do accept that if an expert selects a method which is manifestly inappropriate for the particular case, or deviates materially from the method which he has said he is following, without providing any, or any proper, explanation, that can be a material consideration in deciding how much weight to place on the opinions expressed by the expert.

(d) <u>The decision in Walter Lilly v Mckay</u>

111. The decision of Akenhead J in *Walter Lilly & Company Ltd v Mckay* [2012] EWHC 1773 (TCC) contains a number of observations of assistance to me in deciding this case.

112. First, at [377], the court is not compelled to choose only between the rival approaches and analyses of the experts. Ultimately it must be for the court to decide as a matter of fact what delayed the works and for how long. As he recorded at [380] that the experts had agreed in their evidence in that case, whichever approach is taken, so long as it is done correctly it should produce the same result.

113. Second, at [378], if one is seeking to ascertain what is delaying a contractor at any one time, one should generally have regard to the item of work with the longest sequence. The example he gave is where item A will always take 20 weeks to complete and where item B will always take 10 weeks. Even if item B takes 19 weeks it will not affect the actual time to completion, unless the delay to item B itself delays item A or some other item further down the critical path.

114. Third, at [379], it is not necessarily the last item of work which causes delay.

115. Fourth, at [385], he made a point which is echoed in this case in relation to the claimant's contemporaneous complaints that there was a continuing problem with steel deflection in the concourse area which, in the end, was never the subject of any agreement or instruction by Capita. As he said in that case, in relation to a contemporaneous concern that the lift shaft was vertically out of alignment, such a complaint is irrelevant to a delay analysis if it was never agreed upon, established or implemented. He added: "In logic also, the fact that one side (wrongly) perceives that a particular problem is more serious than it turns out to be is in itself unlikely to be relevant in ascertaining whether that problem caused delay".

(e) <u>Concurrent causes</u>

116. As I have already indicated, a significant dispute between the parties relates to the criticality of the roof covering works. Mr Gunton's opinion is that it was one of the principal items in the building sequence. In his first report he stated at paragraph 4.200 that the original critical path

ran through the substructure, then the (structural) steelwork, then the roof coverings, which then allowed the GRP, hub and concourse finishings to progress, with the hub and concourse finishings both driving the date for completion. In contrast, Mr Hudson's opinion was that the roof coverings were not on the critical path because it was not possible to make progress until the hub steel deflection issue was resolved, since only then could work start on the concrete topping to the hub first floor PCC and then proceed to the hub first floor SFS and onto the hub finishes. His view was that since the delay due to the hub steel deflection issue continued throughout and beyond any delay due to the roof coverings issue, the latter was not a relevant cause of delay to completion.

117. It seemed to me, as the delay evidence was heard and as closing submissions were made, that one possible consequence of these diverging views was that the court would need to consider whether the hub steel deflection issue and the roof coverings issue were concurrent causes of delay.

118. Although there has been much debate as to the law in this respect, in closing submissions counsel were agreed that, following the approach at first instance of: (a) Edwards-Stuart J in *De Beers v Atos Origin IT Services UK Ltd* [2011] BLR 274 at [177]; (b) Hamblen J in *Adyard Abu Dhabi v SD Marine Services* [2011] EWHC 848 Comm at [277]; and (c) Akenhead J in *Walter Lilly* at [370], the law is settled and is accurately summarised by the editors of *Keating on Construction Contracts* 11th edition ("**Keating**") at 9-105 as follows:

"In respect of claims under the contract:

(i) depending upon the precise wording of the contract a contractor is probably entitled to an extension of time if the event relied upon was an effective cause of delay even if there was another concurrent cause of the same delay in respect of which the contractor was contractually responsible; and

(ii) depending upon the precise wording of the contract a contractor is only entitled to recover loss and expense where it satisfies the "but for" test. Thus, even if the event relied upon was the dominant cause of the loss, the contractor will fail if there was another cause of that loss for which the contractor was contractually responsible."

119. I will consider below how that principle is to be applied in this case.

(f) Common ground

120. In the end, there was a substantial measure of agreement between the experts and, thus, between the parties on the causes of delay. The two most significant issues were the question of the materiality of the delay to the roof coverings and the question of responsibility for the delay in respect of the hub internal finishes, although there were other disputes which I also address.

121. Both experts agreed that the starting point was the planned "baseline const/1" programme ("**planned programme**") produced by the claimant after the first EOT and, thus, showing a projected completion date of 2 March 2015. No-one appears to have been able to produce, or shed any light on the explanation for the absence of, the initial planned programme.

122. Both experts also agreed that the steelwork erection was not completed until 3 October 2014 and that the EOT granted to 13 April 2015 adequately catered for the claimant's entitlement in that respect[1]. Mr Gunton said that the photographic evidence shows that the concrete topping

[1] In fact Mr Gunton considered that it over-catered for the delay for which the claimant was entitled to an EOT, but the defendant did not contest the EOT to 13 April 2015, so that is not an issue which

was cast to the hub first floor in the w/c 2 February 2015 and Mr Hudson agreed, stating in his report that it was completed around 6 February 2015. Mr Hudson contended that the claimant is entitled to an EOT for this full period of delay as caused by the hub steel deflection issue whereas Mr Gunton contended that: (a) there is a substantial period of delay within this period which was caused by the roof coverings issue for which the claimant is responsible; (b) there are other delays within this period for which the defendant is not responsible.

(g) The hub steel deflection issue as a cause of delay

123. The contemporaneous records reveal that as early as August 2014 Capita accepted that there was a problem with steel deflection in a localised section of the hub area which needed to be addressed. At around the same time as the erection of the steelwork was competed it was subjected to load testing and an "as built" survey. It was concluded by Capita that the steel beams in between gridlines 9 and 11 required replacement and the claimant was notified of this by email dated 13 October 2014. AI 18 was issued on 16 October 2014. Item 1 stated: "Please proceed with replacing the beams between GL 9-10 in accordance with the sketch and email sent by Yvonne Hogg on 13/10/14".

124. However, the remedial works could not be begun until a methodology was in place to provide support to the existing steel and precast concrete units. Initial remedial works were undertaken on 19 -21 November 2014 but were subject to further checking after the claimant expressed concern about further deflection. It was eventually agreed by around 23 December 2014 that further remedial works should be undertaken.

125. Following a meeting on 8 January 2015 to discuss the proposals made by the claimant's specialist structural steelwork supplier, Evadx Ltd ("**Evadx**"), Capita emailed to say that it "agreed with EvadX proposal and EvadX are to review internally, and confirm when works can be undertaken". However, nothing happened immediately. On 26 January 2015 the claimant emailed Capita to relay a request for drawings, Capita responded by referring to its earlier email. After this the works were undertaken and completed so as to allow the concrete topping to be begun on 2 February 2015.

126. Mr Gunton argues that this shows a delay to the critical path of 12 days from 8 to 26 January 2015 which he says was caused by the claimant or its subcontractor delaying in actioning Capita's email.

127. In his oral evidence Mr Hudson suggested that there would have been some inevitable delay anyway due to the need for mobilisation. However, there is no evidence that the actual period for mobilisation was different to the hypothetical period for mobilisation had the claimant acted promptly on receipt of the email of 8 January 2015. Mr Hudson accepted that he had not investigated this as an issue. Mr Gunton said, convincingly in my view, that there is no reason for thinking that there would have been any difference. Accordingly, I reject this argument. In any event I would not have accepted Mr Hudson's view that the full 12 days for mobilisation was not unreasonable; if I had accepted this argument I would have seen no basis for allowing a few days, four at the most, for mobilisation.

128. It was also suggested to Mr Hudson in cross-examination that there was nothing to prevent the concrete topping works from starting before the remedial works to the steelwork was completed. From a technical perspective I accept that this was feasible, as Ms Cruickshank said in her supplemental report. However, Mr Hudson's response, which in my view was a

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needed to be or was investigated at trial.

reasonable one from a commercial perspective, was that unless instructed to the contrary he would not expect a contractor to have undertaken the concrete topping works in two separate operations, given the additional costs which would be incurred in so doing. In cross-examination Mr Gunton agreed with this. There is no reliable evidence as to the time which could have been saved by undertaking this work in two sections or as to the additional costs which would have been incurred, so that I reject this as an argument.

(h) The roof coverings issue as a cause of delay

129. Mr Gunton presented compelling evidence and analysis in his written and oral evidence to the effect that the contemporaneous written records show very clearly that the claimant experienced significant delays in starting the roof coverings, due to difficulties in sourcing scaffolding and roofing subcontractors, from 23 September 2014 (when the roof works could and should have started) until 3 November 2014 (when they actually started), resulting in a delay of 31 days. The same is true of his evidence and analysis that, of the total period from the start of the roof coverings works to their completion on or around 23 February 2015, 26 days represented an increase over the original as-planned period in respect of which the claimant has offered no explanation to show that it was due to any matter for which it would have been entitled to an EOT.

130. In his written report Mr Hudson had limited himself to saying at [12.6.4] that: "From November 2014 the roof works progressed and concluded in early February 2015, see TBS's Progress Report 10 of 25 February 2015. Site Diaries from early November 2014 to February 2015 record progress. I am satisfied that TBS progressed the roof works".

131. However, I am satisfied that if Mr Hudson had read with the same care the records which Mr Gunton referred to, and which Mr Hudson confirmed he had been provided with, he could not have failed to observe the delay in starting the roof works and the overall delay in completing them which, in my view, Mr Gunton has correctly identified. Mr Hudson's comment in paragraph 12.6.4 either shows that he did not do so or, if he did, he preferred not to volunteer that the roof works were delayed for reasons which did not entitle the claimant to an EOT. Indeed, when Mr Hudson was taken to the contemporaneous documents in cross-examination he did not seriously quarrel with Mr Gunton's analysis on this point.

(i) The criticality of the roof coverings

132. Mr Gunton said that in his view the baseline programme showed the roof coverings as on the critical path. He had arrived at this opinion by linking the critical path events to show the planned critical path. In his report he explained that this was because the GRP roof cladding could not progress until the roof coverings had begun, and because the roof coverings needed to be progressed before a start could be made on the internal finishes and services to the hub and concourse areas and the concourse glazing. It is obvious, I agree, that the GRP roof cladding and the concourse glazing cannot be progressed in an area until the roof coverings are in place in that area and also that the majority of the internal finishes and services cannot be progressed until the roof coverings are in place so as to give protection from the elements.

133. In his report Mr Hudson made only passing reference to the other potential causes of delay to the hub building. Thus at [2.3] he simply said that "the concrete topping is the main activity which allows the Hub building to progress", without either referring to the baseline programme or considering other activities such as the roof coverings, let alone explaining why he had reached this conclusion. He did not even include the roof coverings as a potentially relevant critical path activity in his windows-based analysis. At [2.8] he said, obliquely, that "there may

have been some works to the externals that could be progressed, however this would not change my opinion that the works were critical in delay and that it was within TBS's gift to pace any non-critical works". If by this he meant to suggest that the roof coverings could have been progressed but they were non-critical and could have been performed in a more leisurely manner as a result, this seems to me to ignore the fundamental fact that throughout the crucial period from October 2014 through to January 2015 the claimant could not have known how long the remedial works to the hub steelworks would take and could not therefore reasonably have proceeded on the basis that there was no need to worry about the roof coverings until the hub steel deflection issue was completely resolved.

134. Mr Gunton criticised Mr Hudson's approach on the basis that by measuring only the movement of a specific activity from the as-planned to the as-built date he failed to take into account the progress and performance of other critical building activities such as the roof coverings. In cross-examination Mr Hudson explained his approach in this way: "Well, what I did when I plotted out the as built critical path, I worked backwards from the completion finishes works, all the way through to saying: what would you need to do to complete those works. So working all the way through, I know you needed steel frame. Without steel frame, you can't put your roof on and you can't put the floors in. Without the floors, you can't do the SFS, which is external walls to the building; and without the walls, you can't do the finishes. So I considered that was next [sic] critical path through the job."

135. This explanation showed that Mr Hudson was fully aware of the importance of the roof but had discounted its relevance in favour of the concrete topping and the walls being critical to the finishes, without properly considering the criticality of the roof to the finishes as well. In my judgment Mr Hudson's report and his core analysis was deficient in its inadequate treatment of the roof coverings issue. I must and do take that deficiency into account when I consider the explanation he gave in his oral evidence as to why it had no effect.

136. In his cross-examination Mr Hudson accepted that the internal works could not progress until the roof coverings were on and the working area was watertight and weathertight, whilst emphasising that the same applied to the external walls. His explanation in cross-examination for not taking the roof coverings into account was as follows: "Yes, when I did look at the roof coverings and when they completed, on the photographs I could see that the SFS walls to the first floor were not completed. So even if the roof is done, you can't start any finishes because of the SFS, therefore the roof coverings were not critical".

137. This was a very neat explanation of his approach, which was to work backwards from the as-built critical path and, because the hub SFS were finished after the roof coverings, to treat the hub SFS as on the critical path and to discount the roof coverings as even being on the critical path from the outset.

138. Unlike Mr Hudson, Mr Gunton deducted delay which he says was attributable to the roof coverings and, therefore, was of the view that an EOT of no more than 39 days was justified up to 30 January 2015. Because he also deducted the prior 12 day period as attributable to delay by the claimant (whether the delay was down to the claimant itself or to Evadx as its subcontractor is irrelevant for this purpose) his view was that an EOT of only 27 days was justified, resulting in an EOT to 9 May 2015.

139. I agree with and prefer Mr Gunton's approach on this important difference between the experts, for the reasons explained above, essentially that Mr Hudson had failed to give proper consideration to the importance of the roof coverings because of his erroneous view that they

need not be considered because in his view – erroneously – it was only delay to the hub SFS which was on the critical path.

(j) Were the delays caused by the hub steel deflection issue and the roof coverings issue concurrent causes of delay and, if so, what is the outcome?

140. In my judgment this is a case where these causes were concurrent over the period of delay caused by the roof coverings. That is because completion of the remedial works to the hub structural steelwork was essential to allow the concrete topping to be poured and the hub SFS to be installed, without which the hub finishes could not be meaningfully started, but completion of the roof coverings was also essential for the hub finishes to be meaningfully started as well. It is not enough for the claimant to say that the works to the roof coverings were irrelevant from a delay perspective because the specification and execution of the remedial works to the hub structural steelwork were continuing both before and after that period of delay. Conversely, it is not enough for the defendant to say that the remedial works to the hub structural steelwork were irrelevant from a delay perspective because the roof coverings were on the critical path. The plain fact is that both of the works items were on the critical path as regards the hub finishes and both were causing delay over the same period.

141. In his evidence Mr Gunton said that whilst the as-planned programme was for the hub SFS to be installed before the roof, the key point was that until around 9 December 2014 there was sufficient float in the timescale for the concrete topping and the hub SFS for the delay relating to the remedial works to the hub structural steelwork to be non-critical. Thus, in his view before that date it was the delay to the roof coverings which was the cause of the critical delay, whereas after that date he accepted that the delay to the remedial works to the hub structural steelwork was the cause of the critical delay. If this analysis was good, then it might be said that the two causes were not concurrent.

142. In answer to my question on this point he accepted that it was possible to have more than one critical path, but said that it was the existence of the float to the concrete topping and the SFS which meant that this was not the case here.

143. Whilst I am prepared to accept this evidence from a theoretical delay analysis viewpoint, comparing the as-planned programme with the position at various points in time, it does not seem to me to be a sufficient answer to the point on causation, which is that on the evidence the fact is that the delay to the remedial works to the hub structural steelwork and the delay to the roof coverings were both causes of delay over the period identified by Mr Gunton where the roof coverings were delayed. Even if there had been no delay to the roof coverings the hub finishes, which it is agreed were on the critical path, could not have started earlier because of the delay to the remedial works to the hub structural steelwork.

144. I am also satisfied that the converse is also true. The claimant cannot simply say that because there was a problem with the hub structural steelwork identified in October 2014, which was not finally resolved until January 2015, all of the delay between those points in time was only caused by this cause. It ignores the fact that for a very considerable period of time there was also a problem caused by the delay to the roof coverings which was itself a cause of delay to the critical path, In closing submissions Ms Jones sought to argue around this by reference to the principle (see for example the discussion in *Keating* at 8-063) that the contractor cannot be criticised for using up the float, since it is for the benefit of all of the parties to the contract. That, in my view, is not an answer to Mr Gunton's point, which is that it was this float which prevented the delay to

the structural steelwork from being critical until 9 December 2014. He was not seeking to criticise the claimant for using up a float in relation to the roof coverings.

145. It follows on an application of established principles as noted above that the claimant is entitled to an EOT for this period of time.

146. In my judgment clause 2.29A, introduced by Amendment 1A, does not alter this analysis because the delay to the critical path due to the remedial works to the hub structural steelwork was not a circumstance arising by reason of any error, omission, negligence or default of the claimant or its subcontractors.

147. However clause 2.29A does reinforce the converse conclusion, which is that the claimant is not entitled to recover loss and expense for this concurrent period of delay.

148. It follows in my judgment that the claimant is entitled to an EOT of 119 days, i.e. the 133 days in respect of the steel frame deflection causing delay to the concrete topping, less the 2 days mitigated by the early completion of the concrete topping and less the 12 days delay in commencing the remedial works. However, it also follows that the claimant is only entitled to recover for prolongation for the lesser period of 27 days net of the concurrent delay due to the steel frame deflection.

(k) The hub SFS and hub finishes

149. The photographic evidence referred to by Mr Gunton in his supplemental report shows that whilst the claimant was able to make a start on the hub first floor SFS and services it was unable, as he accepts, to complete them until the hub first floor SFS was completed and a weatherproof environment was provided. In his report Mr Hudson refers to a period of 76 days from completion of the concrete topping on 6 February 2015 to completion of the hub SFS on 24 April 2015. Although he reduced this down to 75 days he maintained that this was all a period of critical delay. Other than referring to AI 33, addressed below, he did not consider whether the whole of this period can be explained as delay for which the defendant is responsible or for which the claimant bears no responsibility.

(l) AI 33

150. AI 33 was issued on 17 March 2015 and stated at item 2: “Further to our email dated 13.03.2015 please ensure the outer edge of the metsec on gridline B and F measures 125mm from gridline B&F at first floor level. The overall dimension from cem board to cem board should be 8708mm”.

151. Metsec was the proprietary name for the SFS used and, thus, this was an instruction to re-site the outer edge of the hub first floor SFS which required the claimant to take down and re-erect the hub first floor SFS. In its letter dated 7 May 2015 the claimant said that this was because of “incorrect setting information provided by Capita”. This was refuted by Capita in its response dated 26 May 2005, who alleged that it resulted solely from the claimant’s setting out errors. Mr Hudson accepted in cross-examination that he had not undertaken any investigation into whose responsibility this was. Likewise, Mr Gunton said that he had been unable to identify any evidence which would assist in deciding between these two cases. Neither of the parties has been able to identify any evidence which enables me to decide between these two competing arguments. It was for the claimant to lead evidence about this to prove that the delay entitled it to an EOT and/or prolongation and it follows in my judgment that its failure to do so has the consequence that this claim for an EOT and/or prolongation fails.

152. For completeness, I should add that if I had reached a different conclusion I would have needed to decide Mr Gunton's further point that the claimant was responsible for a substantial part of the delay to the critical path in any event, because the photographic evidence shows that: (a) the hub first floor SFS was 90% complete at the time AI 33 was issued, so that the relevant subcontractor had already spent 27 days erecting the first floor SFS, whereas the whole was originally programmed to take only 5 days to complete the whole of the works in the hub; (b) the works the subject of AI 33.2 were not substantially completed until 13 April 2015, according to Mr Gunton's analysis of the recently provided evidence. On this basis Mr Gunton assesses the claimant's EOT entitlement for AI 33.2 as being only 24 days. It is this which extends the time for completion to 2 June 2015 in Mr Gunton's opinion.

153. The claimant's response is to say that, whatever the cause of the earlier delay, the works would have been delayed to the same eventual date anyway due to the subsequent issue of AI 33. The defendant's answer was that, on the assumption that the setting out error was only noted on inspection at the end of the works, the error would have been noted earlier and thus AI 33 issued earlier but for the claimant's previous delay. Although Mr Gunton accepted in cross-examination that this was only an assumption on his part, it appears to me to be an entirely reasonable assumption and I would have agreed with it had I needed to decide the point. However, I would also have decided that this is also a concurrent delay case, because the delay over the time when the contractor's progress was slow was caused both by the slow progress and, in the end, by the fact that the work had to be re-done anyway due to incorrect setting out information, with the result that there would have been an entitlement to a full EOT but to prolongation only for the net period identified by Mr Gunton.

(m) Notification

154. In closing submissions Ms McCafferty contended that the claims in relation to the delay to the concrete topping work and the hub SFS works were barred due to the claimant's alleged failure to comply with clauses 2.27.1 to 2.27.3 of the JCT Terms, headed "Notice by Contractor of delay to progress", which provided that:

"1. If and whenever it becomes reasonably apparent that the progress of the Works or any Section is being or is likely to be delayed the Contractor shall forthwith give notice to the Architect/Contract Administrator of the material circumstances, including the cause or causes of the delay, and shall identify in the notice any event which in his opinion is a Relevant Event.

2. In respect of each event identified in the notice the Contractor shall, if practicable in such notice or otherwise in writing as soon as possible thereafter, give particulars of its expected effects, including an estimate of any expected delay in the completion of the Works or any Section beyond the relevant Completion Date.

3. The Contractor shall forthwith notify the Architect/Contract Administrator of any material change in the estimated delay or in any other particulars and supply such further information as the Architect/Contract Administrator may at any time reasonably require."

155. Although Ms McCafferty was right to say that the claim in relation to the hub SFS works was not the subject of a contemporaneous notification, it is unnecessary for me to investigate the consequences (if any) of this point, given that I have held that the claim fails on the merits anyway.

156. As to the claim in relation to the delay to the concrete topping work, whilst it is true that this was not notified expressly as such, it is also right to note that this delay had always been said by

Mr Hudson to be entirely consequential upon the delay due to the hub steel deflection issue which was included within the notification of 14 November 2014 and was allowed in part by Capita. In such circumstances, I am satisfied that any defence founded on no or late notification cannot succeed. The requirement for notification requires the contractor to give notice of the delay including its cause or causes and its expected effects. The claimant substantially complied with this requirement at the time.

(n) EOT and prolongation – conclusion

157. The claimant is entitled to an additional EOT of 119 days (or 17 weeks), but to prolongation of only 27 days. After allowing for the EOTs already granted and agreed, which take the completion date to 13 April 2015, that would entitle the claimant to a revised completion date of **10 August 2015**.

H. Was the claimant in breach of contract such as would have entitled the defendant to terminate the contract or to accept the claimant's repudiatory breach of contract on 4 June 2015?

158. As I have said, this issue is related to but distinct from the previous issue of the claimant's entitlement to an EOT and/or prolongation. That is because the defendant is seeking to justify its termination under contract or for repudiatory breach by reference to matters which go beyond the claimant having failed to establish an EOT. Nonetheless, my previous finding that the claimant was only entitled to an EOT to 10 August 2015 is an important starting point in my consideration of this issue, because it demonstrates that as at the date of termination the claimant ought to have been in a position to complete by that date and to demonstrate to the defendant that it was ready, willing and able to complete by that date.

159. Given those previous findings it makes sense to pick up the chronology of events from February 2015, at the point where it is common ground that the hub steel deflection issue was no longer a cause of delay to the critical path.

(a) Further delay due to continuing steel deflection issues.

160. This raises two separate questions. The first is what is meant by continuing steel deflection issues. In particular, are they something for which the defendant is legally responsible in some way such as to entitle the claimant to say that these are relevant to the question of whether it is the claimant or the defendant who is responsible for any delay from February 2015 onwards? The second is what, if any, delay was caused by any such issues? Whilst the first issue logically precedes the second, in the particular circumstances of this case it is more sensible to take the second issue first because it explains why, despite the amount of time and effort devoted to the issue in cross-examination of the structural engineer experts, it is ultimately of little if any relevance to my decision.

161. The starting point is the evidence of Mr Hudson. In his report at [12.3] Mr Hudson had stated that "I consider [the claimant] to be correct in its assertions as to the impact upon structural glazing and GRP works the steel deflection issues had. Whilst I have found that the activities for these works were not on the as built critical path, undoubtedly the steel deflection issues caused the problems [the claimant] cited and would prevent these works proceeding regularly and diligently. As the records show to be the case. These delays, whilst not on the critical path, would cause delay to completion by the extended durations associated with them if, as was the case, a timely solution to deflection was not provided".

162. I agree with Mr Hudson that it does not necessarily matter that the structural glazing and GRP works were not on the critical path if the claimant can still prove that steel deflection issues for which the defendant is responsible continued to have an impact on the claimant's ability to proceed regularly and diligently with the works or that they impacted on the ability of the glazing subcontractor Glassolutions or the GRP subcontractor Millfield to do so.

163. However, in my view the claimant can obtain no support from Mr Hudson on this aspect of the case. Mr Hudson did not provide any reasoned or evidenced basis for his view as to impact. He did not identify the records he referred to. Under cross-examination he frankly admitted that it was his reliance upon the fact that a further steel survey undertaken on 18 February 2015 ("**the February steel levels survey**") had showed a difference in levels with those found on 7 October 2014 which had led him to assume that until the difference in levels was resolved the claimant was justified in not proceeding further for safety reasons. He had also assumed that the difference in levels was due to a design defect for which the defendant was responsible. However, he had not focussed on the difference between the position of the hub steel deflection issue and the position of the steel in the concourse area. In particular, he had not considered the separate issues which might apply to any continuing concerns in relation to deflection depending on whether one was considering the impact on the structural glasswork or on the GRP and, if the latter, whether this would be the GRP which comprised the roof fascia and soffits or the GRP which enfolded the concourse loop sections. In short, it seemed to me that he had uncritically accepted the case being advanced by the claimant in its witness evidence in this respect without subjecting it to any independent scrutiny.

164. Importantly, he had not even considered whether or not the continuing concerns expressed by the claimant after the February steel levels survey had resulted in any instruction by Capita on behalf of the defendant to the claimant either to suspend work pending further investigation or to undertake remedial works, in the same way as had happened in relation to the specific hub steel deflection issue the subject of AI 18.

165. As I have already said when referring to the Walter Lilly case, a difficulty which the claimant must overcome is that a complaint about continuing deflection due to Capita's design calculations of forecast steelwork deflection being wrong takes the claimant nowhere in itself and, specifically, in the absence of a relevant instruction from Capita to suspend work until the issue was resolved or of some other reason sufficient to justify the claimant either in suspending work whilst undertaking further investigations or remedial works or otherwise in reasonably acting in such a way as would cause delay to the works. In such a case one would expect the contractor to bring such matters to the attention of the contract administrator if necessary and to seek instructions. Whilst there may be cases where the contractor is entitled, or even obliged, to cease works, possibly on a unilateral basis, until some serious safety risk is addressed, in my view the starting point must be that unless and until some sufficient reason arises the contractor cannot simply down tools without an instruction and then seek to hold the employer liable for the consequential delay.

166. In cross-examination Mr Hudson said, frankly, that he was unaware, and "surprised" to hear, that no further remedial works were instructed by Capita in relation to the structural steelwork after the remedial works the subject of AI 18. He agreed that he had simply "assumed" that this was the case. It is all too clear that he had not undertaken any proper analysis of steelwork related delay after the end of January 2015, whether on or off the critical path, upon which the claimant can rely.

167. As to the other evidence, immediately after the February steel levels survey there was a contract review meeting on 20 February 2015 at which it was stated (paragraph 3.2): "Further steelwork settlement design issues to be resolved 23/02/15. Programme implications to be reviewed thereafter". On 24 February 2015 Millfield emailed expressing its concerns. However, as referred to in Capita's report dated 13 April 2015, on the same day a Capita employee, Mr Hill, produced an independent design model to confirm all future deflections to concourse roof, which did not indicate any concern. On 25 February 2015 there was a progress meeting attended by the claimant and Capita at which it was recorded at item 3.3 that these issues had been resolved, that an email confirming this had already been sent and that Millfield had agreed to return to site on 27 February 2015. The further report commissioned by Capita in July 2015, after the remedial contractors had been engaged, concluded that the structure was buildable and would not collapse, although there was a recommendation that displacements be co-ordinated with GRP and glazing suppliers.

168. At trial I had asked to see the emails referred to in the report of 13 April 2015, which were duly provided. In the first email Mr Hill explained that for a combination of reasons the maximum possible deflection was 80mm. He was asked by Ms Hogg the Capita project engineer to answer some queries from Mr Master of Capita in order for him to "advise on the revised ceiling level". As Ms Cruickshank noted in her supplemental report, this is because what was in issue here was the concerns expressed by Millfield about installing the GRP cladding panels around the loop frames. There was no concern being expressed in relation to the structural glazing.

169. Mr Hill provided some print outputs for vertical deflections in response and some additional print outputs on the following day 25 February 2015. This was the subject of further reports from Mr Keyes and Ms Cruickshank. Although Mr Keyes said that the maximum deflection of 80mm shown was in excess of good practice, he did not suggest that this affected the safety or stability of the structure and nor did he suggest that it affected the installation of the GRP or the structural glazing, other than to suggest that the 40mm deflection joint for the head of the glazing frame should have been 51mm.

170. Ms Cruickshank in her further report in response suggested that Mr Keyes had taken too high a figure to reach his revised deflection joint dimension and, on a proper analysis, the deflection fell within the 40mm deflection joint. She explained how the 80mm allowance referred to by Mr Hill appeared to have been reduced to 75mm which was the subject of AI 30.1 dated 27 February 2015, which confirmed an instruction sent in an email dated 25 February 2015 to lower the current proposed soffit level by 75mm "irrespective of any future deflection of the steelwork and progressive loadings thereafter". She notes that this was less than the allowances which should have been allowed for in the Millfield design.

171. I have not had the benefit of cross-examination on the point and thus refrain from expressing a firm view on the point. However, I am far from convinced by Mr Keyes' evidence on this point. He had the opportunity to make comments on these documents from the outset but chose not to do so. He has not demonstrated in my view that they show either that the glazing details needed to be revised or that any failure to do so had any consequence in terms of safety, stability, buildability or finishes installation.

172. It follows that in my judgment the delay caused by this issue was no more than 7 days in duration, i.e. from 20 to 27 February 2015. Further, since it was not delay to the critical path, there can be no entitlement to an EOT for this delay.

173. Yet further, there is no hard evidence of Glassolutions or Millfield being significantly delayed by concerns arising from the February steel levels survey. Thus both Glassolutions and Millfield had been able to and had made a start on site in January 2015, as was noted by Mr Gunton in his second supplemental report, which he had produced after the claimant had provided all of the site diaries and progress reports in their possession which had not already been provided.

174. So far as Glassolutions is concerned, it had provided amended drawings issued for construction in October 2014, following the original steelwork levels survey undertaken at that point. Item 3.28 of Capita's progress meeting minutes for 29 January 2015 records that Capita was not prepared to countenance a delay to glass manufacture pending the provision of a steelwork survey, contending that this was the claimant's responsibility under the specification. In cross-examination Mr Ikin accepted that it was important for the steelwork survey to be done once the steel was up and loaded to ascertain the as-built levels and to check whether any deflection was within designed tolerances. He agreed that this was important information to be provided for follow-on trades such as the structural gazing and GRP subcontractors. It is clear that this could not be done until the roof coverings were completed and, in accordance with my previous findings, the claimant had been responsible for significant delays in that respect.

175. This provides support for the argument advanced by the defendant, which is that it was the claimant's own failure to undertake an earlier levels survey and to provide the results of that survey, including any as-found and forecast steelwork deflections, to the relevant subcontractors in time which was the real cause of the difficulty. This was the gist of Capita's letter to the claimant dated 10 March 2015. Its argument is that the delay in February 2015 would have been avoided had the levels survey undertaken at that stage been undertaken earlier. I am satisfied that this is the case, i.e. that the delay to the roof coverings was the cause of the delay in the claimant undertaking the February steel levels survey.

176. Furthermore, and in any event, it is apparent from Glassolutions' email dated 19 February 2015 that it was already in dispute with the claimant at that stage because of non-payment, as opposed to any continuing steelwork deflection issues, and was threatening to suspend works as a result.

177. As regards Millfield, there is correspondence passing between the claimant, Millfield and Capita in December 2014 in which Millfield was saying that it had what it needed, albeit that it had some concerns about the employer's design. This correspondence is consistent with item 3.20 of Capita's progress meeting minutes for 29 January 2015.

178. The claimant's correspondence with Millfield in late February 2015 shows that by this stage the claimant was also already in dispute with Millfield for a number of reasons unconnected with anything to do with the employer's design, one of which was the claimant's alleged failure to pay for off-site tooling costs agreed by Capita and included in interim valuations and payments. It is true that Millfield did complain about problems in relation to the steelwork levels, but only from 17 February 2015. The subsequent letter from Millfield's solicitors dated 17 April 2015 shows that throughout this period the claimant was and remained in dispute with Millfield for reasons which cannot be explained by delays due to the ongoing steelwork deflection issues.

179. It is also true that AI 33, issued 17 March 2015, included an instruction to proceed with the supply and installation of loop A, which appears to have been a follow on from the problems with the steelwork levels but, again, there is no hard evidence of this causing significant delay. It was not the subject of the claimant's interim loss and expense claim of 5 May 2015. The

claimant's letter of 4 June 2015 shows that it was actively criticising Millfield at the time for wrongfully delaying and suspending the subcontract works.

180. It follows that whilst I am prepared to accept that there was a delay of some 7 days in February 2015 caused by the need to investigate the implications of the February steel levels survey, and whilst there may have been some modest and unparticularised knock on effect to Glassolutions and to Millfield, by far the greater delays was caused by the initial delay in the claimant undertaking the February steel levels survey and subsequent disputes between the claimant and Glassolutions and Millfield, principally about payment, for which the defendant cannot be held accountable. For example one can see from the loss and expense claim made by Glassolutions that, whilst they say that they were unable to make any progress from 27 February 2015 due to the fact that the preceding steel, GRP and SFS were incomplete, they also say that they suspended operations on 4 March 2015 and again on 27 April 2015 due to non-payment and did not resume after 27 April 2015 until the subcontract was terminated.

181. Overall, the clear conclusion I have reached is that the claimant has found the structural steelwork deflection issue a convenient hook on which to seek to hang all of the delay to the works over this period, when a closer analysis of the facts reveals that this was simply not the case.

182. So far as the steelwork deflection issues themselves are concerned, it follows that I can address them relatively briefly.

183. In her helpful summary in her written closing submissions Ms Jones identified the core areas of agreement between the experts and the key areas of disagreement. Thus, as she said, it is common ground that the applicable standard, which is also the contractual standard, is BS 5950-1 2000 Structural Use of Steelwork in Buildings at paragraph 2.5, entitled serviceability limit states. In particular paragraph 2.5.2 makes clear that the purpose of the deflection limits in that standard is to give designers a limit for steel beams, the effect of which will be that if that design limit is not exceeded, deflections will not adversely affect the serviceability limit state of the beams (which in the context of finishes means will not adversely affect the finishes). The paragraph also makes clear that "the most adverse realistic combination and arrangement of serviceability loads should be assumed". The suggested limits for calculated deflections were given in Table 8 both for vertical deflection of beams due to imposed load and horizontal deflection of columns due to imposed load and wind load.

184. The key difference between the experts relates to the calculated vertical deflections, since this is what the February 2015 structural steelwork levels survey reported on. The differences between them are summarised in the helpful table prepared by Ms Cruickshank, which showed that Mr Keyes had calculated the total deflection as being 54.6mm, well in in excess of Capita's calculation of +/- 37mm and beyond the deflection allowance of +/- 40mm in Glassolutions' design, itself based on the Capita calculation and provided for by means of a 40mm movement joint included in that design. In contrast Ms Cruickshank had calculated total deflection as being 37.3mm, consistent with the contemporaneous calculations and approach.

185. As to the key differences between them in this respect, it seemed to me to be quite unrealistic that Mr Keyes had assumed a snow imposed load on only one half of the roof, which gave a deflection of 14.6mm against a deflection of only 2.9mm if the load was imposed uniformly across the roof. There is nothing in the design or construction of the roof or the prevailing conditions in the middle of Blackburn which could justify such an approach and I am satisfied that this was outside the most adverse realistic combination and arrangement of serviceability

loads. It also seemed to me to be quite unrealistic that Mr Keyes had assumed a weight of glazing on the RHS beam of 7.1mm when, as Ms Cruickshank observed, the glazing was supported at its base and only the fins were supported from the structural steelwork.

186. In my judgment Ms Cruickshank adopted a far more realistic approach, consistent with the Capita contemporaneous approach and the design adopted by the specialist structural glazing contractor. Although Ms Jones emphasised the modest room for error between the 37.3mm and the 40mm, as Ms Cruickshank said in cross-examination what is being considered here is not a failure mechanism but a serviceability state to allow the glazing to be installed without co-ordination problems. In the absence of hard evidence that there were such problems due to steelwork deflection in excess of 40mm, or that there has been any subsequent deflection of the structural steelwork or damage to the structural glazing due to inadequate tolerances, in my view it has not been shown that the Capita design was inadequate or such as to cause any delay or disruption to the contract works. In my view it was to seek to overcome this evidential difficulty that Mr Keyes sought to introduce issues of horizontal loading and differential settlement in order to find a route to criticise the Capita design and to suggest that it had indeed caused problems with cracking and settlement, but in my judgment the evidence was wholly insufficient to establish these criticisms.

(b) <u>Delay caused by payment issues with subcontractors</u>.

187. The contract review meeting of 20 February 2015 referred to “payment issues” with – amongst others – Millfield and Glassolutions as well as the claimant’s SFS subcontractor, J&J Partitions (“**J&J**”) and its groundworks subcontractor (“**BAK**”) and that this was causing delay as regards Millfield. The contract review meetings for March, April and May 2015 included similar references. The claimant’s internal team meeting held on 17 April 2015 noted that payment problems with Millfield and Glassolutions had resulted in a go slow by both and recorded payment related performance issues with other contractors.

188. It is clear that there were payment issues and that they were causing issues with progress – see for example the frustrated email from Mr Smith as project contracts manager to his superiors dated 3 February 2015.

189. There is plainly evidence that the claimant was struggling with cashflow on this project. The correspondence clearly demonstrates that, like many main contractors, it would use almost every trick in the main contractor’s book of tricks to string out subcontractors in order to improve its cashflow. A good example of that was given during the course of Mr O’Brien’s evidence in relation to its treatment of a subcontractor known as Greenpiling. It is also plain that in relation to a number of subcontractors its tactics backfired, so that subcontractors refused to undertake further works because they had not been paid all that they were entitled. In cross-examination Mr O'Brien was taken to evidence of non-payment of a company known as Steptoe in 2014, resulting in it refusing to undertake work for the claimant, by way of example. Other subcontractors, such as the steelwork subcontractor EvadX, refused to return to complete further works unless they were paid, and ended up bringing successful adjudication claims against the claimant.

190. The claimant sought to blame all this upon the defendant’s failure to make payments in full or on time. However in my judgment this assertion is undermined by the following matters.

(a) the defendant paid valuations 1 to 10 in full, with payment certificate number 10 dated 2 April 2015 recording a gross valuation of £2,643,700 which, after retention and previous payments,

resulted in a further payment of £270,465 plus VAT which was paid on 10 April 2015. I deal with valuation 11 below.

(b) there is no evidence of the claimant complaining at the time of undervaluation or underpayment and, to the contrary, in his witness statement at paragraph 4 Mr O'Brien described them as agreed gross valuations. Although he attempted to row back from this in cross-examination, that attempt was inconsistent with paragraph 3 of his statement (in which he described the interim payments being based on "agreed valuations") and wholly unconvincing. Even the witness statement made by Mr Cunningham in an adjudication between the claimant and the defendant in 2015 made only general allegations about a lack of timely valuations and under-valuations.

(c) It is true that Mr O'Brien did refer to a schedule which showed that there were only 10 invoices and 10 payments over the period from April 2014 to April 2015, when there should have been monthly applications and monthly payments. However, he gave no details of why this had happened and nor did he refer to this being the subject of contemporaneous correspondence or complaint. Whatever the contract may have said one would expect the claimant as main contractor to submit interim monthly valuations to enable Capita to review them and issue the relevant valuations. Indeed that is what Mr Nortley said that he did. Since there is no suggestion that at the time the valuations were disputed as being under-valuations or complaints that they were paid late once issued, the most that can be said is that the absence of some monthly valuations may have meant that there may have been some temporary impact on cashflow, but that is really as far as it goes and this certainly does not explain or justify the serious and persistent difficulties with subcontractors shown by the evidence.

(d) Thus, the claimant cannot blame its failure in the critical period from January to April 2015 to pay important subcontractors such as Millfield on the defendant.

191. I am satisfied that the claimant's failure to pay its subcontractors on time did indeed have a material impact on progress. In his second supplemental report Mr Gunton notes how the recently provided site diaries from 13 April 2015 onwards "show strong evidence throughout of the works slowing down through mid-April to mid-May and little or no works progressing from mid-May to the 4 June 2015 in respect of Millfield in relation to the GRP works, in respect of J&J on the partitions and in respect of CLG the M&E subcontractor in relation to the M&E works". He also noted that "CLG made no further appearance from mid-April which prevents J&J completing partition works to the Hub".

(c) <u>Specific events from 1 April 2015 onwards</u>

192. The default notice dated 1 April 2015 complained of a failure to proceed regularly and diligently with the works. Nine specific points were raised, including the claimant's alleged failure to produce an updated programme to recover delays, a failure to commence external works and a failure to manage major subcontractor works packages, including Glassolutions and Millfield.

193. The second default notice dated 10 April 2015 also complained about delay, recording that the claimant had produced a revised programme but identified a further lack of progress in three specified areas and an absence of reassurance about the key subcontractors.

194. On 16 April 2015 a without prejudice meeting was held between the claimant and the defendant. Rightly, I have not been referred to what was said at that meeting. I am entitled

however to know, and do know, that whatever was discussed did not result in any resolution of the disputes which had arisen.

195. The claimant submitted its interim valuation 11 on 20 April 2015 for the period ended 30 April 2015. It sought a payment of £804,280.21 plus VAT. In his witness statement Mr O'Brien said that this payment never materialised. The reason why this was the case does not appear to have been explained in the evidence. It appears from correspondence internal to the defendant that it was the subject of a payless notice sent at the same time as the termination notice. That would make sense, since the contract termination provisions allowed the defendant to withhold payments the subject of a payless notice upon termination. This is also consistent with evidence that such non-payment became the subject of a contested adjudication in due course. Thus, in his cross-examination Mr Cunningham was referred to a witness statement made by him in response to a witness statement made by Mr McIntosh of Capita, from which it appears that Capita did indeed produce a valuation and that the adjudication proceeded on the basis of dispute as to that valuation. I have not been asked to adjudicate on this contemporaneous dispute, so that I am not in a position to find, for example, that the defendant was not entitled to issue a payless notice when it did or in the amount which it did.

196. Mr O'Brien said in his witness statement that this non-payment left the claimant with the problem of how to fund the project and to pay suppliers and, in the end, caused the claimant to become technically insolvent which led to its seeking advice from an insolvency practitioner and ultimately its demise.

197. The claimant's difficulty with this argument is that at the same time[2] Mr Nortley, who had the most immediate and direct knowledge of the project among the claimant's staff, had produced an internal cost value reconciliation as an internal report for management which forecast a loss on the project of £721,000. As he agreed in cross-examination, most of the projected loss was driven by his assessment of the eventual subcontractor accounts. I did not find convincing Mr Nortley's efforts to suggest that it was only intended to show the worst case scenario and that at the time he believed that the project would have broken even. It is inconceivable that he would have presented a report to the claimant's directors showing this projected significant loss without any caveats had he genuinely believed that in fact the claimant would have broken even on the contract. I am prepared to accept his evidence that it would have been difficult to produce a wholly accurate assessment at that point, and he would have erred on the side of caution, however nonetheless it clearly shows that his assessment at that time was of a substantial loss.

198. Even, however, if I was to accept Mr Nortley's evidence, it still does not show that the claimant could have had any expectation of making a profit from the contract.

199. Further, in my view Mr O'Brien's evidence was exaggerated and unreliable. It is clear that the claimant's financial problems and, in particular, its inability or unwillingness to pay subcontractors, long preceded this non-payment. There was no evidence produced by the claimant in the form of a cash flow analysis which showed that it was due to this non-payment it was unable to pay subcontractor invoices or other liabilities which it had accepted as payable, whereas before it could and did.

200. In all the circumstances, I am satisfied that the claimant's continuing problems in May 2015 eventually leading up to the termination on 4 June 2015 cannot be blamed on non-payment of this valuation and nor can its eventual entry into administration.

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[2] Although it is dated 28 Feb 2016 he confirmed in his witness statement that this was the version he produced as at 21 April 2015 after valuation 11.

201. The claimant produced its contractor's report for the end of April on 29 April 2015. It recorded that the claimant was stating that its target for completion was currently 26 November 2015. This had slipped by 9 weeks in comparison to the programme issued at the beginning of the month. Moreover, in comparison to the EOT to 10 August 2015 to which I have found it was entitled, this demonstrated an estimated unjustified delay of well over 3 months. On any view this was significant. It recorded that the claimant was refusing to issue an accelerated programme to 18 September 2015 without an instruction to proceed with the programme before it was released, clearly on the basis that the claimant was unwilling to enter into any commitment to accelerate its works so as to achieve completion before the end of November 2015 unless it had received confirmation that it would be entitled to recover the costs associated with such acceleration. As Capita said – as was recorded in the minutes of the following month's meeting - this was plainly unacceptable. It indicated the claimant's unwillingness to take effective steps to minimise further delays without first extracting a promise to be paid for such steps to which, on my findings, it was not entitled. On any view this was a serious state of affairs

202. There was no contemporaneous reference to any non-payment or under-payment in relation to interim valuation 11. The minutes of the site progress meeting held on 29 April 2015 recorded that the valuation was currently being assessed.

203. On 5 May 2015 Capita issued a certificate of non-completion on the basis of the claimant's failure to complete by 13 April 2015. On the same date the claimant made what appears to have been its first interim claim for prolongation costs up to 13 April 2015 of £701,214.30 as well as a further claim for £67,996.31 up to 30 April 2015, notwithstanding that the latter period had not been the subject of an EOT.

204. On 7 May 2015 the claimant made a third application for an EOT seeking an extension of 199 days to 29 October 2015. Mr Hudson summarises this in his report as "including issues caused by the continuing deflection and an apparent inability to find a workable solution to both the concourse areas and the Hub, which I have found to be on the critical path". Whilst he did say in his report that the problems he identifies based on deflection caused critical path delays to the hub, he did not say anything similar in relation to the concourse, so that this section of his report is simply wrong. Moreover, since he has accepted that the critical path delays to the hub were no longer causing delay by this time, his report is also simply wrong insofar as it suggests that there was a continuing problem.

205. The third default notice dated 12 May 2015 continued the complaint about delay, giving further notice of an alleged failure to proceed regularly and diligently with the works, identifying 13 specific areas of delay and a failure to proceed in accordance with the latest programme.

206. What transpired to be the final progress meeting was held on 27 May 2015. The minutes prepared by Capita are relevant in that there was no change to the previous report from the claimant as regards the time for completion and the position as regards any acceleration. By this stage even this projected delay did not take into account the delays incurred over the last month which were to be included in a revised programme to be issued by 29 May 2015. It does not appear that this was sent, perhaps not surprisingly since the claimant's internal May 2015 report noted that by this stage the projected completion date of 26 November 2015 was itself "at risk".

207. By the end of May 2015 Millfield had confirmed to the claimant that it had left site and suspended works due to non-payment. In cross-examination Mr Ikin agreed that there was not very much going on at site at this time. He was only able to identify Glassolutions and BAK as being on site "here and there".

(d) The termination notice

208. The termination notice dated 4 June 2015 was headed "Notice of Termination of JCT Contract" and was sent on the defendant's solicitors' letterheading. Although identifying what may be said to be nine separate allegations, in reality it only identified as separate substantial allegations that the claimant had: (a) failed to proceed regularly and diligently with the works; and (b) substantially suspended the carrying out of the works. As to the former, reference was made to the alleged failure to comply with the previous default notices and/or the repetition of the same defaults. It also identified a failure to progress 17 specific items of work said to have been available to progress as from the end of April 2015 by reference to the claimant's updated target completion programme dated 28 April 2015. It was said that instead of doing so the claimant had continually sought to extend the programme. It was said that the failure to pay suppliers and subcontractors had led to them refusing to return to site.

209. As an alternative to contractual termination, it was said that if the defendant's notice of termination was ineffective the letter was to take effect as an acceptance of repudiatory breach. It ended by saying that: "In accordance with this notice, we are taking steps to secure the site and to secure the goods and materials which we are entitled to ownership/possession of under the terms of the JCT contract".

210. I have already referred above to the contractual right to terminate under clause 8.4 and need say no more about that at this point. It suffices to say that the two separate substantial grounds referred to in the termination notice would, if established, both be sufficient to justify termination under clause 8.4. Moreover, although the right to terminate under clause 8.4 was qualified, in that termination notices could not be given unreasonably or vexatiously, it is not suggested – nor could it credibly be suggested – that if the claimant had (a) failed in a substantial manner and without good reason to proceed regularly and diligently with the works; or (b) substantially suspended the carrying out of the works for a significant period and without good reason, that it would have been unreasonable or vexatious for the defendant to have exercised its contractual right to terminate.

211. So far as repudiatory breach is concerned, although the question as to what does and does not amount to repudiatory breach has been considered in many cases, I have found helpful the analysis of Etherton LJ (with which the other members of the Court of Appeal agreed) in *Eminence Property Developments Ltd v Heaney* [2010] EWCA Civ 1168, to which I was referred in closing submissions. Having considered the decisions of the House of Lords in *Federal Commerce & Navigation Co Ltd v Molena Alpha Inc (The Nanfri, Benfri and Lorfri)* [1979] AC 757 (HL) ("*the Nanfri*") and in *Woodar v Wimpey* [1980] 1 W.L.R. 277 HL ("*Woodar*") he made four helpful observations:

(a) (at paragraph 61) "First … So far as concerns repudiatory conduct, the legal test is simply stated … It is whether, looking at all the circumstances objectively, that is from the perspective of a reasonable person in the position of the innocent party, the contract breaker has clearly shown an intention to abandon and altogether refuse to perform the contact".

(b) (at paragraph 62) "Secondly, whether or not there has been a repudiatory breach is highly fact sensitive. That is why comparison with other cases is of limited value".

(c) (at paragraph 63) "Thirdly, all the circumstances must be taken into account insofar as they bear on an objective assessment of the intention of the contract breaker. This means that motive, while irrelevant if relied upon solely to show the subjective intention of the contract breaker, may be relevant if it is something or it reflects something of which the innocent party was, or a

reasonable person in his or her position would have been, aware and throws light on the way the alleged repudiatory act would be viewed by such a reasonable person".

(d) (at paragraph 64) "Fourthly, although the test is simply stated, its application to the facts of a particular case may not always be easy to apply …".

212. I should also record that clause 8.3.1 of the JCT Contract terms stated in terms that the termination provisions of clauses 8.4 to 8.7 are "without prejudice to any other rights and remedies of the employer". It follows that it was open to the defendant to do what it did, i.e. to serve a notice of termination under the contract termination provisions and, in the alternative, as a notice of acceptance of the claimant's repudiatory breach: see generally the discussion at *Keating* paragraphs 6-118 to 6-120 and the cases cited therein.

(e) Conclusions

213. In my judgment it is clear from the evidence and the conclusions referred to above that as at 4 June 2015 the claimant was in such serious and significant breach of contract as entitled the defendant to terminate the contract or to accept that breach as repudiatory so as to discharge itself from any continuing obligation to perform the contract from that date.

214. In short, since the end of February 2015 the works had been plagued by delays which were almost entirely the claimant's own fault and contractual responsibility.

215. It is true that before that there had, as I have found, been significant delays for which the claimant and the defendant were each in part responsible and which entitled the claimant to an EOT to 10 August 2015. It follows that by 4 June 2015 the time for the claimant to complete had not yet arrived and the claimant was entitled to a further 9 weeks to complete.

216. However, it was apparent – and indeed admitted by the claimant – that it was unable and unwilling to complete by that date. It had made clear as at the end of April 2015 that it was only able and willing to complete by 26 November 2015 unless the defendant agreed to, in effect give it a blank cheque for the cost of works to accelerate completion to 18 September 2015. The defendant had, justifiably, refused to agree to this and the claimant had achieved little additional progress in the whole of May 2015 and, by the date indeed substantially suspended works. In effect, the parties had reached an impasse, whereby the claimant was making it clear through its words and conduct that it was not willing to procced regularly or diligently with the works and, to the contrary, had substantially suspended works, unless or until the defendant conceded to its demands for a substantial EOT significantly beyond its true entitlement and a blank cheque to accelerate the works from the end of November 2015 to mid September 2015. The claimant was not entitled to either. Whilst it is true that the defendant had not granted the claimant the full EOT to which it was entitled and also had not, it appears, fully complied with its payment obligations and was now playing hardball with interim valuation number, 11, none of this justified or excused the claimant's conduct.

217. The defendant was reasonably entitled in my judgment to grasp the nettle at this point, on the basis that unless it caved in to the claimant's demands – which even then would offer no real guarantee that the claimant could or would turn things around and complete by the suggested mid September 2015 date – it had no realistic option other than to bring the claimant's contract to an end and engage replacement contractors.

218. In terms of the clause 8.4 procedure, it is plain from my findings that as at 4 June 2015 the claimant was in a position where it had continued for at least 14 days its failure, as specified in the default notice of 12 May 2015 to proceed regularly and diligently with the works including its

failure to proceed in accordance with the latest programme, and thus that the defendant was entitled under clause 8.4.2 to serve its termination notice within 21 days of the expiry of that 14 day period.

219. I should address a point raised by the claimant in its submissions about the validity of the termination notice. In short, it is said that the default notices which were served were "impermissible multiple first notices" and that "the proper course for the Council would have been to serve one notice, and then either to terminate for failure to stop the default, or alternatively terminate within a reasonable time from repetition of the default. The Council's correspondence does not fit into this framework and nor has there been any attempt to demonstrate repetition of default, if that is alleged". However, as Ms McCafferty submitted in response, there is no authority which shows that an employer is not entitled to serve successive default notices in appropriate circumstances. Under clauses 8.4.2 and 8.4.3 the employer was given the option of serving a termination notice within the specified period under clause 8.4.2 or, if it did not do so, of terminating upon or within a reasonable time of repetition under clause 8.4.3 thereafter. That provides no justification for a submission that the employer could not as an alternative serve a second default notice. Indeed, it would be bizarre if an employer in such circumstances had no option other than to terminate or do nothing.

220. For this reason, there is no obstacle as a matter of law to the defendant having terminated on 4 June 2015 in consequence of the claimant's failure to comply with the latest preceding default notice of 12 May 2015. Even if the claimant's argument on this point was sound, it would not prevent the termination as being treated as a termination under clause 8.4.3 by reference back to the very first default notice, in circumstances where the same default had been repeated in the run-up to 4 June 2015.

221. Finally, this argument does not assist the claimant as a defence to the defendant's alternative acceptance of repudiatory breach case in any event.

222. Before I turn to the next important question as to whether or not the defendant actually and effectively did do, I should briefly address two further arguments advanced by the defendant which, in my view, do not advance its case in relation either to contractual termination or repudiation.

(f) The defendant's reliance upon the claimant's insolvency

223. Although the defendant spent some considerable time in cross-examination of the claimant's factual witnesses in seeking to demonstrate that it was balance sheet and/or cashflow insolvent as at 4 June 2015, it seems to me that this would not justify termination or amount to repudiation in itself.

224. First, that is because it was not mentioned as a ground for termination in the termination letter. No doubt that is because the contract only permits termination for insolvency in specified circumstances, such as entry into administration, which had not occurred as at 4 June 1015. Nor however was it expressly referred to as evidence of repudiatory conduct by the claimant.

225. Second, because in my judgment there is no hard evidence that its financial position as at 4 June 2015 was such that it was balance sheet insolvent or unable to pay its debts as they fell due. I have already referred to the claimant experiencing cashflow difficulties. As I have already noted, it was struggling because of the decline in its principal public sector derived business. It was also battling to deal with what were two difficult projects at the same time, this project and another development project in Islington Wharf, Manchester. There is also evidence from the

claimant's own witnesses that a decision had been taken to use BCUK as, effectively, its banker. What this meant was that any surplus funds would be passed up to BCUK and then back down again to enable the claimant to pay creditors which it was decided had to be paid. Nonetheless, I have no doubt that members of the Barnes family could and would have been prepared to provide funding, whether from BCUK's own funds or through injecting further funds into BCUK to enable it to do so, if and when it was necessary to do so to ensure the survival of the claimant. That only changed when the time came, after termination, when they decided that the best course of action was to put the claimant into administration. This appears to have been precipitated by the loss of a number of adjudication claims.

226. As at 4 June 2015 the position in my view was not that the claimant was simply financially unable to continue with the works but that it was unwilling to do so unless its unjustifiable demands were met. That unwillingness and its consequences does, as I have found, justify the defendant's decision to terminate, but the separate alleged ground of insolvency is not made out and does not in the abstract.

(g) The defendant's reliance on the claimant's intention to wind up the business

227. Although the defendant contends that it was always the claimant's intention to wind up its business by the end of 2014, I do not think that this allegation assists the defendant's case on termination or repudiation. As I have already indicated, when referring to the claimant's factual witnesses, it is clear from the administrators' proposals that this was the intention, but only – I am satisfied – in the context of a legitimate corporate restructure which was never intended to affect the completion of ongoing projects. There is no evidence of any intention to put the claimant into administration due to an inability to complete this project until after the contract had already been terminated.

I. Did the claimant validly terminate the contract or accept the claimant's repudiatory breach on or around 4 June 2015?

228. The question of the validity of the defendant's purported termination under the contract has been an extremely contentious issue. The claimant contends that if the defendant did not effectively terminate the contract as required under the contract on 4 June 2015 then the purported termination would have been repudiatory. As is stated succinctly by the editors of *Keating* at 11-003: "A wrongful termination by the employer or its agent normally amounts to repudiation on the part of the employer".

229. Whilst I shall need to consider this argument in a little more detail below, I should say straightaway that in my view it cannot assist the claimant in the end because of my previous conclusion that, leaving to one side the question of contractual termination, the claimant was also in repudiatory breach such as would have justified the defendant in accepting such breach as discharging the contract, in circumstances where – as I have already said – the defendant included in the termination notice a fallback assertion that it was entitled to and did accept the claimant's repudiatory breach. Even if – contrary to my actual conclusion as appears below - the defendant was itself in repudiatory breach of contract in failing to terminate the contract in accordance with the notice requirements, that would not avail the claimant given that, by the time it purported to accept such breach as repudiatory, the defendant had already successfully accepted the claimant's prior repudiatory breach.

230. Nonetheless, I address the claimant's case on this point because it was very fully investigated and argued and in case I am wrong that the defendant had already accepted the claimant's repudiatory breach as discharging the contract.

(a) The validity of the defendant's termination

231. I have already referred to clause 1.7.4, which is worth setting out here in full:

"Any notice expressly required by this Contract to be given in accordance with this clause 1.7.4 shall be delivered by hand or sent by Recorded Signed for or Special Delivery post. Where sent by post in that manner, it shall, subject to proof to the contrary, be deemed to have been received on the second Business Day after the date of posting."

232. Clause 8.2.1 contained such an express requirement in relation to "each notice referred to in this section". Clause 8.2.2 provided that notice of termination of the contractor's employment "shall take effect on receipt of the relevant notice".

233. Clause 1.7.3 stated that "subject to … clause 1.7.4 any notice … may be served by any effective means and shall be duly … served if delivered by hand or sent by post to .. the recipient's address stated in the Contract Particulars, or to such other address as the recipient may from time to time notify to the sender". It is common ground that the address stated in the Contract Particulars was the claimant's registered office. It is not suggested that the claimant ever notified the defendant that notices could be sent to any other address.

234. It follows in my judgment that what clause 1.7.4 required was service at the claimant's registered office either by hand or by recorded or special delivery post. Nothing less or different would suffice. Ms McCafferty submitted that it was sufficient for notice to be delivered to the site as a known address where the claimant was based. I do not accept this submission since in my judgment what is required is a positive statement by the claimant that notices could be sent to another address.

235. Ms McCafferty also submitted that clause 1.7.3 says only that the notice "shall be duly given or served" if delivered to the stated address; it does not say that it will not be duly given or served unless it is delivered to that stated address. I do not accept this. Clause 1.7.3 is expressly made subject to clause 1.7.4, which contains the mandatory word "shall". Although, as she also submitted, clause 1.7.4 did not specify where the notice had to be served, the answer is plainly given in clause 1.7.3 and it would be nonsensical if clause 1.7.4 had the effect of allowing the defendant to serve the claimant at any address it chose.

236. There was some debate about the consequences of a failure strictly to comply with the notice provisions of clause 1.7.4. The claimant contended that a failure was fatal to its validity whereas the defendant contended that it was sufficient that the notice was brought to the attention of the claimant even if not in the manner mandated by the contract.

237. The question is essentially one of the correct construction of the contract. The editors of *Keating* say this at 11-003: "The courts will construe a termination clause in accordance with its commercial purpose, but may require strict compliance with any condition precedent to its exercise". I was referred by both counsel to a number of other leading textbooks and authorities in their closing submissions but nothing which detracts or requires amplification from this succinct summary.

238. Ms McCafferty submitted that it is relevant that strict compliance with clauses 1.7.3 and 1.7.4 is not stated in clause 8.2.3 or in clause 8.4 to be a condition precedent to the employer's

entitlement to terminate under clause 8.4.2, either expressly or in substance, noting that these provisions are silent about the consequences of failing to serve a notice strictly in accordance with clause 1.7.3 or 1.7.4.

239. Ms Jones submitted that the importance of strict compliance is obvious, since the service of default notices and termination notices are so obviously high up in the list of important communications which may be sent under the contract, given the drastic consequences which may follow if the defaults specified are not remedied and given the drastic consequences of termination.

240. I have no doubt that Ms Jones' submissions are to be preferred. The fact that clause 1.7.4 contains specific and more onerous requirements which only apply where the contract expressly requires that they should must mean, in my judgment, that any non-trivial departure should invalidate the notice. The alternative is that the court would have to investigate in case of dispute whether service by some non-mandated way was sufficient to bring it to the attention of the party (and, in a case such as the present with a corporate recipient, the individual concerned).

241. In the circumstances it is unnecessary for me to investigate the detail of what the defendant did for the purposes of this inquiry. That is because what clause 1.7.4 required was service at the claimant's registered office either by hand or by recorded or special delivery post and the defendant must accept that it did not do any of these things prior to the time that the claimant was excluded from the site.

242. Accordingly, I am satisfied that the defendant failed to terminate the contract in accordance with the contractual termination provisions.

(b) Was the defendant's failure to terminate the contract in accordance with the contract itself a repudiatory breach which the claimant was entitled to accept?

243. It is necessary to decide this question by reference to the guidance in the *Eminence* case, after having conducted a close examination of what the defendant actually did.

244. It is common ground that through April and May 2015 and alongside the service of the formal default notices there were discussions between the claimant and the defendant about a consensual termination of the contract which did not in the end come to anything. There is no evidence that before 4 June 2015 the defendant had made the claimant aware, formally or informally, that it had decided to terminate the contract or otherwise unilaterally bring it to an end. Mr Barnes said in evidence, and the defendant cannot really dispute, that the first notification which was received was a telephone call made to him by Dr Tom Flanagan, the executive director of the defendant, early that morning, advising him that the defendant had decided at a meeting of councillors the evening before to terminate the contract and would be removing the claimant from site that day.

245. It is plain from the internal correspondence disclosed by the defendant that it had already planned for this decision and, in particular, had wanted to take steps to ensure that the claimant did not remove goods and materials from site upon being informed of the termination and, thus, had already made arrangements for a security company to take control of the site as and when instructed to do so, with the plan being if possible to obtain the agreement of the claimant's existing security company (a company known as MNS) to take control of the site on behalf of the defendant at the appropriate time.

246. During the course of the morning there were various emails and discussions from which it was clear that the defendant intended to carry through the termination. In particular, Mr Smith

sent an internal email at 11:50 hours in which he stated that he had arranged with MNS to "utilise their services direct from 12:30" and that they had been instructed to "remove and change all the access locks". He said: "I shall be on site with their people later today". It is apparent from previous emails that the plan was only to secure the site once the termination letter had been sent.

247. However, there is no good evidence that the defendant took any positive steps to seek to remove the claimant from site until after 13:02 hours on 4 June, when the defendant's solicitors emailed Mr Barnes, Mr Cunningham and Mr Topping of the claimant, as well as two named individuals within its solicitors, Napthens, attaching the termination notice to which I have already referred. That is because the evidence of Mr Smith, explaining the contemporaneous photographic evidence, satisfies me that nothing happened in terms of taking control until after Mr Laher, the defendant's in-house solicitor, had entered the site and handed a copy of the termination letter to the claimant's representatives on site, and the photograph timed at 13:23 hours shows that he had not done so prior to that time. Mr Ikin fairly accepted that he was probably told by Mr Topping who was on site that day that the termination notice had been hand delivered to them on site that day.

248. The termination notice concluded as follows: "In accordance with this notice, we are taking steps to secure the site and to secure the goods and materials which we are entitled to ownership/possession of under the terms of the JCT contract. We should be grateful if you would kindly acknowledge safe receipt of this notice".

249. What then happened was that upon receipt of the notice and having consulted with management Barnes' site representatives left site voluntarily at around 14:30 hours, after which the more senior employees of MNS who had come to the site with the defendant liaised with the MNS employees already on site and the locks were duly changed.

250. In the absence of evidence to the contrary it is to be assumed that the written termination letter, which it was stated at the top of the first page as being sent by recorded delivery post as well as by email, was received two business days later. Given that it was drafted and sent by the defendant's solicitors on their headed notepaper it is reasonable to assume, despite the absence of positive evidence, but in the absence of any evidence to the contrary, that it was indeed sent by recorded delivery post. The claimant has not asserted that it was not received by recorded delivery post at their registered office.

251. At 6-109 the editors of *Keating* suggest that the position is as follows: "A party who bona fide relies upon an express stipulation in a contract in order to rescind or terminate the contract is not, by that fact alone, treated as having repudiated its contractual obligations if it turns out to be mistaken as to its rights. It is necessary to pay proper regard to the impact of the party's conduct on the other party. It is thought that, if either party to a construction contract operates contractual determination machinery upon a mistaken, albeit bona fide, view of the facts or its legal rights, that will normally be repudiation. The impact of such conduct on the other party suggests no other conclusion".

252. As is said in the footnote, authority for the proposition in the first sentence is to be found in the speech of Lord Wilberforce in *Woodar v Wimpey* [1980] 1 W.L.R. 277 HL at 283 expressing the conclusion of the majority, although Lords Salmon and Russell (dissenting) held that contractual rescission on grounds unjustified in law is always repudiation. The majority view was applied in *Haneet Chandru Vaswani v Italian Motors (Sales and Services) Ltd* [1996] 1 W.L.R. 270 PC.

253. On my reading at least, the authorities cited in support of the proposition in the last sentence are directed to the point addressed at the end of the last section, i.e. the position where the party in the position of the defendant had no right to terminate because the substantive conditions for termination were not made out. I would respectfully agree that in such circumstances it could not realistically be said that termination on a substantively erroneous basis could normally be anything other than repudiatory.

254. The situation under consideration here however is markedly different. Here, I have found that the defendant was entitled to exercise its right of termination under clause 8.4. As I have also found, before - or at the very least broadly contemporaneous with - the claimant's removal from site, the claimant was aware that the defendant was exercising its right of termination under clause 8.4. The claimant's managing director and commercial manager and its solicitors had received notice of termination by email. There can be no real doubt that notice was handed over by Mr Laher to Mr Topping on site. Although these were contractually ineffective, at the same time the claimant sent notice by post in a contractually effective manner, which took effect two business days later on the following Monday.

255. Thus, the essential question is whether the ineffective contractual termination and the removal from site in reliance on such ineffective contractual notice was repudiatory, in circumstances where the defendant was entitled to terminate and had communicated its decision to do before it excluded the claimant from the site, but in a legally ineffective manner, but also where the claimant knew from the termination letter already sent by email that the defendant intended to send the notice by the correct contractual method, i.e. by recorded delivery to the claimant's registered office. In deciding the issue in this case I have again found helpful the approach of Etherton LJ in the *Eminence* case and focussed on all of the relevant circumstances.

256. In my judgment the crucial question is whether the impact upon the claimant of being removed from site in such circumstances, effectively two working days earlier than it could validly have been removed anyway, was conduct which was in all the circumstances repudiatory? In my judgment it was not, for the following principal reasons: (a) the claimant had by then – as I have found – effectively ceased all meaningful activity on site and was, realistically, in no position to move forwards to complete the works even in accordance with a proper EOT had one been granted; (b) the claimant must be taken to have known, objectively, that the defendant was entitled to terminate under the contract; (c) the claimant knew that the defendant was intending to terminate the contract by receipt of the termination notice before it was excluded from site; (d) the claimant knew from the last section of the termination notice that the defendant was seeking to exclude the claimant from site and to secure it under and in accordance with the termination provisions of the contract; (e) the claimant must be taken to have known, objectively, from the top of the termination notice that the defendant intended to and doubtless was in the process of serving the termination notice by the required contractual means; (f) there was no adverse impact upon the claimant in being removed from site two days earlier than it would have had to leave anyway.

257. That is so whether the decision to remove was conveyed when the notice was handed over on site or earlier, if the claimant argued that the actions of Mr Smith in instructing MNS to take over the site as from 12:30pm amounted to a technical exclusion as from that point in time, given that there is no evidence that it was implemented or the decision was communicated directly by any representative of the defendant to any representative of the claimant at that point even if, as appears to have happened, MNS reported this to the claimant who told them not to comply.

258. The clear impression conveyed by the claimant's solicitors' email in response, stating that the claimant was accepting the alleged wrongful termination as repudiatory, was that the claimant was very pleased to be given the opportunity to leave site and to be able to advance a case founded upon repudiation. The claimant could have, but did not, say that there was no basis for removing it from site other than on two working days written notice. Looking at it from a wider perspective, the defendant could validly have removed the claimant from site on the Monday following the Thursday. The claimant had no opportunity or inclination or ability to do anything lawful or meaningful to improve its position in the meantime so as to avoid the consequences of what it had already done and omitted to do.

259. In the circumstances, the claimant was not entitled to accept the defendant's precipitate termination as repudiatory and it follows that the defendant was entitled to terminate under the contract at the point when its termination notice was deemed served and took effect.

J. The consequences of my finding that the defendant was entitled to and did terminate the contract for contractor default and/or to accept the claimant's repudiatory breach of contract?

260. Whether or not the defendant terminated under the contract or accepted the claimant's repudiatory breach the same essential consequences follow, which is that the amount of the defendant's set-off would realistically extinguish any claim which the claimant might establish on its claim. On that basis there is no need to go further since the claimant cannot succeed in establishing any net judgment in its favour. That is because the relevant contractual provision, which essentially involves a setting-off between how much was due to the contractor as at termination and how much it cost the employer to have the works completed, compared with what the employer should have paid under the contract, is effectively a mirror of the common law consequences of an acceptance of repudiatory breach by the employer. Under common law principles the claimant would be entitled to be paid for monies to which it was entitled under the contract as at the date of termination, whereas the defendant would be entitled to recover the extra costs of having the works completed by the replacement contractor.

261. It would always be open to the claimant to seek to argue that the amounts paid to the replacement contractor should be reduced, for example because they included for works such as variations ordered during the course of the replacement contract which the claimant was not obliged to undertake, or because the amounts claimed and accepted by the replacement contractor were unreasonable. This is as true under the contractual provisions, which only allow the employer to recover the costs of completion so far as "properly" incurred as it is under the common law. However, for reasons which are unsurprising, the claimant has not even attempted let alone succeeded in establishing a case to this effect.

262. Ms McCafferty provided the key figures in her closing submissions which explain why the claimant simply cannot succeed on the basis of these key findings. On the basis of Mr Ormston's assessment the claimant now values its final account at £4,300,468.76 (inclusive of its prolongation claim). It is common ground that the defendant paid £2,511,515, leaving a maximum claim value of £1,788,953.76. It is also common ground that the replacement contractor's final account was settled at £4,555,285.79. It follows that the claimant would have to establish that by reference to the types of argument identified above the defendant's recovery of the costs paid to the replacement contractor should be reduced by deductions from that final account in excess of £2,766,332.03 before it could hope to recover anything. There is no suggestion nor any obvious basis for this to be thought a conceivably realistic possibility. It

would involve the proposition that the defendant, as a local authority, paid in excess of 60% of the total replacement contract final account figure more than it ought or needed to in order to have the same works completed by the replacement contractor. This explains why the claimant wisely did not suggest to the contrary or waste time and money in seeking to investigate the minutiae of the replacement contract, its performance or final account figures.

263. It follows that it is strictly unnecessary to go any further and that this finding is also sufficient for me to conclude that the claim fails on this essential basis.

K. Reasons not to undertake a quantification of the claimant's claim

264. Normally, given that quantum was in dispute and was the subject of evidence and argument, I would proceed to address it and determine the disputed issues, albeit as briefly as reasonably necessary, in case the matter should go further and it should become necessary to know what I would have awarded the claimant on its claim.

265. However there are two good reasons in this case why that is not only unnecessary but would not be a sensible use of judicial time for me to do so.

266. First and foremost, to do so would be a very intensive and time-consuming task, in circumstances where the investigation of the quantum aspect of the case at trial was very much more limited than the investigation of the liability issues, with the corresponding disadvantage that there is very much more legwork for me as the trial judge to do in undertaking a full and fair assessment of the valuation of the claimant's final account claim. I shall explain briefly why this is so.

267. Firstly, the claim as originally pleaded was based upon the claimant's final account claim submitted after the contract had been terminated. This was the claim which the defendant's quantum expert Mr Strutt came prepared to discuss in the joint discussions and was the subject of the joint statement dated 6 May 2022 and his separate report dated 27 May 2022. It was, however, the subject of fresh scrutiny by Mr Ormston in his report dated 27 May 2022, produced less than 2 months before trial. His efforts resulted in a substantially different and lesser valuation in his lengthy and detailed report, running to 97 pages with exhibits running to 590 pages.

268. Mr Strutt's first report came in at a solid 120 pages with appendices running to 133 pages. Thereafter both he and his instructing solicitors are to be commended in taking the decision to get to grips with Mr Ormston's report, to participate in the production of a supplemental joint statement (in the form of a detailed spreadsheet, running to 64 pages) and to produce - less than a week before trial - his own supplemental report in response to that of Mr Ormston, running to a (mere) 25 pages.

269. It followed, however, that the time for the legal representatives to assimilate the detail of the case on quantum was extremely limited and both experts had to give evidence on these detailed and lengthy reports in the course of only one day, on 25 July 2022, thus truncating the opportunity for cross-examination on anything like all of the issues in disagreement. At my suggestion, because it was apparent that counsel would be unable to marshal and make closing submissions on both liability and quantum issues in the one day allowed for closing submissions on 27 July 2022, it was agreed that closing submissions on quantum would be provided, along with an updated spreadsheet from the experts, separately on 12 August 2022.

270. Whilst the experts are to be congratulated in producing a detailed and comprehensive excel spreadsheet in that time, again it is a dense piece of work, with a lengthy summary and 25 separate supporting back-up tabs. Some idea of the nature and extent of the disagreements between the experts is to be found in the very helpful summary table provided by Ms McCafferty in her closing submissions on quantum, which I reproduce here.

Item	Strutt (low)	Strutt (high)	Ormston (low)	Ormston (high)
Contract Sum	**1,725,751.82**	**1,813,932.10**	**2,028,846.61**	**2,028,846.61**
Adjustments				
Remeasured sections				
Bill 11.2 – Undefined provisional	77,400.00	77,400.00	77,400.00	77,400.00
Variations				
Architect's Instructions	262,402.02	281,966.30	292,526.38	292,526.38
Works informally instructed	170,692.61	175,105,37	159,349.97	159,349.97
Sundry claims	0.00	0.00	0.00	0.00
Remeasure adjustments	116,969.62	116,969.62	99,398.85	99,398.85
Claims				
Loss & Expense			727,313.25	782,761.82
A – Prolongation 12 weeks	0.00	83,901.61		
B – Prolongation 8 weeks	0.00	26,914.27		
Demobilisation 6 weeks	0.00	19,053.25	30,171.00	30,171.00
Omission of works	0.00	132,338.32	221,252.00	442,503.14
Other				
Materials	387,510.14	387,510.14	387,510.14	387,510.14
Gross valuation	**2,740,726.21**	**3,115,100.97**	**4,023,768.20**	**4,300,468.76**
Less previously paid	(-2,511,515.00)	(-2,511,515.00)	(-2,511,515.00)	(-2,511,515.00)
Grand total	**229,211.21**	**603,585.97**	**1,512,253.20**	**1,788,953.76**

271. Ms McCafferty helpfully explained that the effect of this was that there was a difference between the experts on the measured sums (and hence the contract sum) of only £214,914.51 to £303,094.79; with some additional but relatively small differences on the variations, whilst the big difference between the experts related to the quantum of the loss and expense claim. However, what this did not fully reveal was the nature and extent of the disagreements on individual items within those sections. This was shown by her second table showing the measured items disputes, which again I reproduce here:

Item	Strutt (low)	Strutt (high)	Ormston	Difference[3]
Bill 1 - Preliminaries	254,200.60	254,200.60	180,655.05	73,545.55
Bill 3 – Substructure	108,752.21	108,752.21	139,714.66	30,962.45
Bill 4.1 – Frame	318,146.46	318,146.46	318,146.46	0.00
Bill 4.2 – Upper floors	16,026.22	16,026.22	16,829.66	803.44
Bill 4.3 – Staircase	2,127.50	2,127.50	2,127.50	0.00
Bill 4.4 – Roof	341,833.31	341,833.31	341,833.31	0.00
Bill 4.5 – External walls	215,831.93	281,088.79	510,008.43	294,176.50
Bill 4.6 – Windows & ext. doors	11,371.54	11,371.54	11,371.54	0.00
Bill 4.7 – Internal wall	5,344.08	8,110.38	5,344.08	0.00
Bill 4.8 – Internal doors	0.00	0.00	0.00	0.00
Bill 4.9 – Floor finishes	0.00	0.00	0.00	0.00
Bill 4.10 – Wall finishes	0.00	0.00	0.00	0.00
Bill 4.11 – Ceiling finishes	166,947.28	166,947.28	185,200.53	18,253.25

[3] This is the difference between Mr Ormston's assessment of the measured sums and the lower end of the range of Mr Strutt's assessment.

Item	Strutt (low)	Strutt (high)	Ormston	Difference
Bill 4.12 – Furniture & fittings	0.00	0.00	0.00	0.00
Bill 4.13 – Sanitary fittings disposal	0.00	0.00	0.00	0.00
Bill 5 – Mechanical installation	35,144.01	39,872.24	35,855.24	711.23
Bill 6 – Electrical installation	100,534.98	107,996.99	112,480.70	11,945.72
Bill 7 – Drainage	51,908.07	56,352.63	60,320.37	8,412.30
Bill 8 – External works	74,441.70	77,954.01	82,955.17	8,513.47
Bill 9 – Ext. works (Highways)	1,161.93	1,161.93	4,023.91	2,861.98
Bill 10 – Street lighting works	0.00	0.00	0.00	0.00
Bill 11.1 – Defined provisional	0.00	0.00	0.00	0.00
Bill 11.2 – Undefined provisional	0.00	0.00	0.00	0.00
Tender Sum	**1,703,771.82**	**1,791,952.10**	**2,006,866.61**	**303,094.79**
Costs agreed letter 25/10/13	21,980.00	21,980.00	21,980.00	0.00
Contract Sum	**1,725,751.82**	**1,813,932.10**	**2,028,846.61**	**303,094.79**

272. She addressed the items in dispute, limiting herself to differences exceeding £10,000, over 12 paragraphs which include detailed cross-reference to the reports, the documents referred to and the evidence.

273. She also addressed the loss and expense claims over a further equally detailed and cross-referenced 39 paragraphs, including taking a point about the claimant's alleged non-compliance with the claim notification provisions of the contract with was the subject of a further round of written submissions from both counsel.

274. Whilst Ms Jones' submissions on quantum took less length, that was by dint of her limiting herself to commenting only on the high value items exceeding £50,000.

275. I make it clear that none of this is intended to express any criticism of the experts or counsel, indeed quite the reverse since they all obviously worked extremely hard over the first half of August and later to assist their clients and the court in presenting their respective views and cases on quantum in an extremely challenging timetable.

276. However it does, I hope, explain why it is simply not possible for me to include in this judgment a fully reasoned analysis of the quantum of the claimant's final account without time-consuming reading and re-reading and that in the circumstances it seems to me to be a waste of judicial time and resource to do so in the particular circumstances of this case.

277. In particular, if I was to do so it would realistically be necessary for me to seek the agreement of the parties to determining the disputes on the basis of some form of sampling and extrapolation – most obviously by determining only items above a specified value and then applying the result pro rata to the balance - which that would have to be the subject of agreement or case management ruling and would not be something on which I could simply embark without notice.

278. Secondly, and finally, whilst it is not for me to pre-judge any decision by the claimant to apply for permission to appeal my findings on liability, let alone the outcome of such application or any appeal, if there was a successful appeal I would not be hampered in proceeding to assess damage by reason of the delay. That is because the process is largely driven by an analysis of the expert evidence which itself is largely derived from the contemporaneous documentation and my assessment of the strengths and the weaknesses of the opinions given by the experts in their reports and oral evidence. It is only to a very limited extent likely to turn on my assessment of the reliability of the oral evidence given, as to which I have already made findings as to the reliability of the witnesses overall. Since there is no overlap between liability and quantum, it follows that neither party would be prejudiced to any material extent if I had to begin this discrete

process only in the event of a successful appeal, at which point I could and would return to the need for the process to be conducted in a time effective proportionate manner.