



Neutral Citation Number: [2020] EWHC 1581 (TCC)

Case No: HT-2017-000110

IN THE HIGH COURT OF JUSTICE
BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES
TECHNOLOGY AND CONSTRUCTION COURT (QBD)

Rolls Building
Fetter Lane, London EC4A 1NL

Date: 18 June 2020

Before :

THE HONOURABLE MR JUSTICE PEPPERALL

Between :

ESSEX COUNTY COUNCIL

Claimant

- and -

UBB WASTE (ESSEX) LIMITED

Defendant

Judgment No. 2

Marcus Taverner QC, Piers Stansfield QC, Paul Buckingham and Daniel Churcher
(instructed by Slaughter and May) for the Claimant
Roger Stewart QC, Martin Kingston QC, David Turner QC, Celina Colquhoun and
George McDonald (instructed by Norton Rose Fulbright LLP) for the Defendant

Site view: 1 May 2019
Hearing dates: 2, 3, 7, 8, 9, 10, 13, 14, 15, 16, 20, 21, 22, 23, 29 & 30 May,
4, 5, 6, 10, 12 & 13 June and 2, 3 & 4 October 2019

Approved Judgment

I direct that pursuant to CPR PD 39A para 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.

THE HONOURABLE MR JUSTICE PEPPERALL:

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INTRODUCTION

1. On 31 May 2012, Essex County Council entered into a 25-year contract with UBB Waste (Essex) Limited for the design, construction, financing, commissioning, operation and maintenance of a mechanical biological waste treatment (“MBT”) plant in Basildon to process the county’s household waste. The facility was built and on 25 November 2014 it was certified as having passed the Readiness Tests. The facility then entered the Commissioning Period and was required to pass the Acceptance Tests before the extended Planned Services Commencement Date of 12 July 2015. It is common ground that the facility has not passed the Acceptance Tests either by such date or by the Acceptance Longstop Date of 12 January 2017.
2. The Authority argues that UBB failed to design and construct the facility so that it was capable of passing the Acceptance Tests. It contends that UBB’s failure either to pass the Acceptance Tests or to attempt to do so by the Acceptance Longstop Date was an event of Contractor Default and seeks, among other relief, damages and a declaration that it is entitled to terminate the contract pursuant to clause 67.
3. UBB, which is a joint venture company incorporated by Urbaser Limited and Balfour Beatty Investments Limited, denies any default. It argues that, upon the true construction of the agreement, the facility is capable of passing the Acceptance Tests and that Essex was wrong not to recognise the Quasi-Acceptance Tests as evidence of the same. Further, UBB contends that the performance of the facility was critically dependent on the composition of the waste. It argues that the facility would have passed the Acceptance Tests and would now be in the Services Period but for the Authority’s failures:
 - 3.1 first, to provide waste with the assumed composition provided to UBB when bidding for the contract;
 - 3.2 secondly, to approve the use of modifications made to the plant referred to compendiously by the parties as the Quick SRF or (“QSRF”) Line; and
 - 3.3 thirdly, to engage properly with UBB in the Options Review process to deal with the composition issues by agreeing necessary modifications to the Acceptance Tests.

In addition, UBB argues that it is entitled to an extension of time for passing such modified Acceptance Tests.

4. Accordingly, UBB denies that Essex is entitled to terminate the contract. It argues that the Authority is itself in breach of contract and seeks damages in excess of £77 million as well as declaratory and injunctive relief. This is, UBB submits, “termination for convenience dressed up as termination for contractor default.” Finally, UBB also claims compensation in respect of the temporary cessation of deliveries in February 2017 following the discovery of suspected asbestos-containing materials at the facility.
5. While the principal issues can be shortly stated, the arguments are complex and the documents voluminous. I heard this case over 25 days during which ten lay witnesses and six experts gave oral evidence. In addition, I am asked to consider reports from a further two experts. I have been provided with 1,775 pages of argument and 121 authorities spanning a further 5,100 pages, and I heard counsel between their opening and closing submissions over six days.

THE FACTUAL EVIDENCE

THE PROPER APPROACH TO THE EVIDENCE

6. This is a document-heavy dispute in which the best evidence comes not from the lay witnesses or their carefully crafted witness statements, but from the contemporaneous documents. In a well-known passage in *Armagas Ltd v Mundogas SA (The Ocean Frost)* [1985] 1 Lloyd’s Rep 1, Robert Goff LJ (as he then was), said that it was necessary to approach the assessment of factual witnesses “by reference to the objective facts proved independently of their testimony, in particular, by reference to the documents in the case, and also pay[ing] particular regard to their motives and to the overall probabilities.”
7. In *Gestmin SGPS SA v Credit Suisse (UK) Ltd* [2013] EWHC 3560 (Comm), Leggatt J (as he then was) made some perceptive observations as to the fallibility of human memory, conventional misconceptions as to its reliability (at [16]-[18]) and the honest distortion of memory through the litigation process (at [19]). I agree with the judge’s conclusion, at [22]:

“... the best approach for a judge to adopt in the trial of a commercial case is, in my view, to place little if any reliance at all on witnesses’ recollections of what was said in meetings and conversations, and to base factual findings on inferences drawn from the documentary evidence and known or probable facts. This does not mean that oral testimony serves no useful purpose – though its utility is often disproportionate to its length. But its value lies largely, as I see it, in the opportunity which cross-examination affords to subject the documentary record to critical scrutiny and to gauge the personality, motivations and working practices of a witness, rather than in testimony of what the witness recalls of particular conversations and events. Above all, it is important to avoid the fallacy of supposing that, because a witness has confidence in his or her recollection and is honest, evidence based on that recollection provides any reliable guide to the truth.”
8. UBB’s disclosure includes a number of internal documents in which UBB personnel exchanged unguarded comments. Such documents are sometimes illuminating. In assessing such evidence I do, however, keep in mind that it may well be that the Authority was, at least on certain issues, more astute to avoid recording matters in writing. Certainly, in April

and May 2016 there were occasions when, principally upon the planning issues, senior officers suggested that others might like to discuss matters face to face rather than by email.

9. I turn then to consider the individual witnesses. In doing so, I should make clear that this section does not purport to deal with my detailed findings of fact. Rather, my purpose at this stage is to record my general impressions of the witnesses, gleaned both from their oral evidence and the contemporaneous documentary record.

THE AUTHORITY'S WITNESSES

Margaret Lee

10. Mrs Lee is the Authority's Executive Director for Corporate & Customer Services and its Chief Financial Officer pursuant to s.151 of the *Local Government Act 1972*. She was also the Authority's Acting Chief Executive for three months in the summer of 2015.
11. As the s.151 officer, Mrs Lee was responsible for ensuring that decisions were taken lawfully, that the project delivered value for money, that it was affordable and that there was a proper assessment of financial risk. She therefore had some involvement in assessing the Authority's Outline Business Case and subsequently its Final Business Case. Given her seniority and other responsibilities, she was, however, dependent upon the detailed work of her finance team.
12. She became involved in the project once it became clear that there might be difficulties with the Acceptance Tests and has, since January 2017, been the Senior Responsible Officer in respect of the project. Her oversight of the project was high level and she did not have detailed day-to-day operational involvement. Mrs Lee readily and properly conceded matters in which she had no personal involvement. There were limitations to Mrs Lee's grasp upon the technical details of this case, but I am satisfied that she was an honest witness and that she was not engaged in a strategy of seeking to frustrate the contract.

Alex Creecy

13. Mr Creecy is the Authority's Technical Manager for its Waste Strategy Programme. He has been involved in the MBT project since November 2009 as part of a broad portfolio of waste management activities. He is a technical man with significant experience in the waste sector. He has a good understanding of the processes in a MBT facility and was involved in both the procurement and commissioning phases of this project.
14. Mr Creecy was the Authority's chief factual witness and gave evidence over 2½ days. UBB points to the many occasions when he paused, sometimes for a considerable period, before answering questions and to his tendency to ask to be taken to a document. In my judgment, this was not evasiveness but rather the actions of a meticulous and earnest witness who took great care to ensure the accuracy of his answers and who was especially astute not to fill in his recollection of events. I have no hesitation in accepting his evidence as honest. Indeed, I was struck - not just in his oral evidence but also by careful consideration of the contemporaneous documents - by Mr Creecy's obvious and genuine desire to make the facility work and to find solutions to the serious problems encountered during the

Commissioning Period. I have no hesitation in rejecting the suggestion that he acted other than in good faith or that he was part of some scheme on the part of the Authority to bring about the failure of this project.

James Aldridge

15. Mr Aldridge is the Authority's Programme Director for the Waste Strategy Transformation Programme. He was only involved with the facility from September 2015 when he was appointed Programme Director for the MBT. Mr Aldridge is not a technical man and plainly had to get up to speed before he could play a useful role on this project.
16. Mr Aldridge became aware of the various issues concerning density, BMW reduction testing and the extent of the QSRF diversion. He was involved in developing the Authority's strategy but was led very much by the technical analysis of the various issues. He was a straightforward witness who, in my judgment, did his best to assist the court. I reject any suggestion that he was party to some strategy of setting up UBB to fail.

Garry Fisher & Ian Doyle

17. Messrs Fisher and Doyle gave evidence about the discrete issue of the Authority's handling of the 2017 asbestos scare:
 - 17.1 Mr Fisher is the Authority's Corporate Health & Safety Manager. The Authority undoubtedly made mistakes in its handling of the asbestos issue, but I am satisfied that Mr Fisher's concern throughout was that of an honest professional focused on safeguarding the health and safety of those working at the facility.
 - 17.2 Mr Doyle is the Authority's Head of Operational Delivery. He is not a technical man and was guided by Mr Fisher and Mr Creecy. I accept that he was very concerned to learn of the possible presence of airborne asbestos fibres at the facility and that his instinct was to take what he described as a precautionary approach.
18. Mr Doyle also gave limited but straightforward evidence about the Authority's claim for damages.

Jade-Ashlee Cox-Rawling

19. Dr Cox-Rawling is a scientist employed by Ricardo, the Authority's technical advisors. She gave helpful evidence as to the composition testing carried out by UBB and its contractor (Resource Futures Limited) in 2016. For reasons explained below, it will not be necessary to consider her evidence.

UBB'S WITNESSES

Pedro Faraldo

20. Pedro Faraldo was just 28 when he was entrusted with lead design responsibility for this project. It is clear that his technical ability as a gifted engineer together with his keen intelligence and his easy-going and charming demeanour inspired trust and confidence in him despite his relative youth and commercial inexperience. Such personal qualities were

demonstrated over his six days in the witness box as he gave detailed technical evidence in excellent English despite it being his third language.

21. The contemporaneous papers reveal, however, Mr Faraldo's somewhat cavalier attitude to key design parameters and the setting of critical performance guarantees. In particular:
 - 21.1 The likely density of the waste as it entered the bio-halls, which was critical to the sizing and design of the facility, was not properly modelled or based on any empirical evidence. Rather, Mr Faraldo relied upon a quick view given by consultants without any knowledge of the likely composition of the waste in the Essex facility or the effects upon density of the pre-processing facility. [See paragraphs 156-164 below.]
 - 21.2 As explained at paragraphs 172-189 below, it is difficult to escape the conclusion that Mr Faraldo proposed the performance guarantee in respect of BMW reduction at a level designed to boost the chances of success in the tender process without any proper understanding of the BMC test or empirical basis for bidding at such an ambitious level.
 - 21.3 Further, as set out at paragraphs 218-227, Mr Faraldo proposed the QSRF Line to resolve the Throughput problem caused by the density error without any proper consideration of the effect of such solution upon either Recovery or BMW reduction.
22. Mr Faraldo's approach to these key engineering issues was borne out of his over-confidence in his own abilities and his commercial inexperience. In fairness to him, he would no doubt have benefited from the supervision or guidance of a more experienced engineer.
23. In addition, a number of documents cast doubt as to Mr Faraldo's integrity. First, in 2012, Mr Faraldo proposed maximum odour levels under the contract expressed in the units ou/Nm^3 (odour units per normal cubic metre) rather than ou/m^3 . This was not a simple error but an attempt to obtain advantage that Mr Faraldo hoped no one would spot:
 - 23.1 Mr Faraldo wrote to a colleague at the time:

“Don't tell anybody but I used ou/Nm^3 , that means that the 1,500 is actually 1,500 ou/Nm^3 jejeje ...”
 - 23.2 Indicating that his instinct was not to be honest if pulled up on the point, Mr Faraldo added:

“Hope yes, let's try that they don't realise, in any case if they pick it ... we can just say that was a mistake and include to ou/m^3 ”
 - 23.3 In fact, Mr Faraldo later concluded that the use of Nm^3 did not favour UBB. On realising this he wrote internally:

“Fuck, the stupid is clearly me, it is worse for us using the ou/Nm^3 , so we need to go back to Alex, I'll do it?? Or shall we tell him that someone doing a prove (sic) reading spotted (sic) it (to avoid probs??)”
 - 23.4 In cross-examination, Mr Faraldo simply described his conduct on this issue as “cheeky.”

24. This attitude to commercial integrity was not limited to Mr Faraldo but was part of a more widespread culture within UBB, as is evident from an exchange in July 2015:

24.1 On 22 July 2015, Mr Faraldo emailed Mr Creecy about the possibility of reducing the period in the bio-halls from seven to six weeks. He forwarded some data together with his commentary that most of the biological activity was occurring in the first two to three weeks and that the impact of the final week was minimal. He concluded:

“That leads us to believe the risk of the 6 week process versus the 7 week, is minimum or non-existing (sic) ...”

24.2 Mr Faraldo then forwarded his email to Juan Hernando and Javier Lampaya. His covering email referred in Spanish to it being “today’s motorbike selling.” In cross-examination, Mr Faraldo agreed that the idiom translates effectively to being a second-hand car dealer. There was then the following exchange:

Mr Taverner QC: *Is that how you regarded this, something to be sold to someone like a second-hand car salesman?*

Mr Faraldo: *No, I’m actually selling him a very good car, and a car I would buy for myself.*

24.3 Such answer was quick witted but was not credible. It was plain that the sense intended at the time was that Mr Faraldo was being somewhat slick in dressing up the proposed reduction in the bio-stabilisation period as having no more than a negligible effect upon biodegradation when it was in fact essential to UBB in order to boost capacity in the under-sized bio-halls. Indeed, consideration of the internal emails in the round certainly suggested that UBB considered that Mr Faraldo had got the better of Mr Creecy:

a) Mr Creecy responded on 24 July 2015 that the data shared by Mr Faraldo had given him “some confidence” as to the likely impact of shortening the residence period in the bio-halls and that he was inclined to accept the proposal.

b) Mr Faraldo forwarded this positive response to Messrs Hernando and Lampaya and, in apparent references to both the success of his motorbike selling and the fact that UBB would be pushing the performance of the bio-halls to their limit, added:

“There you go

At the limit with the 6 week process”

c) Mr Lampaya responded gleefully:

“Gooooaaaaa!!!!

Little Peter motorbike seller ... top scorer!!!!”

d) Meanwhile, Nelson Gonzalez added:

“It was seen ... this was clear

I believe I also had the privilege, along with Lampaya, of seeing you really fuck Alex, from afar.

Either I am very much mistaken, or the same instant that Alex sucked it all up, we were looking on from afar.

You could sense it in the air.”

25. Mr Faraldo's commercial integrity is also damaged by his repeated references in internal emails to "bullshit":
- 25.1 Asked on 28 July 2014 to provide forecast Recyclate levels to Mr Creecy, he referred to the "bullshit we prepared" for Mott MacDonald.
- 25.2 On 29 July 2015, Mr Faraldo wrote:
- "You don't need a super bullshitter to tell a judge that we gave them the composition, and that [Taim Weser] as a technological expert, formulated its own density hypothesis (it's true that we validated it at the time, but okay, if we send a British person, they'll surely cope with it)."
- 25.3 On 13 August 2015, Mr Faraldo forwarded email correspondence about the QSRF Line to Messrs Hernando and Lampaya. In doing so, he identified three "bullshitting steps." This appeared to cause some amusement within UBB as Mr Hernando responded:
- "You are a genie.
You have them where we need them."
- 25.4 On 22 September 2015, Mr Faraldo referred to his "bullshitting on the bio-hall" in a weekly progress report.
- 25.5 On 30 September 2016, Mr Faraldo referred to his "bullshitting contribution for the bio-hall" in respect of information sought by the Environment Agency about leachate dilution.
26. In cross-examination, Mr Faraldo explained that he had recently discovered that he misused the word "bullshit":
- "I'm a numbers person, so I work with Excel and drawings. So for me, that kind of information is sufficient, when you present something in a drawing it is clear enough. So I have referred a lot of time to the 'bullshit' part of it, producing documents and papers and reports or like the presentational part of something that to me is already clear when you have the data itself."
27. I accept that to some extent Mr Faraldo saw the narrative necessary to explain technical drawings as "bullshit." His explanation does not, however, cover all of his uses of the term. Indeed, it appears clear that he often regarded the "bullshit" to be unreliable flannel that could be used to dress up UBB's proposals. Further, Mr Faraldo's explanation does not explain his reference to a "super bullshitter" or his comment, in an email dated 24 November 2016, that:
- "ECC is still convinced that even with the SRF, the density did not go beyond 0.37t/m³. Bullshitting against this is very hard."
28. Further, in an internal email dated 17 November 2016, Mr Faraldo wrote in respect of sampling the HWRC:
- "I told them that we are finalising the details, but don't think I'm so good lying face to face"

In cross-examination, Mr Faraldo called this a “little lie” to cover for the lack of a letter having been sent.

29. Further, as described in more detail below, Mr Faraldo was somewhat opportunistic in February 2016 in seizing upon the drop in BMW putrescible waste in order to excuse the facility’s failure to pass the Acceptance Tests and devise a scheme for justifying modifications that had been designed a year earlier to address the density problem.
30. I note that Balfour Beatty was itself concerned about Urbaser’s commercial conduct on their joint venture. An internal Balfour Beatty note dated 20 March 2015 recorded:

“It has become clear over the months that our JV Partner choose what and when they share information with Balfour Beatty. And, they are not concerned about being challenged on misleading or indeed hiding facts from Balfour Beatty.”
31. In my judgment, Mr Faraldo’s youth and inexperience explain in part his somewhat immature approach to commercial relationships. The evidence goes, however, beyond immaturity. I am satisfied that, rather than fostering an honest and open relationship with the Authority based upon mutual respect and integrity, Mr Faraldo sought to gain commercial advantage wherever possible and was prepared to mislead Essex and other commercial partners if necessary to achieve his ends. I therefore treat his evidence with some caution where it is not corroborated by other witnesses or contemporaneous documents.

Stephen Worthy

32. Mr Worthy is a director of UBB. His statement usefully pulled together some of the material as to the political and economic background. I did not, however, find his commentary and views upon such issues to be helpful.

Pablo Vera

33. Mr Vera is Urbaser’s Finance Director and gave brief evidence to support UBB’s substantial counterclaim. He was a straightforward and reliable witness but, for the reasons explained below, it will not be necessary to consider his evidence.

Bryan Burn

34. Mr Burn is Urbaser’s Quality, Health, Safety & Environment Manager. He gave brief and straightforward evidence as to the cessation of deliveries in 2017. Cross-examination as to UBB’s own shortcomings in handling the asbestos risk was not ultimately helpful in resolution of the pleaded issues as to the alleged Compensation Event.

THE EXPERT EVIDENCE

35. As with the witnesses of fact, I turn then to set out my general impression of the expert witnesses. More detailed analysis of expert issues follows when addressing individual issues.

INDEPENDENCE, IMPARTIALITY & OBJECTIVITY

36. Expert evidence should be independent, impartial, objective and never descend into advocacy. The *Guidance for the Instruction of Experts to give Evidence in Civil Proceedings* issued by the Civil Justice Council in 2014 explains, at paragraph 11:

“Experts must provide opinions that are independent, regardless of the pressures of litigation. A useful test of ‘independence’ is that the expert would express the same opinion if given the same instructions by another party. Experts should not take it upon themselves to promote the point of view of the party instructing them or engage in the role of advocates or mediators.”

37. In *The Ikarian Reefer* [1993] 2 Lloyd’s Rep. 68, Cresswell J observed, at page 81:

- “1. Expert evidence presented to the court should be, and should be seen to be, the independent product of the expert uninfluenced as to form or content by the exigencies of litigation ...
2. An expert witness should provide independent assistance to the court by way of objective unbiased opinion in relation to matters within his expertise ... An expert witness ... should never assume the role of an advocate.
3. An expert witness should state the facts or assumption upon which his opinion is based. He should not omit to consider facts which could detract from his concluded opinion ...”

38. In *The Queen (on the application of Factortame) v. The Secretary of State for Transport* [2002] EWCA Civ 932, [2003] Q.B. 381, Lord Phillips MR said, at [70]:

“Expert evidence comes in many forms in relation to many different types of case. It is always desirable that an expert should have no actual or apparent interest in the outcome of the proceedings in which he gives evidence, but such disinterest is not automatically a precondition to the admissibility of his evidence. Where an expert has an interest of one kind or another in the outcome of the case, this fact should be made known to the court as soon as possible. The question of whether the proposed expert should be permitted to give evidence should then be determined in the course of case management. In considering that question the judge will have to weigh the alternative choices open if the expert’s evidence is excluded, having regard to the overriding objective of the *Civil Procedure Rules*.”

39. In *Rowley v. Dunlop* [2014] EWHC 1995 (Ch), David Richards J (as he then was) said at [19]-[21]:

- “19. The essential character of expert evidence is that it should be the independent product of the expert uninfluenced by the pressures of litigation and that it should be objective and unbiased evidence on matters within the expert’s evidence: CPR 35PD.2.1-2.2.
20. The qualities of independence and lack of bias may be compromised by the expert’s connections with the litigation or the parties or those who may benefit from the litigation. It is always a matter for the court to decide whether any such connections disqualify the expert from giving evidence or whether, as may often

be the case, they go not to the admissibility of the evidence, but to the weight to be attached to it.

21. Such connections may take a number of forms, of which three are the most obvious. First, the expert may have a financial interest in the outcome of the litigation. Only rarely will the court admit the evidence of such an expert ... Secondly, the expert may have a conflicting duty. Whether this will disqualify the expert from giving evidence will depend on the circumstances of the case ... Thirdly, an expert may have a personal or other connection with a party, which might consciously or subconsciously influence, or bias, his evidence. Such connections will not normally of themselves disqualify the witness, but will go to the weight to be attached to the evidence ...”

40. The problem of partisan expert evidence in the TCC was recently considered by Fraser J in *ICI Ltd v. Merit Merrell Technology Ltd* [2018] EWHC 1577 (TCC). At [237], the judge restated the principles drawn from the case law and the Civil Justice Council’s guidance and stressed that partisan expert is not the norm in the TCC.

THE AUTHORITY’S TECHNICAL EXPERTS

41. Essex called three technical experts:
 - 41.1 Professor Edward Stentiford in respect of the biological treatment of waste;
 - 41.2 Ingenieur Jozef Martens in respect of the design, construction and performance of mechanical biological waste treatment plants issues; and
 - 41.3 Carl Wilson in respect of waste composition.

Professor Edward Stentiford

42. Professor Stentiford originally worked in industry as an engineer and was subsequently the Head of the School of Civil Engineering at Leeds University until his retirement. He is now an Emeritus Professor of Public Health Engineering at the university. He was plainly expert in his subject, namely the biological treatment of waste, but had not previously given expert evidence. In my judgment, he was impressive for his obvious technical knowledge, his patent independence and impartiality and his refusal to be drawn on issues outside his own area of expertise. I have no hesitation in preferring his evidence to that of Dr Weatherby.

Ingenieur Jozef Martens

43. Ir. Martens is a qualified mechanical engineer with over twenty years’ experience in the design and implementation of pre-processing lines for waste facilities. I was impressed by the obvious depth of his technical knowledge and his industry experience. In my judgment, his evidence was given with obvious objective professional detachment. I again prefer his evidence to that of Dr Weatherby.

Carl Wilson

44. For reasons that will become apparent, it is not necessary to make any findings about Mr Wilson’s evidence upon waste composition.

DR JOHN WEATHERBY

45. UBB called Dr John Weatherby in respect of all three technical issues. He is the managing director of Fichtner Consulting Engineers Limited and is plainly expert in the design, construction and operation of waste treatment facilities. Marcus Taverner QC, leading counsel for the Authority, argues, however, that there are substantial questions as to Dr Weatherby's independence, impartiality and objectivity.
46. Dr Weatherby's company had a number of dealings with UBB upon this project:
- 46.1 Pre-contract: In May 2012, Fichtner was engaged to advise UBB upon the obligations and risks that it would assume under the contract. Specifically, Fichtner advised that UBB should ensure that proper allowance was made in the commissioning programme for the time taken to receive laboratory results from the BMc test method. No other concern was then raised about the BMc test.
- 46.2 Design advice:
- a) Dr Weatherby accepted in cross-examination that, post-contract, Fichtner had a "relatively substantial role in assisting UBB in the construction of the facility" between 2012 and 2014. Indeed, a Fichtner employee, Andrew Wheeler, was seconded to work on the Essex project within UBB in 2013-4. Dr Weatherby could not place a precise value on Fichtner's work but said that it would have run to hundreds of thousands of pounds.
- b) One particular aspect of Fichtner's work was advising on the design interface between UBB's various sub-contractors.
- 46.3 Revised MS17:
- a) In May 2017, Dr Weatherby provided consultancy input in respect of the redrafting of MS17. In doing so, he advised UBB upon the arguments that could be deployed.
- b) Subsequently, Dr Weatherby provided two expert reports on 31 August and 14 September 2017 in respect of the efficacy of the modifications to MS17 without disclosing his own role in its drafting.
- 46.4 Compost-like output:
- a) UBB has proposed that it could separate out the fine fraction from the SRF and dispose of it as compost-like output ("CLO"). It argues that it can thereby increase the level of recyclates.
- b) The proposed diversion of CLO was Dr Weatherby's idea as, in fairness, both he and Mr Faraldo make plain in their evidence. Nevertheless, Dr Weatherby has then proceeded to give expert evidence upon his own proposal.
47. On 7 July 2015, UBB's sister company wrote a pre-action letter to Fichtner asking that the company notify its professional indemnity insurers in respect of a likely claim arising out of its consultancy work on the Essex project. Specifically, it alleged:
- "We consider that you may be responsible for defective design checking and or design validation at the facility and in part, responsible for the delays or remedial improvements necessary thereto."

48. The receipt of such a letter was unusual. Dr Weatherby told me that the company had traded since 1991 and never had an actual claim against it. He said that the company had received other similar letters but it was very rare. He estimated that there might have been fewer than five such occasions in 28 years of trading. On 13 July 2015, Dr Weatherby personally signed Fichtner's reply. Dr Weatherby told me in his evidence that the receipt of the claim letter was a "big worry" but that Fichtner never received any further correspondence about the possible claim.
49. In February 2016, UBB was in discussion with Dr Weatherby about his potential instruction as an expert. Mark Ashby of Balfour Beatty set up a telephone conference call with Dr Weatherby for 26 February together with Simon Ramsden of Norton Rose Fulbright and representatives of Urbaser and UBB. In doing so, he recorded:
- "I have discussed with John the value of his, and Fichtner's, experience and views on the equivalency of LOI and BMC in determining BMW reduction, contrasting the merits of LOI with the demerits of BMC, and values comparator and alternative UK plants are managing to achieve with the same input waste streams."
50. On the evening of 25 February, Chris McCarthy of Urbaser expressed his enthusiasm for the instruction in his email to Mr Faraldo:
- "I don't know if Mark spoke to you about this but [Balfour Beatty] told us this morning that they had contacted Fichtner and that John Weatherby was apparently willing to do down BMC more than ORA and Motts have to date. If true, then we're going to engage him and get him to add his views to the report."
51. Dr Weatherby denied that he would have used such loose language, but I am satisfied from the overall email thread that he had already indicated that he would be able to assist with expert evidence criticising BMC while promoting LOI as a more accurate test. Indeed, that is ultimately what he did. I note, with concern, that the thread was entitled "LOI Advocacy Telephone Conference", but it appears that such title was ascribed to the thread by Mr Ashby.
52. In any event, it appears that Dr Weatherby gave some indication as to his views on the merits of the LOI test and the problems with the BMC test both in discussion with Mr Ashby and then in the telephone conference call on 26 February. Its appetite whetted, UBB decided to retain Dr Weatherby as its expert. Dr Weatherby responded that he understood that his instruction would be to "provide some independent comment or evidence on why I consider the BMC test impractical and why the LOI method would be better." He then referred to the claim letter:
- "Lastly I would like some sort of statement from UBB regarding your claim letter. Whilst I understand this came from UBB EPC, not UBB SPV, we have had no further information from UBB since it was issued months ago. The letter itself was rather peremptory considering we considered we have a good relationship with you, even though I suspect the letter itself was dictated by your insurers. Notwithstanding this, if you want to use us to support you further, I would like the letter to be withdrawn, or at least a clear explanation of the current standing of the letter."

53. Subsequent emails clearly linked Dr Weatherby's willingness to act an expert witness with UBB's position in respect of the claim. The issue was considered internally by UBB who observed that Dr Weatherby was "unsurprisingly using [Fichtner's input on the LOI issue] as leverage." By a further email sent on 4 March 2016, Dr Weatherby sought an assurance that there was "no firm claim on the table against [Fichtner] currently." He indicated that upon receipt of such assurance, Fichtner would be able to assist and that a call had been arranged for later that day. Ultimately an assurance was given that there was no current claim against Fichtner, but the company plainly remained vulnerable to a potential claim.
54. These are, in my judgment, obvious and serious conflicts of interest:
- 54.1 First, Dr Weatherby should have recognised that the substantial role played by Fichtner on this very project over an extended period of time during which his company billed many hundreds of thousands of pounds was itself a conflict of interest.
- 54.2 Secondly, in respect of his work on MS17 and his advice on CLO, Dr Weatherby failed properly to differentiate between the provision of consultancy services to a client and the provision of independent expert evidence. He failed to appreciate the difficulty in both devising UBB's strategy and then offering expert opinion evidence upon such strategy.
- 54.3 Thirdly, while Dr Weatherby was right to conclude that it would have been inappropriate to have acted as an expert while subject to an actual claim in respect of Fichtner's consultancy work on the project, he ought also to have identified that UBB's agreement that there was no current claim did not resolve the problem:
- a) The express linkage between UBB's agreement that there was no current claim and Dr Weatherby's willingness to give expert evidence supportive of UBB inevitably raises the question of whether Dr Weatherby's evidence is independent, impartial and objective, or whether he has adopted positions in order to please UBB.
- b) In any event, the remaining possibility of a claim against Fichtner means that it is in the company's interests – and therefore in Dr Weatherby's interests as a significant shareholder in the company – to defeat the Authority's claims against UBB.
55. Dr Weatherby and UBB should each have recognised that he was conflicted. Prudence dictated that the instruction should either have been withdrawn or refused. Upon deciding instead that it could proceed, there was no excuse for failing properly to disclose the conflict of interest. Instead, Dr Weatherby wrote seven expert reports for use in adjudications and his main report in this litigation before the matter of the claim was first disclosed in his reply report on 15 March 2019. Further, he failed to disclose the claim when questioned about his independence by Kim Franklin QC in April 2017 in the context of adjudication number 3. Dr Weatherby's failure to understand and declare the problem inevitably causes further concern that he does not really understand either the difference between acting as a consultant advising a client and acting as an independent, impartial and objective expert, or his duty to the court.

56. Had the full extent of the conflict been identified at a case management conference, I doubt whether permission would have been given to UBB to rely upon Dr Weatherby's evidence. Equally, it would have been open to the Authority to raise the question of the admissibility of Dr Weatherby's evidence. Against that, it would no doubt have been argued – as UBB now argues – that in reality there are very few experts in this field and that since Mott MacDonald was conflicted, UBB had little choice but to call Dr Weatherby. I accept the broad submission that there is a small pool of potential experts and that one should not therefore be overly precious simply because Dr Weatherby had previous dealings with the usual lenders and with Urbaser. There is, however, no evidence before me that UBB could not have found someone without any connections to this project.
57. I decline, however, simply to exclude Dr Weatherby's evidence on the basis of admissibility at this late stage. Nevertheless, I treat his evidence with caution. Indeed, my concerns that he has failed properly to distinguish between advocacy for a client and the rigour required when acting as an independent expert are fortified by a number of matters:
- 57.1 First, even without knowledge of the full extent of the conflict, Ms Franklin observed that Dr Weatherby tended to act as an advocate for UBB and that she was “struck by how readily [he] seeks to undermine [Essex's case on an issue] on the basis of argument and supposition, unsupported by facts.”
- 57.2 Secondly, Dr Weatherby adopted a position on the density issue that I would not expect an independent and objective expert to take. He reported at paragraph 1.16.1 of his report:
- “I agreed that bulk density of the material fed to the biohalls is significantly lower than the design basis of 0.55 t/m³. The consequence of this is that the biohalls cannot process the design throughput of the Facility without using the Quick SRF line which means part of the material bypasses the biohalls. I do not consider that this falls short of Good Industry Practice. I base this conclusion on the fact that the design was provided by Taim Weser, a leading supplier of this type of equipment, and reviewed by UBB, AEA-Ricardo on behalf of the Authority and Mott Macdonald on behalf of the lenders. None of these experienced companies raised issues with the design assumption at the time. Moreover, the bulk density is affected by the waste composition and the composition of the waste currently processed is significantly different from the design waste composition.”
- 57.3 Thirdly, I was unimpressed by his refusal to accept that the BMW reduction guarantee appeared to have been bid in error.
- 57.4 Fourthly, I would not have expected an independent and objective expert to refuse to accept that the evidence suggested that the BMW reduction guarantee was not achievable. Indeed, I was unimpressed with his claim that he simply could not offer a view on the issue.
- 57.5 Fifthly, I was unimpressed with his assertion that the Throughput Test had been passed during the Quasi-Acceptance Tests (“QATs”) if one can include the QSRF in the measurement of Throughput. As discussed below, on proper analysis the required tonnage had not been achieved in accordance with the contractual limitations on days and hours of operation. Further, the Throughput Test is only passed if the required tonnage is processed in accordance with the performance guarantees. It patently was not.

THE OTHER EXPERTS

Health & safety experts

58. The parties relied on expert evidence in respect of environmental and health & safety issues. The Authority again relied on Carl Wilson, although he only gave oral evidence in respect of the composition issues. UBB relied on the report of Simon Aumonier.

The planning experts

59. The parties relied on the written expert evidence of Christopher LeCointe (for Essex) and Kirsten Berry (for UBB) in respect of planning issues.

The quantum experts

60. There was significant agreement in respect of quantum and I only heard briefly from the experts in this field; Alastair Farr for Essex and Angela Austin for UBB.

THE PROCUREMENT OF THE FACILITY

THE AUTHORITY'S WASTE STRATEGY

61. In 2007, the Authority produced the Joint Municipal Waste Management Strategy for Essex in collaboration with the county's twelve district and borough councils. The Waste Strategy was a 25-year plan for the management of waste across the county. Its core objective was to develop a sustainable waste-management solution that prioritised the reduction, re-use and recycling of waste and which minimised the amount of waste disposed through landfill.
62. The Executive Summary of the Waste Strategy explained:
- “Essex has improved its recycling rate each year, but we all need to do more. Too much waste is still ending up in landfill sites, so valuable resources are lost. This needs to change. Sending untreated waste to landfill is not a sustainable way of managing waste. This has been recognised in European and national law which now require local authorities to reduce the amount of biodegradable waste that they dispose of in landfill sites. The County Council has therefore been set challenging landfill diversion targets by Government and all Essex authorities have local recycling targets to meet.”
63. The Waste Strategy set out the benefits of commissioning a mechanical biological treatment facility:
- “The MBT technologies have the potential to extract dry recyclables and/or soil improvers and could produce a solid recovered fuel (SRF) from which energy can be recovered. The biomass component of SRF is typically in excess of 50%. This is a valuable source of renewable energy and could be harnessed. Using SRF in an energy plant avoids the production of methane that would otherwise occur in landfill and the associated effects on the atmosphere where methane escapes.”

64. Such strategy was also developed in order to comply with the Authority's legal obligations. Regulation 12(1) of the *Waste (England & Wales) Regulations 2011* provides that a waste disposal authority:
- “must, on the transfer of waste, take all such measures available to it as are reasonable in the circumstances to apply the following waste hierarchy as a priority order:
- (a) prevention;
 - (b) preparing for re-use;
 - (c) recycling;
 - (d) other recovery (for example energy recovery);
 - (e) disposal.”
65. Disposal of waste through landfill is therefore a last resort and waste disposal authorities must design their waste treatment strategies to maximise the recycling and recovery of waste. Recovery is usually achieved through recovering energy from the waste through incineration; such approach being referred to as Energy from Waste.
66. The Waste Hierarchy is supported by government policy which seeks to penalise the use of landfill:
- 66.1 Landfill tax:
- a) Landfill tax is payable on every tonne of waste sent to landfill. At the time of the Authority's 2009 proposal for a waste treatment facility, landfill tax was levied at £32 per tonne.
 - b) In the Chancellor's budget report that year, the then Labour government announced that the rate of landfill tax would increase by £8 per tonne in each year until 2013. If implemented, the so-called escalator would therefore have seen landfill tax double by 2012/13.
 - c) In fact, the landfill tax escalator was abandoned and the tax currently increases in line with the retail prices index.
- 66.2 Landfill Allowance Trading Scheme:
- a) When the facility was first being considered, the Landfill Allowance Trading Scheme (“LATS”) granted waste disposal authorities an allowance for sending waste to landfill. Unused allowances could be traded, thereby creating both a financial opportunity for authorities that were able to reduce their reliance on landfill and imposing a penalty on those needing to purchase additional allowances.
 - b) In June 2011, the government announced that LATS would be wound up at the end of the 2012/13 financial year. Nevertheless, the parties recognised the risk that such a scheme or something similar might be resurrected at some point during the life of their contract.
67. In order to deliver the objectives of the Waste Strategy, Essex and Southend-on-Sea Borough Council prepared an Outline Business Case in July 2009 proposing the procurement of a MBT plant in order to process the residual waste stream. The contract

would be entered into pursuant to the government's private finance initiative ("PFI"). In the previous financial year, Essex and Southend had disposed of 449,848 tonnes of municipal solid waste to landfill thereby incurring landfill tax of £14.4 million. The Outline Business Case forecast that its proposed solution would divert 6.3 million tonnes of biodegradable municipal waste ("BMW") from landfill over the life of the project and avoid the emission of some 2.4 million tonnes of carbon dioxide.

68. It was not, however, a cost-saving initiative. Indeed, the Authority estimated that it would require capital investment of £300 million. A significant capital cost would be the development of a network of waste transfer stations across the county. Furthermore, the base case predicted an affordability gap of £133.4 million over 25 years. Mrs Lee explained the Authority's position at paragraph 24 of her first statement:

"The authority understood that the project would carry a financial cost, but considered that the environmental value of the project in meeting the objectives of the Waste Strategy was sufficient to justify the additional cost. In particular, the benefits of the project identified by the authority included its alignment with the objectives of the Waste Strategy, its significant contribution towards mitigating the potential effects of climate change, the maximisation of useful potential outputs such as high quality composts and Solid Recovered Fuels, reduced exposure to landfill tax and certainty of compliance with the LATS regime."

69. In such calculations, the Outline Business Case assumed that the project would be supported by PFI Credits of £100.9 million from the Department for Environment, Food & Rural Affairs ("DEFRA"). The funding provided by these Waste Infrastructure Credits ("WICs") was, I am satisfied, critical to the viability of the project. Indeed, when in March 2010 the Authority issued its Invitation to Submit Outline Solutions, it gave bidders the following guidance in respect of value for money and affordability:

"12.2 In developing their Outline Solutions, Bidders should note the following information which formed part of the [Outline Business Case] submissions:

12.2.1 total nominal unitary payment for the Reference Project was £1.045 billion assuming a 25-year operational contract with an equivalent [net cost] of £389.824m; and

12.2.2 PFI credits awarded by DEFRA are £100.9m.

12.3 The unitary payment estimate is gross of PFI credit receipts. Any Solution that reduces the Authority's eligibility for PFI credits will increase the cost accordingly. The impact of this will be evaluated at [the Invitation to Submit Detailed Solutions]."

70. The Outline Business Case was updated in early 2012 to reflect the outcome of the procurement exercise and to update the Authority's assumptions. The Final Business Case reported that UBB's proposal would deliver a lower cost solution than previously envisaged. The projected increased cost over the 25-year project was estimated at £38 million against the Outline Business Case's £133.4 million. In its figures, the Authority continued to assume that the project would be supported by WICs of £100.9 million.

71. Mrs Lee explained that the Authority's rationale for the project had changed very little since the Outline Business Case. Specifically, she observed that the political climate that drove the Waste Strategy in 2007 and the Outline Business Case in 2009 was largely unaltered.

THE PROCUREMENT PROCESS

72. In November 2009, the Authority invited expressions of interest. In March 2010, it issued its Invitation to Submit Outline Solutions ("ISOS") to the seven parties who had expressed interest in the project, including Urbaser Limited. Bids were required by 21 May 2010. Interested parties were required to provide their outline proposals. They were specifically required to indicate the warranted performance of their proposed solutions by reference to the following criteria:

- 72.1 Throughput, being the tonnage of contract waste that could be processed by the facility while also meeting the other performance guarantees.
- 72.2 Recycling, being the percentage of the input waste that would be recycled by selected reprocessors as recyclates in accordance with off-take contracts.
- 72.3 Recovery, being the percentage reduction in mass of the treatment outputs after the removal of recyclates.
- 72.4 BMW reduction, being the percentage reduction in biogas potential achieved through bio-stabilisation of the BMW.
- 72.5 SRF quality, being the quality benchmark for outputs produced in SRF Mode as Solid Recovered Fuel.

73. Bidders were also required to specify the composition of waste for which they could guarantee such performance. While interested parties had been provided with a base case in order to assist in the comparison and evaluation of bids, such base case was not guaranteed. Indeed, the Authority went to some lengths at paragraphs 4.3, 20.1 and 20.2 of the ISOS and in Bidder Bulletin 18 to make this clear. The latter cautioned:

"Given the variability of waste compositional data, Bidders should note that the composition stated at Appendix 11 is not guaranteed by the Authority and should not be relied upon for purposes other than the ISOS evaluation. Bidders will need to use their own judgment/assessment of the Contract Waste composition from the data made available by the Authority."

74. The Authority then issued its Invitation to Submit Detailed Solutions to the bidders successful in the first phase. Final tenders were required in July 2011. After evaluation, UBB was confirmed as the Authority's preferred bidder in December 2011. Throughout the procurement process, the Authority adopted a non-regression rule preventing bidders from submitting a solution in the later rounds of bidding that regressed or renege on the technical performance guarantees offered in their initial proposals.

UBB'S DESIGN

75. UBB's design comprised three basic components:
- 75.1 A pre-processing unit

75.2 Three bio-stabilisation halls

75.3 A refining unit

Pre-processing

76. The pre-processing unit was designed to process the residual household (or black-bag) waste, the trade waste and the street sweepings. As originally designed:

76.1 Waste is dumped into bunkers in the reception hall.

76.2 The waste is then grabbed by crane and fed on to one of the three pre-processing lines.

76.3 On each line, the bags are first split open and the waste fed on to a conveyor belt.

76.4 The lines pass through a primary sorting cabin where operatives manually pick out cardboard, packaging film, bulky ferrous items and hazardous materials.

76.5 The waste then passes through a rotating trommel screen where it is sorted and further processed by size:

a) Fines: The first section of the trommel separates out waste that is no larger than 60mm x 60mm. Such waste is mainly organic although it will necessarily include other small items of waste that are able to pass through this section of the trommel screen. Ferrous metals are extracted from this stream by electromagnets and baled for recycling. The remaining fines are sent to the biohalls without further processing.

b) Medium fraction: The next section of the trommel separates out waste that is smaller than 120mm x 120mm. This medium fraction mainly comprises organic materials and metals. Ferrous metals are again removed from this stream by electromagnets and baled. Non-ferrous metals are separated out by the application of an eddy current across the conveyor that energises these metals and causes them to jump over a barrier. They are baled separately for recycling. The remaining non-metal waste is then diverted to the biohalls without further processing.

c) Intermediate fraction: The largest part of the screen separates out waste that is no larger than 150mm x 300mm. This waste has a more complicated journey that is described more fully below.

d) Overflow fraction: Finally, some waste of course cannot fit through any of the trommel screens. This waste mainly comprises paper, cardboard, film and plastic.

76.6 The intermediate fraction is diverted to the ballistic separators. There are three outputs from these separators:

a) Fines: Any further fines drop between the plates in the separators and are then merged with the fines from the trommel. Ferrous metals are again extracted and baled while the remaining fines are sent directly to the biohalls.

b) Rolling fraction: Shifting plates in the ballistic separators cause bottles and other rolling waste to roll in one direction to create the rolling fraction.

c) Flat fraction: The action of the shifting plates causes the remainder of the waste to be sent in the opposite direction. This is the flat fraction.

76.7 The rolling fraction is further processed:

- a) First, it passes through electromagnets to separate out ferrous metals.
- b) It then passes through optical separators that separate the plastic rolling fraction from the non-plastic. The non-plastic rolling fraction is diverted to the secondary sorting cabin together with the flat fraction.
- c) The optical separators then further separate the plastic rolling fraction distinguishing between two common plastics, polyethylene terephthalate (“PET”) and high-density polyethylene (“HDPE”), and other plastics. Further separators sort the common plastics into PET and HDPE streams, and distinguish between clear and coloured plastics. The plastics are therefore separated into five streams: clear PET, coloured PET, clear HDPE, coloured HDPE and other plastics.
- d) The PET and HDPE streams pass through dedicated lines in the secondary sorting cabin where they are subject to a negative sort in which the operatives pick out any other materials contaminating these streams. The different plastics are then separately baled for recycling.

76.8 The flat fraction is processed separately:

- a) The waste passes underneath a pneumatic separation system that separates out plastic film.
- b) The rest of the flat fraction and the non-plastics from the rolling fraction then pass through the secondary sorting cabin. Cardboard and any further plastics or plastic film are picked out by hand.
- c) An eddy current is passed across the output waste to remove non-ferrous metals.
- d) The remaining waste is shredded.
- e) Finally, it passes underneath an electromagnet to recover any further ferrous metals and the remaining waste is fed into the biohalls.

76.9 The trommel overflow fraction is also processed through the secondary sorting cabin. It is then shredded, ferrous metals are extracted by electromagnets and the remaining waste is fed into the biohalls.

77. UBB’s design incorporated a separate and simplified line for processing waste from the household waste recycling centres (“HWRC”) and other bulky waste. Such waste is simply shredded and ferrous metals extracted by an electromagnet. Thereafter this waste stream is fed into the biohalls without further pre-processing.

The bio-stabilisation halls

78. As originally designed, the waste arriving at the biohalls therefore consists of:

78.1 the fine and medium fractions; and

78.2 the shredded waste from the larger trommel screens, the overflow and the HWRC/bulky waste.

As a minimum, ferrous metals will have been removed since all waste passes underneath electromagnets before being fed into the biohalls. Whether other Recyclates have been

removed or simply shredded will depend upon whether the waste was from the HWRCs and, in respect of other waste, its size before shredding. All waste save only for the Recyclates extracted during pre-processing and the ferrous metals removed from the HWRC and bulky waste is treated in the bio-halls.

79. The bio-stabilisation building comprises three halls, each measuring some 200 x 42 metres. In other words, each hall is itself roughly the size of two football pitches. Pre-processed waste is fed by conveyors into the infeed area of the halls. It is stacked the full width of the halls to a height of 3.5 metres. As originally designed, the waste is then resident in the bio-halls for seven weeks. During this time, the waste is advanced along the length of each hall by the rotopals (large rotary wheels) that both ensure the progress of the waste down the hall but also turn the rotting waste. At the end of the bio-stabilisation period, the remaining material is loaded on to discharge conveyors and sent to the refining unit.

Refining

80. The bio-stabilised waste is processed through a trommel with a 15 mm screen. The overflow fraction is stored as either Stabilised Output Material (“SOM”) or Solid Recovered Fuel (“SRF”). Meanwhile, the smaller fraction is processed through a destoning machine which identifies aggregates by density on a vibrating tray. There are two outputs:
- 80.1 Aggregates: Both the heavier and finer aggregates are separated out and stored as aggregates.
- 80.2 Aggregate-free waste: After extraction of aggregates, the remainder of the fine waste is stored for use as either SOM or SRF.

Outputs

81. Accordingly, as designed the facility recovers the following Recyclates:
- 81.1 Cardboard
 - 81.2 Metals, separated into ferrous and non-ferrous metals
 - 81.3 Plastics, separated into PET, HDPE and other plastics
 - 81.4 Plastic film
 - 81.5 Aggregates, largely comprising stone and glass
82. The remainder of the waste is shredded and composted in the bio-stabilisation halls. It is then either disposed of to landfill as SOM or by incineration as SRF. A key feature of the UBB design is that it can switch seamlessly between Bio-Stabilisation Mode (in which it produces SOM) and SRF Mode (in which it produces SRF).

THE CONTRACT

THE PRINCIPAL OBLIGATIONS

83. As one would expect of a significant and long-term PFI contract, the Residual Waste Treatment Contract is a sophisticated and detailed commercial contract. The main body of the contract runs to 100 clauses over 141 pages, but much of the detail is set out in the 33

schedules that fill a further four lever arch files. UBB's principal obligations are set out at clause 13 of the contract. Clause 13.1 provided:

“The Contractor shall or shall procure that the Construction Sub-Contractor (and its sub-contractors and/or consultants) shall carry out the design (including the preparation of Design Data) and the construction, completion, commissioning and testing of the Works so that:

13.1.1 the Facility shall achieve the Readiness Date on or before the Planned Readiness Date;

13.1.2 the Facility shall achieve Service Commencement on or before the Planned Services Commencement Date;

13.1.3 the Works fully comply with and meet all the requirements of this Contract, the Works Requirements, the Commissioning Requirements, the Works Method Statements, the Construction Programme, Good Industry Practice, Guidance, all Consents and all applicable Legislation ...”

84. UBB gave an express design warranty at clause 15.1 that it had used and would continue to use “the degree of skill and care in the design of the Works that would reasonably be expected of a competent professional designer experienced in carrying out design activities of a similar nature, scope and complexity.” Three further provisions underlined the fact that, absent fraud by the Authority, UBB bore the design responsibility:

84.1 Clause 5.5 provided:

“... the Authority does not give any warranty or undertaking as to the relevance, completeness, accuracy or fitness for any purpose of any of the Disclosed Data.”

84.2 Clause 5.6 added:

“... neither the Authority nor any of its agents or employees shall be liable to the Contractor in contract, tort (including negligence or breach of statutory duty), statute or otherwise as a result of:

5.6.1 any inaccuracy, omission, unfitness for any purpose or inadequacy of any kind whatsoever in the Disclosed Data; or

5.6.2 any failure to make available to the Contractor any materials, documents, drawings, plans or other information relating to the Project.”

84.3 Clause 6 put the matter beyond doubt:

“6.1 ... the Contractor shall be deemed to have: ...

6.1.2 gathered all information necessary to perform its obligations under this Contract and other obligations assumed including:
...

(b) current and projected tonnages, trends and composition of Contract Waste; ...

6.2 ... the Contractor shall not in any way be relieved from any obligation under this Contract nor shall it be entitled to claim against the Authority on grounds that any information, whether obtained from the Authority

or otherwise (including information made available by the Authority), is incorrect or insufficient and shall make its own enquiries as to the accuracy and adequacy of that information.”

85. The parties jointly appointed Mott MacDonald to act as the Independent Certifier on this project. The certifier’s duties included witnessing and signing off the Readiness and Acceptance Tests.
86. The contract envisaged that, once the plant had been constructed, there would be three distinct phases:
- 86.1 Cold commissioning:
- a) First, the plant would be inspected in order to ensure that it had been properly assembled from both a mechanical and electrical perspective.
 - b) The contractual Planned Readiness Date was 9 June 2014. In fact, there were some delays in the construction phase and the Independent Certifier certified that the plant had passed the Readiness Tests on 25 November 2014.
- 86.2 Hot commissioning:
- a) The plant then entered the hot-commissioning phase during which it started processing waste. The plant would remain in this commissioning phase until deliveries had been ramped up and it passed the Acceptance Tests.
 - b) In view of the earlier delays in the project, the parties agreed an extended Planned Services Commencement Date of 12 July 2015.
 - c) Although failure to achieve the July date was a breach of clause 13.1.2, the contract did not specify any remedy for failure to achieve such date. It did, however, specify an Acceptance Longstop Date, being 18 months after the Planned Services Commencement Date. In view of the agreed extension to the planned date, the Acceptance Longstop Date was 12 January 2017.
- 86.3 Services Period: The Services Commencement Date was defined by clause 21.1.3 as “the date on which an Acceptance Test Certificate is issued in respect of [the] Facility or in the event of referral for determination under the Dispute Resolution Procedure pursuant to Clause 21.4.1 the date upon which it is determined that the Facility passed the relevant Acceptance Tests.”

APPROACH TO CONTRACTUAL CONSTRUCTION

87. Issues of contractual construction fall to be determined in accordance with the well-known principles identified by the House of Lords and the Supreme Court in a series of recent cases. Such principles were authoritatively summarised by Lord Neuberger in *Arnold v. Britton* [2015] UKSC 36, [2015] A.C. 1619, at [15]:

“When interpreting a written contract, the court is concerned to identify the intention of the parties by reference to ‘what a reasonable person having all the background knowledge which would have been available to the parties would have understood them to be using the language in the contract to mean’, to quote Lord Hoffmann in *Chartbrook Ltd v. Persimmon Homes Ltd* [2009] A.C. 1101, para. 14. And it does so by focussing on the meaning of the relevant words in their documentary, factual and

commercial context. That meaning has to be assessed in the light of (i) the natural and ordinary meaning of the clause, (ii) any other relevant provisions of the lease, (iii) the overall purpose of the clause and the lease, (iv) the facts and circumstances known or assumed by the parties at the time that the document was executed, and (v) commercial common sense, but (vi) disregarding subjective evidence of any party's intentions."

88. This contract made express provision for precedence in the event of inconsistency between its constituent parts by clause 2.1, which provided:

"In the event of any inconsistency between the provisions of the body of this Contract and the Schedules, the main body of this Contract shall take precedence. In the event of any inconsistency between Schedule 2 (Authority's Requirements) and Schedule 3 (Contractor's Proposals), Schedule 2 (Authority's Requirements) shall take precedence."

IMPLIED TERMS: GENERALLY

UBB's pleaded case

89. UBB pleads six different implied terms at paragraph 37 of its Defence and Counterclaim:

- "(1) The Authority and UBB will co-operate with each other in good faith in order to seek to further the commercial purpose of the Contract over the period of its life;
- (2) The Authority must exercise any discretion granted to it under the Contract in good faith and not arbitrarily or capriciously;
- (3) The Authority and UBB will co-operate during any contractual review procedures (including, but not limited to, the Options Review process);
- (4) Proposed changes to the Facility, method statements and Performance Requirements will be considered by the Authority in good faith and consent to any such changes will not be unreasonably refused;
- (5) The Authority will comply with all relevant laws and regulations (including, for the avoidance of doubt, legislation relating to the disposal of waste); and
- (6) The Authority will not obstruct and/or prevent UBB's performance of its contractual obligations."

90. In addition, UBB pleaded a discrete implied term at paragraph 85(9) to co-operate in an Options Review.

91. While most allegations of breach are pleaded on the basis of the alleged terms of good faith and co-operation, two are pleaded on the basis of the alleged capricious or irrational exercise of the Authority's contractual powers:

91.1 At paragraph 65:

“... the Authority acted unreasonably, capriciously and/or in breach of the duty to co-operate in good faith and/or the duty not to obstruct contractual performance in refusing to consent to the [QSRF Line].”

91.2 At paragraph 67A:

“The Authority’s refusal to amend MS06, or the parts of MS06 related to the QSRF Line, in its letter of 11 December 2015 or thereafter having approved the QSRF Line is therefore also capricious, irrational, in breach of the duty to co-operate in good faith and/or a decision made for an improper purpose (namely to allow the Authority to terminate the Contract).”

The implication of terms

92. As Lord Neuberger observed in *Marks & Spencer plc v. BNP Paribas Securities Services Trust Co. (Jersey) Ltd* [2015] UKSC 72, [2016] A.C. 742, at [28], it is only after the process of construing the express words of a contract is complete that the court can consider the issue of the implication of terms. Here, the court is concerned with what Sir Thomas Bingham M.R. (as he then was) described in *Philips Electronique Grand Public SA v. British Sky Broadcasting Ltd* [1995] E.M.L.R. 472 (CA), at page 481, as:

“a different and altogether more ambitious undertaking: the interpolation of terms to deal with matters for which, ex hypothesi, the parties themselves have made no provision.”

93. In *BP Refinery (Westenport) Pty Ltd v. Shire of Hastings* (1977) 180 CLR 266 (PC), Lord Simon said, at p.283:

“for a term to be implied, the following conditions (which may overlap) must be satisfied: (1) it must be reasonable and equitable; (2) it must be necessary to give business efficacy to the contract, so that no term will be implied if the contract is effective without it; (3) it must be so obvious that ‘it goes without saying’; (4) it must be capable of clear expression; (5) it must not contradict any express term of the contract.”

94. In *Philips*, Sir Thomas Bingham M.R. said, at page 481, that this passage “distils the essence of much learning on implied terms. But its simplicity could be almost misleading.” He wisely cautions judges, at page 482:

“The question of whether a term should be implied, and if so what, almost inevitably arises after a crisis has been reached in the performance of the contract. So the court comes to the task of implication with the benefit of hindsight, and it is tempting for the court then to fashion a term which will reflect the merits of the situation as they then appear. Tempting, but wrong ...

... it is not enough to show that had the parties foreseen the eventuality which in fact occurred they would have wished to make provision for it, unless it can also be shown either that there was only one contractual solution or that one of several possible solutions would without doubt have been preferred.”

95. In the *Marks & Spencer* case, Lord Neuberger added six comments to this summary of the law, at [21]:

“First, in *Equitable Life Assurance Society v. Hyman* [2002] 1 A.C. 408, 459, Lord Steyn rightly observed that the implication of a term was ‘not critically dependent on proof of an actual intention of the parties’ when negotiating the contract. If one approaches the question by reference to what the parties would have agreed, one is not strictly concerned with the hypothetical answer of the actual parties, but with that of notional reasonable people in the position of the parties at the time at which they were contracting.

Secondly, a term should not be implied into a detailed commercial contract merely because it appears fair or merely because one considers that the parties would have agreed it if it had been suggested to them. Those are necessary but not sufficient grounds for including a term.

However, and thirdly, it is questionable whether Lord Simon’s first requirement, reasonableness and equitableness, will usually, if ever, add anything: if a term satisfies the other requirements, it is hard to think that it would not be reasonable and equitable.

Fourthly, although Lord Simon’s requirements are otherwise cumulative, I would accept that business necessity and obviousness, his second and third requirements, can be alternatives in the sense that only one of them needs to be satisfied, although I suspect that in practice it would be a rare case where only one of those two requirements would be satisfied.

Fifthly, if one approaches the issue by reference to the officious bystander, it is ‘vital to formulate the question to be posed by [him] with the utmost care’, to quote from *Levison, The Interpretation of Contracts ...*

Sixthly, necessity for business efficacy involves a value judgment. It is rightly common ground on this appeal that the test is not one of ‘absolute necessity’, not least because the necessity is judged by reference to business efficacy. It may well be that a more helpful way of putting Lord Simon’s second requirement is, as suggested by Lord Sumption JSC in argument, that a term can only be implied if, without the term, the contract would lack commercial or practical coherence.”

IMPLIED TERMS CONSTRAINING THE EXERCISE OF A CONTRACTUAL DISCRETION

96. Where a contract confers a contractual power or discretion on one party, the law may imply a term that the party should exercise such power or discretion in good faith and that it would not act arbitrarily, capriciously or irrationally. Such implied constraint upon a contractual decision-maker’s power is well founded in authority and imports public-law principles into the exercise of the contractual discretion: *Braganza v. BP Shipping Ltd* [2015] UKSC 17, [2015] 1 W.L.R. 1661; *Abu Dhabi National Tanker Co. v. Product Star Shipping Ltd (‘The Product Star’)* (No. 2) [1993] 1 Lloyd’s Rep, 397, per Leggatt LJ at 404. Lady Hale explained the term in *Braganza*, at [18]:

“Contractual terms in which one party to the contract is given the power to exercise a discretion, or to form an opinion as to relevant facts, are extremely common. It is not for the courts to re-write the parties’ bargain for them, still less to substitute themselves for the contractually agreed decision-maker. Nevertheless, the party who is charged with making decisions which affect the rights of both parties to the contract has a clear conflict of interest ... The courts have therefore sought to ensure that such contractual powers are not abused. They have done so by implying a term as to the

manner in which such powers may be exercised, a term which may vary according to the terms of the contract and the context in which the decision-making power is given.”

97. Here, paragraph 37(2) of the Defence and Counterclaim puts the matter on far too broad a footing. There is, for example, no scope for the term where a party is exercising an absolute contractual right: *Mid Essex Hospital Services NHS Trust v. Compass Group* [2013] EWCA Civ 200, per Jackson LJ at [84]-[92]. In particular, a contractual right to terminate a contract is not generally subject to any qualification that it must be exercised in good faith: *Lomas v. JB Firth Rixson Inc* [2012] EWCA Civ 419, at [46]; *Reda v. Flag Ltd* [2002] UKPC 38, at [42]-[43]; *Hamsard 3147 Ltd v. Boots UK Ltd* [2013] EWHC 3251 (Pat), at [82]-[88]; *Monde Petroleum SA v. Westernzagros Ltd* [2016] EWHC 1472 (Comm). In that context, I agree with the observations of Richard Salter QC sitting as a Deputy High Court Judge in *Monde Petroleum*, at [272]:

“The purpose of a contractual right to terminate is to give the party on whom that right is conferred the power to bring the contract to an end. It is a right to bring an end to the parties’ shared endeavour. In my judgment, it is unlikely that the hypothetical reasonable commercial man or woman would expect the party exercising that right to be obliged to consult anyone’s interests but its own.”

98. Given that context is important, I shall address the ways in which UBB seeks to rely upon the *Braganza* term as necessary when dealing with the detail of the case below. (As to which see paragraphs 141-149, 265-271, 273-278 below.)

IMPLIED TERMS OF GOOD FAITH AND CO-OPERATION

Relational contracts

99. In *Yam Seng Pte Ltd v. International Trade Corporation Ltd* [2013] EWHC 111 (QB), [2013] 1 Lloyd’s Rep. 526, Leggatt J, as he then was, carried out an important review of the question whether the English law of contract recognises an implied term of good faith. While noting that the law does not imply such a duty into all commercial contracts, he observed that a duty of good faith is implied as an incident of certain categories of contract, such as contracts of employment and contracts between partners and others in a fiduciary relationship. Leggatt J concluded, at [131], that there is no difficulty in the law implying a term of good faith in accordance with conventional principles on the basis of the presumed intention of the parties.

100. Lamenting the simplicity of the conventional dichotomy between ordinary contracts and relationships such as partnership, trusteeship and other fiduciary relationships, Leggatt J said, at [142]:

“While it seems unlikely that any duty to disclose information in performance of the contract would be implied where the contract involves a simple exchange, many contracts do not fit this model and involve a longer term relationship between the parties which they make a substantial commitment. Such ‘relational’ contracts, as they are sometimes called, may require a high degree of communication, co-operation and predictable performance based on mutual trust and confidence and involve expectations of loyalty which are not legislated for in the express terms of the contract

but are implicit in the parties' understanding and necessary to give business efficacy to the arrangements. Examples of such relational contracts might include some joint venture agreements, franchise agreements and long-term distributorship agreements.”

101. *Yam Seng* was briefly considered by the Court of Appeal in *Mid Essex Hospital Services NHS Trust v. Compass Group UK & Ireland Ltd* [2013] EWCA Civ 200, in which Jackson LJ cited the case as authority for the proposition, at [105]:

“... there is no general doctrine of ‘good faith’ in English contract law, although a duty of good faith is implied by law as an incident of certain categories of contract”

102. Moore-Bick LJ was more circumspect in *MSC Mediterranean Shipping Co. SA v. Cottonex Anstalt* [2016] EWCA Civ 789. *MSC* was an appeal from Leggatt J in which the judge had cited *Mid Essex* in support of his view that there was an increasing recognition in the common-law world of the need for good faith in contractual dealings. Moore-Bick LJ declined to determine the issue. Preferring the more conservative approach of allowing the law to develop piecemeal along established lines, he cautioned, at [45]:

“There is in my view a real danger that if a general principle of good faith were established it would be invoked as often to undermine as to support the terms in which the parties have reached agreement.”

103. *Yam Seng* has been followed in a number of first instance decisions:

103.1 In *D & G Cars Ltd v. Essex Police Authority* [2015] EWHC 226 (QB), Dove J held that there was an implied term to act with integrity in a long-term contract between a police authority and a company that contracted to recover damaged cars.

103.2 In *Bristol Groundschool Ltd v. Intelligent Data Capture* [2014] EWHC 2145 (Ch), Richard Spearman QC sitting as a Deputy High Court Judge held that there was an implied duty of good faith in a joint venture agreement.

103.3 In *Bates v. Post Office (No. 3)* [2019] EWHC 606 (QB), Fraser J held that there was an implied duty of good faith in contracts between the Post Office and sub-postmasters.

104. It was common ground before me that the court might imply a duty of good faith in the event that the contract in this case could properly be described as a relational contract. The concept of a relational contract was further explained by Leggatt LJ, as he then was, sitting in the Divisional Court in *Sheikh Al Nehayan v. Kent* [2018] EWHC 333 (Comm), at [167]:

“[In *Yam Seng*], I drew attention to a category of contract in which the parties are committed to collaborating with each other, typically on a long-term basis, in ways which respect the spirit and objectives of their venture but which they have not tried to specify, and which it may be impossible to specify, exhaustively in a written contract. Such ‘relational’ contracts involve trust and confidence but of a different kind from that involved in fiduciary relationships. The trust is not in the loyal subordination of one party of its own interests to those of another. It is trust that the other party will act with integrity and in a spirit of co-operation. The legitimate expectations which the law should protect in relationships of this kind are embodied in the normative standard of good faith.”

105. In *Bates*, Fraser J analysed the characteristics of a relational contract. He concluded, at [725]-[726]:

“725. I consider the following characteristics are relevant as to whether a contract is a relational one or not:

1. There must be no specific express terms in the contract that prevents a duty of good faith being implied into the contract.
2. The contract will be a long-term one, with the mutual intention of the parties being that there will be a long-term relationship.
3. The parties must intend that their respective roles be performed with integrity, and with fidelity to their bargain.
4. The parties will be committed to collaborating with one another in the performance of the contract.
5. The spirits and objectives of their venture may not be capable of being expressed exhaustively in a written contract.
6. They will each repose trust and confidence in one another, but of a different kind to that involved in fiduciary relationships.
7. The contract in question will involve a high degree of communication, co-operation and predictable performance based on mutual trust and confidence, and expectations of loyalty.
8. There may be a degree of significant investment by one party (or both) in the venture. This significant investment may be, in some cases, more accurately described as substantial financial commitment.
9. Exclusivity of the relationship may also be present.”

726. I hesitate to describe this as an exhaustive list. No single one of the above list is determinative, with the exception of the first one. This is because if the express terms prevent the implication of a duty of good faith, then that will be the end of the matter. However, many of these characteristics will be found to be present where a contract is a relational one. In other cases on entirely different facts, it may be that there are other features which I have not identified above which are relevant to those cases.”

106. Both the Authority and UBB adopted Fraser J’s analysis and addressed me by reference to the nine factors identified in *Bates*. While this is a useful approach, it must be kept firmly in mind that these nine factors do not fall to be construed like the words of a statute, rather they are helpful indicia of a relational contract. Indeed, Fraser J no doubt had this very much in mind in his comments at [726]. Further, for my part I would question whether the first factor identified by Fraser J is really a characteristic of a relational contract at all. As the judge rightly identified, an inconsistent express term will be fatal to the argument as to whether there is an implied term of good faith but it is at least arguable that that is not because the existence of such term fundamentally changes the nature of the relationship but rather because it is trite that a term cannot be implied so as to defeat an express term.

(1) An inconsistent express term

107. Mr Taverner argues that an implied term of good faith would be inconsistent with clauses 62.1.1 and 95.1. Clause 62.1.1 provides:

“Without prejudice to any entitlement of the Contractor:

- (a) to specific performance of any obligation under this Contract; or
- (b) to injunctive relief;

the Contractor’s sole remedy in relation to matters for which an express right or remedy is stated in this Contract shall be that right or remedy and the Contractor shall have no additional right or remedy arising by common law, in equity, by statute or otherwise.”

The clause is a sole-remedy clause and does not, in my judgment, affect the implication of terms.

108. Clause 95.1 is an entire agreement clause. It provides:

“Except where expressly provided in this Contract, this Contract constitutes the entire agreement between the Parties in connection with its subject matter and supersedes all prior representations, communications, negotiations and understandings concerning the subject matter of this Contract.”

109. Entire agreement clauses operate to exclude representations, collateral warranties or proof of extraneous terms that, even if agreed in the course of contract negotiations, were not included in the parties’ final agreement. In *Inntrepreneur Pub Co. v. East Crown Ltd* [2000] 2 Lloyd’s Rep. 611, Lightman J explained at [7]:

“The purpose of an entire agreement clause is to preclude a party to a written agreement from threshing through the undergrowth and finding in the course of negotiations some (chance) remark or statement (often long forgotten or difficult to recall or explain) on which to found a claim such as the present to the existence of a collateral warranty. The entire agreement clause obviates the occasion for any such search and the peril to the contracting parties posed by the need which may arise in its absence to conduct such a search. For such a clause constitutes a binding agreement between the parties that the full contractual terms are to be found in the document containing the clause and not elsewhere, and that accordingly any promises or assurances made in the course of negotiations (which in the absence of such a clause might have effect as a collateral warranty) shall have no contractual force, save insofar as they are reflected and given effect in that document. The operation of the clause is not to render evidence of the collateral warranty inadmissible in evidence ... It is to denude what would otherwise constitute a collateral warranty of legal effect.”

110. Such a clause does not of itself prevent the implication of terms upon the ordinary principles discussed at paragraphs 92-95 above. In *JN Hipwell & Son v. Szurek* [2018] EWCA Civ 674, Hildyard J sitting in the Court of Appeal observed, at [26], that it was well established that a term may be implied where it is necessary to give business efficacy to the contract even if the contract contains an entire agreement clause. I reject the Authority’s submission upon the basis of *Hipwell* that such rule is limited to cases where a term is implied to give business

efficacy to the contract. Indeed, *Chitty on Contracts* (33rd Ed.) puts the matter simply, at para. 37-073:

“A term may be implied into a contract notwithstanding the existence of an entire agreement clause.”

111. *Lewison on The Interpretation of Contracts* (6th Ed.) explains, at para. 3.16, that entire agreement clauses do not usually preclude the implication of terms because the implication of a term is elucidating what the written contract means. A similar statement in the fifth edition was approved by Andrew Smith J in *Novoship (UK) Ltd v. Mikbaylyuk* [2015] EWHC 992 (Comm). See also *Seadrill Management Services Ltd v. OAO Gazprom* [2010] EWCA Civ 691, at [27]-[28] (per Moore-Bick LJ) and *Harrison v. Shepherd Homes Ltd* [2011] EWHC 1811 (TCC), at [65] (per Ramsey J).

(2)-(9) The remaining factors

112. In my judgment, many of the other factors tell in favour of this being a relational contract:
- 112.1 The contract is long term and the parties plainly intended that they should have a long-term relationship.
- 112.2 This long-term PFI contract required a close collaborative working relationship in which, I am satisfied, they must have intended that their respective roles be performed with integrity and with fidelity to their bargain and their shared environmental objectives.
- 112.3 While the relationship was essentially commercial, in my judgment the parties intended that they should each repose trust and confidence in the other.
- 112.4 The contract required a high degree of communication and co-operation.
- 112.5 The contract required a significant investment by both parties.
- 112.6 The contract involved exclusivity between the parties.
113. Standing back from the nine factors identified by Fraser J, I conclude that this 25-year PFI contract is a paradigm example of a relational contract in which the law implies a duty of good faith.

The content of the implied term

114. In *Yam Seng*, Leggatt J explained the content of the duty of good faith at [138]-[144]:
- “138. In addition to honesty, there are other standards of commercial dealing which are so generally accepted that the contracting parties would reasonably be understood to take them as read without explicitly stating them in their contractual document. A key aspect of good faith, as I see it, is the observance of such standards. Put the other way round, not all bad faith conduct would necessarily be described as dishonest. Other epithets which might be used to describe such conduct include ‘improper’, ‘commercially unacceptable’ or ‘unconscionable’.
139. Another aspect of good faith which overlaps with the first is what may be described as fidelity to the parties’ bargain. The central idea here is that contracts

can never be complete in the sense of expressly providing for every event that may happen. To apply a contract to circumstances not specifically provided for, the language must accordingly be given a reasonable construction which promotes the values and purposes expressed or implicit in the contract. That principle is well established in the modern English case law on the interpretation of contracts: see e.g. *Rainy Sky SA v. Kookmin Bank* [2011] 1 W.L.R.; *Lloyds TSB Foundation for Scotland v. Lloyds Banking Group plc* [2013] UKSC 3, at [23], [45] and [54]. It also underlies and explains, for example, the body of cases in which terms requiring co-operation in the performance of the contract have been implied: see *Mackay v. Dick* (1881) 6 App Cas 251, 263; and the cases referred to in *Chitty on Contracts* (31st Ed), Vol 1 at paras 13-012 – 13-014 ...

141. What good faith requires is sensitive to context. That includes the core value of honesty. In any situation it is dishonest to deceive another person by making a statement of fact intending that other person to rely on it while knowing the statement to be untrue. Frequently, however, the requirements of honesty go further. For example, if A gives information to B knowing that B is likely to rely on the information and A believes the information to be true at the time it is given but afterwards discovers that the information was, or has since become, false, it may be dishonest for A to keep silent and not to disclose the true position to B. Another example of conduct falling short of a lie which may, depending on the context, be dishonest is deliberately avoiding giving an answer, or giving an answer which is evasive, in response to a request for information.
142. In some contractual contexts the relevant background expectations may extend further to an expectation that the parties will share information relevant to the performance of the contract such that a deliberate omission to disclose such information may amount to bad faith ...
144. Although its requirements are sensitive to context, the test of good faith is objective in the sense that it depends not on either party's perception of whether particular conduct is improper but on whether in the particular context the conduct would be regarded as commercially unacceptable by reasonable and honest people. The standard is thus similar to that described by Lord Nicholls in a different context in his seminal speech in *Royal Brunei Airlines v. Tan* [1995] 2 A.C. 378, at pp.389-390. This follows from the fact that the content of the duty of good faith is established by a process of construction which in English law is based on an objective principle. The court is concerned not with the subjective intentions of the parties but with their presumed intention, which is ascertained by attributing to them the purposes and values which reasonable people in their situation would have had.”
115. Leggatt LJ returned to the theme in the *Sheikh Al Nebayan Case*, at [175]:
- “It is unnecessary and perhaps impossible to attempt to spell out an exhaustive description of what this obligation involved. There is a considerable body of Australian authority on the subject which has informed the interpretation by English courts of express contractual duties of good faith: see *Berkeley Community Villages Ltd v. Pullen* [2007] EWHC 1330, at [91]-[97]; *CPC Group Ltd v. Qatari Diar Real Estate Investment Co.* [2010] EWHC 1535 (Ch), at [240]-[246]; *Gold Group Properties Ltd v. BDW Trading Ltd* [2010] EWHC 1632 (ICC), at [89]-[91]. In *Paciocco v. Australia and New Zealand Banking Group Ltd* [2015] FCAFC 50, at [288], in the Federal Court of Australia, Allsop CJ summarised the usual content of the obligation of good faith as

an obligation to act honestly and with fidelity to the bargain; an obligation not to act dishonestly and not to act to undermine the bargain entered or the substance of the contractual benefit bargained for; and an obligation to act reasonably and with fair dealing having regard to the interests of the parties (which will, inevitably, at times conflict) and to the provisions, aims and purposes of the contract, objectively ascertained. In my view, this summary is also consistent with the English case law as it has so far developed, with the *caveat* that the obligation of fair dealing is not a demanding one and does no more than require a party to refrain from conduct which in the relevant context would be regarded as commercially unacceptable by reasonable and honest people: see *Bristol Groundschool Ltd v. Intelligent Data Capture Ltd* [2014] EWHC 2145 (Ch), at [295] ...; and *Astor Management AG v. Atalaya Mining plc* [2017] EWHC 425 (Comm), at [98]. In the *Paciocco* case (at [290]) Allsop CJ also made the important point that:

“The standard of fair dealing or reasonableness that is to be expected in any given case must recognise the nature of the contract or relationship, the different interests of the parties and the lack of necessity for parties to subordinate their own interests to those of the counterparty. That a normative standard is introduced by good faith is clear. It will, however, not call for the same acts from all contracting parties in all cases. The legal norm should not be confused with the factual question of its satisfaction. The contractual and factual context (including the nature of the contract or contextual relationship) is vital to understand what, in any case, is required to be done or not done to satisfy the normative standard.”

116. Accordingly, I conclude that:

116.1 Whether a party has not acted in good faith is an objective test.

116.2 Dishonest conduct will be a breach of the duty of good faith, but dishonesty is not of itself a necessary ingredient of an allegation of breach. Rather the question is whether the conduct would be regarded as ‘commercially unacceptable’ by reasonable and honest people.

116.3 What will be required in any individual case will depend upon the contractual and factual context.

117. There is some irony in UBB’s promotion of the implied term of good faith since it is certainly arguable that it did not itself act in good faith in its original concealment of the density problem, its attempts to replace the BMC test and its piecemeal presentation of the QSRF Line when it understood full well that it needed to divert significant waste away from the biohalls if it was to meet the guaranteed Throughput. It does not, however, itself face any claim for alleged breaches of the implied term and accordingly the question of good faith only falls to be considered against the Authority.

THE ACCEPTANCE TESTS

118. As already explained, in order to achieve Service Commencement it was necessary for the Independent Certifier to certify that the facility passed the Acceptance Tests. The tests are tabulated at table 6.6b of Method Statement 6 (“MS06”):

| Test number | Acceptance Test | Success criteria |
|--------------------|---|--|
| 1 | Throughput of Treatable Contract Waste | - A flow rate of $\geq 5,128$ tonnes in each fortnightly period of the six week duration - Performance Guarantees are required to be achieved for 2 out of 3 fortnightly periods in a 6 consecutive week period |
| 2 | Recovery of Treatable Contract Waste | $\geq 47.85\%$ under Bio-Stabilisation Mode $\geq 100.00\%$ under SRF Mode |
| 3 | Percentage BMW reduction of Treatable Contract Waste | $\geq 84.20\%$ under Bio-Stabilisation Mode $\geq 100.00\%$ under SRF Mode |
| 4 | Percentage of Recyclate extracted from Treatable Contract Waste | $\geq 14.45\%$ of Recyclate extracted from Treatable Contract Waste |
| 5 | SRF quality | As set out in the Authority Requirements and measured in accordance with the process set out in paragraph 6.6.10 below |

TEST 1: THROUGHPUT

119. Paragraph 6.6.6 of MS06 requires the Throughput Test to be conducted over 13 weeks. Inputs are measured in weeks 1-6 and outputs in weeks 8-13 with one of the bio-stabilisation lines running at maximum capacity. It then requires:

“During the first six (6) weeks of this test period, a minimum of the predetermined flow rate (as specified in Table 6.6b above) of Treatable Contract Waste must be fed into the pre-processing module, feeding the bio-stabilisation line operating at maximum capacity, in order to pass this Acceptance Test.”

120. The Performance Guarantees referred to in this test are the four guarantees set out at table 1.4a of MS06. These guarantees repeat Acceptance Tests 2-5, and accordingly in order to pass the Throughput Test:

120.1 The facility must achieve a flow-rate of at least 5,128 t/fortnight in three consecutive fortnights.

120.2 The facility must also, over the same 13-week period, pass the performance guarantees in at least two of three fortnights:

a) The Recovery guarantee is measured by comparing the input waste in each of these fortnights with the output waste 7 weeks later.

- b) The BMW reduction guarantee is measured by analysing input samples taken on the two days during each of the first six weeks on which the bio-stabilisation line is fed at maximum capacity and output samples taken seven weeks later.
- c) The Recyclate guarantee is measured by taking the tonnage of Recyclates recovered from the pre-processing module in weeks 1-6 and from the same waste through the Refining module as a proportion of the treatable contract waste.
- d) Compliance with the SRF quality guarantee is assessed by analysing ten output samples from each of the three fortnights in weeks 8-13.

TEST 2: RECOVERY

121. Recovery measures the mass that is recovered through processing. Some mass will be recovered through recycling and the balance has to be lost through bio-stabilisation. The Recovery Test takes place over 19 weeks and compares the total mass of treatable contract waste inputs into the facility over a twelve-week period with the corresponding treatment outputs seven weeks later.
122. Recovery performance is assessed in accordance with the formula at section 17.7 of Method Statement 17 (“MS17”), which provides:

“The percentage mass loss of Treatable Contract Waste will be determined by the percentage loss in mass that occurs between the Treatable Contract Waste entering the process and the output mass of SOM from the Facility, as measured by the weighbridge records for inputs to and outputs from the Facility.

The Contractor will measure Facility performance in terms of the reduction in mass of the Treatable Contract Waste (TCW) ...

Percentage reduction in mass of Treatable Contract Waste =

$$100 - \left[\frac{TCW_{SOM}}{TCW_{Tot}} \times 100 \right]$$

...

The mass loss will be calculated by taking the tonnage of Treatable Contract Waste SOM output (TCW_{SOM}) and dividing this value by the tonnage of Treatable Contract Waste input (TCW_{Tot}). this is then multiplied by one hundred (100) and subtracted from one hundred (100) (as shown in the formula above) in order to obtain the percentage reduction in mass.”

123. It will be noted that the numerator in this calculation (TCW_{SOM}) will only have a value when the facility is in Bio-Stabilisation Mode. Since TCW_{SOM} will necessarily be zero when the facility is in SRF Mode, the calculation will always yield a 100% result when producing SRF. This explains why both the performance guarantee and Acceptance Test 2 require nothing less than 100% Recovery in SRF Mode. Indeed, performance in SRF Mode is assessed by taking thirty samples of SRF during weeks 8-19. Paragraph 6.6.7.1 of MS06 provides:

“The SRF Mode performance will be confirmed once all Treatment Outputs sampled have demonstrated compliance with the SRF Specification ...”

124. Accordingly, Test 2 is passed:
- 124.1 in Bio-Stabilisation Mode, provided that Recovery of at least 47.85% is achieved; and
 - 124.2 in SRF Mode, provided that the treatment outputs comply with the SRF specification.

TEST 3: BMW REDUCTION

125. BMW reduction measures the reduction in biogas potential achieved through bio-stabilisation. BMW reduction is tested on waste over a 9-week period; the biogas potential of the input waste in weeks 1 and 2 being compared with that in the treatment outputs in weeks 8 and 9. The test has to be conducted on all three bio-stabilisation lines and can either be conducted in parallel or sequentially over a total period of 13 weeks.

126. BMW reduction is tested in accordance with section 17.5 of MS17. Paragraph 17.5.3 provides:

“The Contractor will use the BMc anaerobic biodegradability test as the means to determine the BMW reduction percentage and the Facility A_f value in the first instance. This test takes approximately one hundred (100) days to run.

The subject test samples will also be subjected to the DR4 aerobic biodegradability test to be carried out by the Contractor in order to provide a more rapid means of assessing performance. This test runs over four (4) days. A Site-specific correlation between the two (2) tests will be obtained from Site-specific data which will be collected during ‘hot’ Commissioning. The DR4 test will be used as a surrogate test as soon as a suitable Site-specific correlation has been obtained.”

127. Accordingly, the contract mandated the use of the BMc test, an anaerobic biodegradability test that takes approximately 100 days to run. The BMc test measures litres of biogas per kg loss on ignition (“LOI”) for the BMW component of the waste. The contract envisaged the eventual switch to the quicker DR4 test, an aerobic biodegradability test which is run over just 4 days, but only once surrogate testing had established a suitable site-specific correlation between BMc and DR4.

128. Since it is common ground that a site-specific correlation has not been established, it would take:

128.1 around 163 days to satisfy the standalone BMW reduction Test; and

128.2 because the BMW reduction guarantee has also to be demonstrated during the 13 weeks of the Throughput Test, between 177 and 191 days to evidence compliance with the guarantee for the purpose of the Throughput Test.

129. BMW reduction is then assessed in accordance with section 17.6 of MS17, which provides:

“The percentage BMW reduction of Treatable Contract Waste will be calculated ... based on the ratio of total biogas produced from the input Treatable Contract Waste ($Biogas_{IN}$) to the total biogas produced from the outputs ($Biogas_{OUT}$), in accordance with the following formula:

% BMW reduction of Treatable Contact Waste =

$$100 - \left[\frac{\text{Biogas}_{OUT}}{\text{Biogas}_{IN}} \times 100 \right]$$

Both Biogas_{OUT} and Biogas_{IN} are measured in m^3 units and are calculated by multiplying the total tonnage of fresh waste inputs and outputs (tonnes) by the biogas produced per tonne from each stream, measured in m^3/t ...

Biogas_{OUT} is the total biogas from all outputs disposed of by the Authority. This is the sum of total biogas from SOM. For the purposes of the BMW reduction percentage, this does not include SRF which meets the SRF Specification and is marketed as SRF.

This can be expressed as the following formula:

$$\text{Biogas}_{OUT} = \text{Biogas}_{SOM}$$

Where:

$$\text{Biogas}_{SOM} = T_{SOM} \times \text{BMc}_{SOM} \times \% \text{BMW}_{SOM} \times \% \text{DM}_{SOM} \times \% \text{LOI}_{SOM}$$

The total biogas produced for the output (Biogas_{SOM}) is calculated using:

- The tonnage of the output which is disposed of by the Authority (T_{SOM}), including any SRF which meets the SRF Specification but is not marketed as SRF and must be disposed of by the Authority
- The BMC test result (measured in litres biogas / kg LOI of the BMW containing component) (BMc_{SOM})
- The percentage of the output which contains BMW ($\% \text{BMW}_{SOM}$)
- The percentage of the BMW containing component which is dry matter ($\% \text{DM}_{SOM}$)
- The percentage of the dry matter in the BMW containing component which is lost on ignition ($\% \text{LOI}_{SOM}$)

Please note that where no tonnage is disposed of by the Authority for a particular output, a zero will be inserted into the appropriate part of the relevant formula.”

130. It will again be noted that since $\text{Biogas}_{OUT} = \text{Biogas}_{SOM}$, the numerator in the calculation of BMW reduction will only have a value when the facility is in Bio-Stabilisation Mode. Since Biogas_{SOM} will necessarily be zero when the facility is in SRF Mode, the calculation will, like that for Recovery, always yield a 100% result when producing SRF. This is put beyond doubt by the fact that Biogas_{SOM} is, unsurprisingly, a multiple of T_{SOM} which will obviously itself be zero when the facility is producing compliant SRF which is marketed as SRF. For these reasons, both the performance guarantee and Acceptance Test 3 require nothing less than 100% BMW reduction in SRF Mode.

131. Paragraph 6.6.8 of MS06 provides:

“The SRF Mode performance will be confirmed once the Acceptance Test 5 (SRF Quality) described below in section 6.6.10 below has been achieved.”

132. Accordingly, Test 3 is passed:

132.1 in Bio-Stabilisation Mode, provided that BMW reduction of at least 84.2% is achieved;
and

132.2 in SRF Mode, provided that the treatment outputs comply with the SRF specification.

TEST 4: RECYCLATES

133. The definition of Recyclate is material derived from the waste that is suitable:

- “(a) for reuse without processing or treatment (other than repairing or refurbishing);
- (b) for reprocessing in a production process for the original purposes or for other purposes, but excluding energy recovery (but including materials within a residual waste stream that are subsequently separated out and sent for recycling);
- (c) for composting to result in a final product that can be used as a soil improver, as an ingredient in growing media, or blended to produce a top soil which will meet British Standard BSI PAS 100 and 110 and BS3882 incorporating amendment 1;
- (d) for sending to a process of anaerobic digestion which results either directly or after subsequent aerobic treatment in a final product that has been sanitised and can be used as a soil improver, as an ingredient in growing media or blended to produce a top soil that will meet British Standard BSI PAS 100 and 110 and BS3882 incorporating amendment 1.”

134. The Recyclate Test measures the percentage recovery of Recyclates achieved as a percentage of the treatable contract waste. Paragraph 17.9.1 of MS17 provides:

“Recyclate performance will be monitored through the weighbridge measurements of the quantity of each Recyclate stream transported from the Site for recycling by selected reprocessors (selection procedure set out in detail in section 9.3 of MS09) ...

The following equation will be used for the purpose of calculating the Recyclate percentage of the Treatable Contract Waste:

$$\text{Recyclate percentage} \dots = \frac{\text{Recyclate}_{\text{Tot}}}{\text{TCW}_{\text{Tot}}} \times 100$$

Where:

TCW_{Tot} = Total mass of all Treatable Contract Waste

$\text{Recyclate}_{\text{Tot}}$ = Total mass of all recyclate streams transported from the site for recycling by selected reprocessors.”

135. The test takes place over 19 weeks and compares the tonnage of treatable contract waste in the first 12 weeks with the weight of Recyclates recovered through pre-processing over the same period and the further Recyclates recovered through refining 7 weeks later. By its Recycled Product Plan at Method Statement 9 (“MS09”), UBB proposed to achieve the guaranteed level of Recyclates by recovering:

135.1 7.17% of the treatable contract waste through the pre-processing module;

135.2 a further 0.82% through the bulky waste stream; and

135.3 the balance of 6.46% through the refining module.

136. The selection process for reprocessors is set out at paragraph 9.3 of MS09. To qualify as Recyclates, the recovered material must be reprocessed by the selected reprocessors in accordance with off-take contracts.

TEST 5: SRF QUALITY

137. Finally, the SRF quality test takes place over a two-week period for each bio-stabilisation line. Samples are taken and analysed to ensure that they meet quality standards in terms of net calorific value, levels of chlorine and mercury, biomass content, real dynamic respiration index, particle size and moisture content. It is not necessary to consider the quality standards more fully since it is not in dispute that the facility can and does produce SRF that meets Test 5.

TESTING IN BIO-STABILISATION MODE

138. Roger Stewart QC, leading counsel for UBB, argues that provided the facility is producing SRF and marketing it as such rather than disposing of the outputs to landfill as SOM, then it will necessarily pass the Recovery and BMW reduction Tests. He contends that this is conclusive and that the Authority is not entitled to run the Acceptance Tests in Bio-Stabilisation mode because that would entail disposing of SRF as landfill. Further, he argues:
- 138.1 The contract does not confer a discretion upon the Authority to operate in Bio-Stabilisation Mode.
- 138.2 If Essex could unilaterally designate SRF as SOM and dispose of it to landfill then it could make it impossible for UBB to pass the Acceptance Tests. It cannot, it is argued, have been intended that the Authority could elect whether UBB should pass the Acceptance Tests.
- 138.3 The parties cannot have intended that the Authority would act contrary to its commitment in the Waste Strategy to minimise the amount of waste sent to landfill.
- 138.4 The parties cannot have intended that the Authority would act in breach of its statutory obligations to comply with the Waste Hierarchy.
- 138.5 Any discretion was in any event not absolute but fell to be exercised in good faith in accordance with the regulatory regime, and not arbitrarily, capriciously or unreasonably.
139. In response, Piers Stansfield QC, second leading counsel for the Authority, points out that UBB did not take this argument until it filed its Defence on 30 June 2017 and that, until that date, it had proceeded on the basis that it needed to satisfy the Recovery and BMW reduction Tests. Further, he points to UBB's own internal analysis that it might be "hard pressed to convince a court that [it wasn't] required to demonstrate the BMW guarantee could be achieved during the [Acceptance Tests]." I accept, however, Mr Stewart's submission that none of this helps me in construing the contract. As Lord Reid observed in *James Miller & Partners v. Whitworth Street Estates Ltd* [1970] 2 W.L.R. 728:

"... it is now well settled that it is not legitimate to use as an aid in the construction of the contract anything which the parties said or did after it was made. Otherwise one might have a result that a contract meant one thing the day it was signed, but by reason of subsequent events meant something different a month or a year later."

140. More significantly, Mr Stansfield argues:

140.1 The contract envisaged that the facility might be required to operate in both Bio-Stabilisation and SRF Modes. Indeed, the default position at the beginning of the Services Period was that it should operate in Bio-Stabilisation Mode until such time as the Authority gave notice requiring it to switch to SRF Mode. Even then, subsequent notice could be given to switch back to Bio-Stabilisation Mode.

140.2 The Authority's requirements specifically required UBB to design a facility that was able to comply with the Authority's performance requirements in both modes, and to demonstrate that its design was capable of meeting such requirements.

140.3 The method statements required the facility to be capable of producing the same output in both modes, of switching instantaneously between modes and of undergoing the Acceptance Tests in both modes simultaneously

140.4 The Waste Hierarchy does not prevent the proper testing of the facility.

Discussion

141. The Recovery and BMW reduction Tests are concerned with the performance of the facility in Bio-Stabilisation Mode. Recovery is essentially the percentage of mass that the facility is capable of diverting from landfill; while BMW reduction measures the facility's capacity to reduce the biogas potential of the BMW that might be sent to landfill. As explained above, I accept that the formulae underlying both tests will return a 100% value when the facility is operated in SRF Mode and is producing compliant SRF.

142. The structure of the contract was that it first set out the Authority's Requirements at schedule 2 which took precedence over the Contractor's Proposals at schedule 3: see paragraph 88 above. The Authority's Requirements included its Performance Requirements which, at PR3.1, incorporated the Recovery, BMW reduction and Recyclate guarantees. Further:

142.1 PR1.1.35 provided:

"The Contractor shall warrant that the Works shall operate to the standards set out in the Performance Requirements. Such warranty shall endure for the Contract Period."

142.2 PR1.1.38 added:

"The Contractor shall design a Facility which is able to comply with these Performance Requirements in both Bio-Stabilisation Mode and SRF Mode. The Facility shall be designed with the capability to switch between Bio-Stabilisation Mode and SRF Mode."

143. The Authority's Requirements in respect of Commissioning were set out at PR2:

143.1 PR2.4 provided:

"The Testing and Commissioning Plan shall include a commissioning programme that demonstrates performance to this Schedule 2 and Contractor's Proposals in both Bio-Stabilisation Mode and SRF Mode, comprising of but not be limited to the Contractor's proposals for:

- a) cold commissioning of individual Equipment and Facility;
- b) the process to achieve the Readiness Test Certificate;
- c) hot commissioning of the Equipment and the Facility including the incremental acceptance, processing and treatment of Contract Waste; and
- d) the Readiness Tests and Acceptance Tests.”

143.2 PR2.7 required that UBB should “carry out commissioning of the Equipment and the Facility to demonstrate that their design, construction, installation and plant performance ... are capable of meeting the Performance Requirements in PR3.”

144. A key feature of UBB’s design was that it used the same process to produce both SRF and SOM. Accordingly, it produced a single treatment output and could operate in both modes simultaneously:

144.1 Paragraph 1.3.2 of Method Statement 1 (“MS01”) provided:

“The Facility has been designed to make use of the same process when operating in either Bio-Stabilisation Mode or SRF Mode. Both modes will produce the same output, the Stabilised Output Material (SOM) which will be fully compliant with the SRF Specification.”

144.2 Paragraph 2.1 of Method Statement 2 added:

“The Facility process is the same for both Bio-Stabilisation Mode and SRF Modes and therefore the Facility will be capable of switching into and out of each operational mode instantaneously.

The Facility process will produce a single Treatment Output, as set out in the Authority’s Requirements, common to both operational modes. The single Treatment Output will satisfy the Authority’s BMW reduction requirements (when operating in Bio-Stabilisation Mode), while also satisfying the SRF specification requirements when operating in partial or full SRF Mode, as set out in Appendix B of the Authority’s Requirements.”

145. Paragraph 2.1 continued by providing that, when switching between modes, there would be no need for additional infrastructure, equipment or staff and that the switch would take place without any shutdown, service disruption or reduction in throughput. While the switch would be seamless, the Authority was required to give one business day’s written notice.

146. As to the conduct of the Acceptance Tests, paragraph 6.6 of MS06 simply provided:

“The Facility will undergo Acceptance Tests for both Bio-Stabilisation Mode and SRF Mode simultaneously.”

147. Accordingly, it is clear that:

147.1 UBB was required to design, construct and operate the facility such that it could switch instantaneously between the two modes of operation;

- 147.2 UBB was required to produce a single Treatment Output, namely SOM that both met the performance requirements (which were subsequently adopted in MS06 as the performance guarantees) and the SRF Specification;
- 147.3 during the Services Period, the Authority was entitled to give instructions to switch between the two modes of operation at any time on one day's notice;
- 147.4 irrespective of any instruction from the Authority, the Acceptance Tests were expressly required to be taken in both modes; and
- 147.5 the Independent Certifier was therefore required to witness the Acceptance Test being passed in both modes before it could sign-off the tests and issue the Acceptance Test Certificate.
148. As discussed at paragraphs 96-98 above, I accept that the law will readily imply a term requiring a party to exercise a contractual discretion rationally and in good faith. There is, however, nothing unreasonable, irrational, arbitrary or capricious about the Authority requiring UBB to pass the Acceptance Tests in both modes. Indeed, the contract expressly requires that the facility be tested in both modes and the implied term cannot be set up to frustrate such clear and express contractual provisions.
149. I reject the further argument that the Authority cannot be entitled to "make it impossible" for UBB to pass the Acceptance Tests by requiring that the facility be tested in Bio-Stabilisation Mode. Any difficulty that UBB might have in passing the test in Bio-Stabilisation Mode arises from its failure to design, construct and operate a plant that can pass the contractual tests rather than the Authority's insistence that it be tested. Subject only to the lawfulness argument, the Authority is fully entitled to require that the Acceptance Tests be run in both modes and that the Independent Certifier should not sign-off the Acceptance Tests until the plant passes in both modes.
150. Turning to the question of lawfulness, articles 1 and 4 of the *Waste Directive 2008/98/EC* provide:
- “1. This Directive lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use ...
- 4(1) The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy:
- (a) prevention;
 - (b) preparing for re-use;
 - (c) recycling;
 - (d) other recovery, e.g. energy recovery;
 - (e) disposal.
- 4(2) When applying the waste hierarchy referred to in paragraph (1), Member States shall take measures to encourage the options that deliver the best overall environmental outcome. This may require specific waste streams departing from

the hierarchy where this is justified by life-cycle thinking on the overall impacts of the generation and management of such waste.”

151. Article 4 was implemented domestically by regulation 12 of *The Waste (England & Wales) Regulations 2011*. Regulation 12(1), which is set out at paragraph 64 above, incorporates the waste hierarchy into domestic law and requires that waste disposal authorities “must, on the transfer of waste, take all such measures available to it as are reasonable in the circumstances to apply the ... waste hierarchy as a priority order ...” Such duty is, however, subject to regulations 12(2) and (3) which provide:

“(2) But an establishment or undertaking may depart from the priority order in paragraph (1) so as to achieve the best overall environmental outcome where this is justified by life-cycle thinking on the overall impacts of the generation and management of the waste.

(3) When considering the overall impacts mentioned in paragraph (2), the following considerations must be taken into account -

- (a) the general environmental protection principles of precaution and sustainability;
- (b) technical feasibility and economic viability;
- (c) protection of resources;
- (d) the overall environmental, human health, economic and social impacts.”

152. Since recovery of energy through incinerating SRF is higher up the waste hierarchy than disposal of SOM to landfill, I accept that the Authority is therefore required to prioritise such recovery over disposal. Accordingly, the Authority should favour SRF Mode, which allows energy recovery, over Bio-Stabilisation Mode, which involves disposal to landfill. The obligation under reg. 12 is not, however, absolute:

152.1 First, as reg. 12(1) makes plain, the obligation is only to take “all such measures available to it as are reasonable in the circumstances.”

152.2 Secondly, reg. 12(2) allows the Authority to depart from the waste hierarchy in order to achieve “the best overall environmental outcome where this is justified by life-cycle thinking on the overall impacts of the generation and management of waste.”

153. The proper approach to the *Waste Directive* was considered by Sir Wyn Williams in *The Queen (Protreat Ltd) v. The Environment Agency* [2018] EWHC 1983 (Admin), [2018] P.T.S.R. 2090. The deputy judge said, at [71]-[74]:

“71. The starting point must be the terms of Article 4 itself. Without doubt, it creates a hierarchy which must be applied ‘as a priority order in waste prevention and management legislation and policy’. Even when applying the hierarchy in this context, however, member states must take measures to encourage the options that deliver ‘the best overall environmental outcome’. In my judgment that is a clear recognition that a strict application of the hierarchy in all circumstances is not always justified. So, for example, a policy which dictates or encourages the expenditure of large sums of money solely on prevention – the top rung of the Waste Hierarchy – would not be a ‘necessary measure’ if it made no contribution to the best overall environmental outcome. Put another way, if the best overall

environmental outcome would be achieved by a policy which spread the expenditure between prevention and a number of other measures then, in my judgment, the terms of Article 4 would be satisfied and there would be no breach by the body which adopted and applied such a policy.

72. I consider, too, that there is force in the argument ... that if the Waste Hierarchy is always to be applied strictly in accordance with the descending order of priority set out in Article 4 one would never logically get beyond prevention unless and until it became clear and obvious that prevention could not be achieved in relation to a particular form of waste. In my judgment such an approach would be wholly impracticable.
73. It must also be remembered that Article 4 ... must be interpreted in the context of the whole of the Directive. The purpose of the Directive is set out expressly in Article 1 ... It would be a very strange outcome if Article 4 was interpreted in such a restrictive way that on occasions its application had the opposite effect in practice to that intended by the Directive as articulated in Article 1. Indeed there is much to be said for the argument that 'the result to be achieved' by the Waste Directive is the result dictated by Article 1 and that the member states are free to choose the means by which that result is achieved, although, perhaps fortunately, this case can be resolved without determining the validity of that particular contention.
74. I am clear in my view, however, that Article 4 is to be interpreted flexibly. It cannot be the case that whatever the circumstances a breach of the Article occurs if the hierarchy is not applied strictly in accordance with the descending order of priorities. Further, and importantly in my judgment, it must be applied in a manner which is consistent with the context in which its application is being considered and consistently with the aim and scope of the Directive as set out in Article 1."

154. In *Skrytek v. Secretary of State for Communities and Local Government* [2013] EWCA Civ1 231, [2014] Env. L.R. 15, Beatson LJ observed, at [10], that:

"The Directive [and] the 2011 Regulations ... make it clear that the hierarchy does not have to be followed slavishly."

155. In my judgment, reg. 12 does not require the court to construe the contract such that it is not necessary for UBB to be able to pass the Acceptance Tests in Bio-Stabilisation Mode, and it is not unlawful for the Authority to require UBB to test the facility in both modes:

- 155.1 A central requirement of the contract was that UBB would design, construct, commission and operate a facility capable of operating in both modes.

- 155.2 The bio-halls were not required merely to produce SRF for incineration but also to be capable of operating in Bio-Stabilisation Mode when required and, operating in such mode, to achieve exacting standards for mass recovery and BMW reduction.

- 155.3 While energy recovery through the incineration of SRF is plainly to be prioritised over sending waste to landfill, over the 25-year life of this contract there may well be times when:

- a) the outputs fail to meet the SRF specification and have to be disposed of to landfill; or

b) it is not possible to find a reprocessor able to take the waste as SRF.

155.4 Equally, the regulatory and political climate might change over a quarter of a century.

155.5 Further, it is not actually necessary to breach the waste hierarchy in order to test this facility in Bio-Stabilisation Mode. Since it is to be tested simultaneously in both modes and UBB is required to design, construct and operate the facility so as to demonstrate that it can produce SOM that also meets the SRF Specification, it would be open to the parties to run the Acceptance Tests without diverting any waste to landfill.

155.6 Even if I am wrong in that conclusion, I do not accept that the waste hierarchy should be followed so slavishly that the parties cannot even test whether this facility meets the Acceptance Tests and the performances guarantees that are at the heart of the contract. The parties would, in my judgment, be entitled to depart from the priority order in the waste hierarchy by operating the facility in both the Bio-Stabilisation and SRF Modes for the duration of the Acceptance Tests. Such derogation would be justified pursuant to reg. 12(2):

- a) so as to achieve the best overall environmental outcome by testing whether this facility meets the high environmental standards required by the Acceptance Tests and can therefore enter the Services Period; and
- b) by considering the overall impacts upon the management of waste in Essex over the 25-year cycle of this contract.

THE DENSITY PROBLEM

THE DESIGN DENSITY

156. A key assumption when designing a facility to process a set throughput of waste is the density of the waste as it flows through the facility. The assumed density on arrival at the biohalls is obviously critical to the sizing of the biohalls where, upon UBB's original design, the residual waste was to be composted for seven weeks after the removal of the Recyclates. The Authority did not provide interested contractors with density data and accordingly the contractual responsibility and risk for the density assumptions fell upon UBB.

157. By its design, UBB assumed that the density of the waste in the bunkers in the reception hall would be 0.35 t/m³ but that the density would have increased to 0.55 t/m³ by the time that the waste entered the biohalls. The first assumption has proved to be reasonably accurate, but the true density of the waste entering the biohalls is in fact 0.3 t/m³.

158. The origin of the density assumption in the biohalls is an exchange of emails between Pedro Faraldo and Taim Weser on 19-20 April 2010. On 19 April 2010, Mr Faraldo sent a number of design assumptions to Taim Weser. The attachments showed that Mr Faraldo assumed an average input density of 0.45 t/m³. In his oral evidence, Mr Faraldo accepted that this was a "very rough figure." It was arrived at by:

158.1 assuming the density of the different fractions as follows:

- a) biodegradable fraction: 0.65 t/m³;
- b) flat fraction: 0.25 t/m³; and
- c) rejects: 0.4 t/m³;

- 158.2 making assumptions as to the likely proportions of the three fractions after pre-processing; and
- 158.3 rounding up the mathematical result of 0.426 t/m³ obtained from these assumptions.

159. Mr Faraldo added:

“We’ll really appreciate if you can provide a quick review of our estimations ... (mainly in terms of size and mass losses) as we need to work quickly with the layouts so that the architects can start working with the final design concepts.”

160. On 20 April 2010, Taim Weser responded that they had gone through Mr Faraldo’s assumptions and calculations and arrived at “more or less the same result.” They suggested a density assumption of 0.55 t/m³ on the basis that the input waste would be stacked 3.6 m high. They added:

“This is more than your estimation but considering the height of the stacked matter this should be OK”

161. Mr Faraldo asserted in his oral evidence that the density assumption was also discussed in meetings and telephone conversations and, in particular, at a meeting with Taim Weser in Madrid. There was, however, no contemporaneous evidence to support this claim. Indeed, Mr Faraldo’s statements did not refer to any such meetings or telephone calls and the only document referred to in his evidence as the source of the density assumptions was Taim Weser’s email of 20 April 2010. Further, in 2016, when UBB sought to investigate the possibility of a claim against Taim Weser arising out of the density assumption, Mr Faraldo referred back to the 20 April email as the “famous email.” He explained that it was “the origin of the discussion.”

162. Mr Faraldo accepted that Taim Weser’s density assumption was not based on any calculation but upon the company’s experience and expectations. The critical issue in this calculation was of course the effect of pre-processing on density, and yet UBB did not subcontract with Masias, the designer of its pre-processing plant, on the basis that it was required to deliver output waste at a specified density. Further, Mr Faraldo accepted that UBB:

- 162.1 did not itself carry out any calculations as to how the pre-processing plant would affect the density of the waste;
- 162.2 did not even discuss with Masias the likely impact of pre-processing upon density; and
- 162.3 failed to manage its contractual risk by contracting on the basis that the pre-processing unit should output waste into the biohalls at a density of 0.55 t/m³.

163. Despite Mr Faraldo’s acceptance in cross-examination that “no one in their right mind” would design a £100 million facility on the basis of the quick review in the exchange of emails on 19-20 April 2010, I am driven to the conclusion that that is precisely what UBB did in this case. The effect of the density error has a very significant impact since the volume of any given tonnage of waste at the lower density will be 83% higher than the design model. In other words, biohalls capable of processing waste at a density of 0.3 t/m³ would need to be almost twice the size of the halls required at the design density of 0.55 t/m³.

164. Accordingly, I find that UBB did not design the facility with reasonable skill and care. That said, I accept Mr Stewart’s submission that such finding leads nowhere. There is no freestanding relief sought by reason of the design defect; rather the issue is whether the facility is capable of passing the Acceptance Tests.

THE DISCOVERY OF THE DENSITY ISSUE

165. Mr Faraldo first reported a “serious problem” with the capacity of the biohalls on 8 December 2014. He wrote that UBB was achieving 600 tonnes per infeed against a design capacity of 1,200 tonnes. While noting that they had not yet gone to the limit in terms of stack height or width, he observed that the waste was much lighter than envisaged.
166. On 11 January 2015, Mr Faraldo confirmed that the density in the infeed area of the biohalls was much lower than expected. He acknowledged that this was the main reason for the delay in ramping up waste deliveries to the site and that the facility was only achieving an infeed of 550 tonnes per line. In cross-examination, Mr Faraldo confirmed that things were “going badly” at that point and that it was evident that the biohalls were seriously under-designed.
167. On 27 January 2015, Balfour Beatty recorded its understanding of the issue. Mr Saunders wrote:
- “This is a very serious issue as we will not be in a position to start the Acceptance Tests until a solution to the density issue is found.”
168. An internal Balfour Beatty note dated 20 March 2015 acknowledged Urbaser’s admission that mistakes had been made in the density design assumptions. It then recorded:
- “During the last period it has been established that the facility will never operate as intended. To process the waste at the density currently being achieved (which is now reported to be normal) at the biohalls, indicates the halls are approximately 50% undersized ...
- Verbally David Silva has admitted to getting the original density assumption wrong and accepts that this has lead (sic) to a facility design that is incapable of achieving the required throughput.”

CAN THE ORIGINAL FACILITY PASS THE ACCEPTANCE TESTS?

TEST 1: THROUGHPUT

169. Professor Stentiford and Dr Weatherby agreed that the facility as originally designed cannot pass the tonnage requirement of the Throughput Test. This is the inevitable and direct consequence of the density error that I addressed at paragraphs 156-168 above. Further, the test itself would in any event be failed because it requires the facility to process the required minimum tonnage while also meeting the performance guarantees and, as set out below, the facility as originally designed cannot pass the BMW reduction test.

TEST 2: RECOVERY

170. Conversely, the experts agreed that the facility might in theory be able to pass the Recovery Test. Indeed, Dr Weatherby points to the data from February and March 2019 which reported recovery of 52.7% and 50.6%.
171. That said, all of the tests have to be passed together and the excellent Recovery in early 2019 was only achieved by markedly reducing the irrigation to the biohalls. The optimum level of irrigation poses something of a dilemma for UBB:
- 171.1 Since the largest mass loss in any composting system is from water vaporisation, reducing the level of irrigation assists in achieving the Recovery Test.
- 171.2 Effective biodegradation is, however, dependent upon there being sufficient moisture in the composting waste. Thus, targeting Recovery by reducing the moisture content will compromise the facility's ability also to achieve the required BMW reduction.

TEST 3: BMW REDUCTION

The BMW reduction bid

172. The ISOS required bidders to specify their guaranteed BMW reduction using the BMC methodology. UBB was not familiar with this test and sought advice from, among others, Dominic Schliebs of Parsons Brinckerhoff. Mr Schliebs in turn sought advice from the Environment Agency:

“Schliebs: If we need to forecast BMW diversion rates for a proposed facility and no actual data is available (BMc, LOI) – Is there any publicly available data from existing MBT facilities or guidance on BMW diversion rates that we could use to formulate a reasonable estimate?

Environment Agency:

Not to my knowledge. The problem is that most MBT facilities have different configurations and vastly different performances. The composition of waste input would also effect (sic) facility performance.”

173. On 9 April 2010, Parsons Brinckerhoff forwarded this unpromising response to Mr Faraldo adding that the consultants would require some data from Urbaser's existing MBT facilities in order to estimate BMW reduction rates. While no doubt this would be a start, it did not address the Environment Agency's observation that facilities have different configurations and vastly different performances and that differences in the composition of waste would affect performance. In any event, Mr Faraldo progressed matters on 13 April 2010 by asking Taim Weser for a “quick estimation” of the biodegradability values that could be expected from its biohalls. Michael Herken of Taim Weser replied first thing on the following day:

“we assume that the input into the biological treatment in Essex can more or less be compared with the input we receive at the plant in Vacarisses/Barcelona. There we have a retention time of 6 weeks. At this project in Vacarisses we guarantee:

fermentation grade IV according to german (sic) regulations

or

AT4 < 10 mg O2/g DM

or

respirometric index (Italian method) < 1000 mg O2/kg SV/h

The above figures are based on AT4 of the input material < 60 mg O2/g DM’

174. This response was indeed quick, but it was also of limited use:

174.1 Mr Faraldo accepted in evidence that the plant in Vacarisses was then under construction. These were not therefore actual values but rather the levels of performance that Taim Weser had guaranteed.

174.2 While three different performance standards were quoted, none were measured using BMC methodology and accordingly the response could not assist unless UBB was able to establish the proper correlation between these predicted measures of performance and BMC.

174.3 This data was only of use if the waste was of the same composition as that received in Vacarisses. There is no evidence that either UBB or Taim Weser undertook any further analysis in respect of this key assumption.

174.4 Equally, the response assumed that the processing methods would be similar and that the outputs were comparable. Absent this one could, as the Environment Agency pointed out, expect vastly differing levels of performance. Again, there is no evidence to justify this assumption.

175. Nevertheless, Mr Faraldo forwarded this information to Parsons Brinckerhoff with the observation:

“Good news from Weser ... we can expect better values”

176. Within two hours, Mr Schliebs forwarded his calculations showing a predicted BMW diversion of 76.2%. In doing so he cautioned that he had had to make a lot of assumptions and that while this was “ok” for the draft mass balance, the assumptions would need to be confirmed. In effect, Mr Schliebs plugged in the suggested values for the Vacarisses project. Among his assumptions, Mr Schliebs:

176.1 noted that the DR4 test is similar to AT4, although the former reports on mg O2 / g DM (milligrams of oxygen per gram of dry matter) while the latter reports the mg O2 / g LOI (milligrams of oxygen per gram of mass lost on ignition);

176.2 assumed values for the DR4 test on the basis of Taim Weser’s projections of the AT4 results in Vacarisses; and

176.3 assumed a fixed linear correlation between DR4 and BMC, namely $BMC = 2 \times DR4$.

I accept Mr Faraldo’s observation that Mr Schliebs’ advice at that stage was “tentative”, but that the design process had to start somewhere.

177. On the same day, Mr Faraldo provided the Authority with a draft mass balance model. Despite not having any further data at that stage upon which to estimate the likely BMC that could be achieved in Essex, the model projected BMW reduction of 80%. The Authority

queried Mr Faraldo's model, commenting that there did not appear to be any formulae sitting behind the 80% figure.

178. At 10.17 am on 19 April 2010, Gemma Saunders reminded Mr Faraldo of the need to provide a response by noon. Half an hour later, he emailed Parsons Brinckerhoff with a modified version of Mr Schliebs' own calculations. He explained:

“The Council has asked us to provide a rationale for the 80% of BMW reduction, I have modified the file to justify this value, please see modifications in yellow (I have modified DM of the outputs non CLO, and increased AT4 outlets (sic) (more conservative assumption at this stage) in order to achieve the 80%), can you please check there is nothing strange and that we can justify it if they ask for further explanations.”

179. While mindful of the fact that English is not Mr Faraldo's first language, it is difficult to escape the conclusion that his purpose was to provide a calculation to justify the 80% that had already been provided to the Authority rather than seek to calculate the most likely level of BMW reduction. In any event, Mr Schliebs approved Mr Faraldo's spreadsheet 19 minutes later with the less-than-reassuring remark “I think its (sic) ok. I hope it is anyway!” It is plain that the calculations were heavily dependent not just on the assumptions made by Parsons Brinckerhoff but also on Mr Faraldo's adjustments.

180. Remarkably, and despite the fact that there remained a number of critical assumptions that had not been properly confirmed and that neither Parsons Brinckerhoff's original calculations or these amended calculations produced figures above 80.1%, Mr Faraldo said in his oral evidence that his calculations gave him confidence that BMW reduction of 84.2% was achievable.

181. Thereafter, Urbaser worked up the detailed calculations to support its draft outline submission to the Authority. At the heart, however, of the calculations of BMW reduction there remained a number of unverified assumptions:

181.1 The AT4 test would report a value of 60 mg O₂/g DM for the input waste, as per the assumed input waste in Vacarisses.

181.2 The AT4 test would report a value of 15 mg O₂/g DM for the output waste, being Mr Faraldo's more conservative assumption based on the Vacarisses guarantee.

181.3 That there is a 1:1 correlation between AT4 and DR4 test results such that:

$$\text{DR4} = \text{AT4} / \text{LOI} \text{ (LOI being the loss on ignition expressed as a percentage)}$$

181.4 There is a linear correlation between BMc and DR4 such that:

$$\text{BMc} = 2 \times \text{DR4}$$

182. Mr Faraldo could not point to any evidence to support the assumed correlation between AT4 and DR4. Indeed, his evidence in cross-examination was that the only evidence that he had at the time of preparing these calculations suggested that the correlation was not 1:1. As to the second correlation, a paper from the Environment Agency does provide some support

for the suggestion that $BMc = 2 \times DR4$. I am, however, satisfied that there was no proper basis for these fundamental assumptions:

182.1 First, no evidence has been produced to justify the 1:1 correlation between AT4 and DR4.

182.2 Secondly, the AT4 figures from Taim Weser were for the predicted performance of the biohalls only in Barcelona. BMW reduction is calculated by comparing the inputs and outputs for the facility as a whole.

182.3 Thirdly, a paper by Dr Hugh Bolson of the Organic Resource Agency Limited (“ORA”) suggests that there is weak statistical evidence for establishing a generic correlation between BMc and either DR4 or AT4 methodology.

182.4 Fourthly, UBB’s subsequent efforts to establish a site-specific correlation between DR4 and BMc were unsuccessful.

183. Nevertheless, UBB somewhat rashly explained in its bid document:

“As a result of the very effective Bio-Stabilisation process proposed, we are able to guarantee a BMW reduction of 84.2% in Bio-Stabilisation Mode.”

184. Given the lack of a robust approach to the calculation of the likely BMW reduction, I infer that the bid was pitched at just above 84% in order to make the bid more attractive to Essex. There was some magic in that threshold since interested parties were told in the ISOS that bids offering guarantees of at least 60% would be scored as follows:

| | |
|------|----|
| 60% | 4 |
| 74% | 6 |
| 84% | 8 |
| ≥90% | 10 |

185. The Authority queried the 84.2% calculation. On 20 August 2010, Mr Silva emailed Mr Herken of Taim Weser who had given the “quick estimation” in April. Mr Herken’s reply talked in terms of the guarantee that Taim Weser could give as to the reduction rates measured by AT4. Mr Herken was, however, far less convincing on the question of BMc. First, he referred to ORA’s paper which, as I note above, does not support a clear correlation between either AT4 or DR4 and BMc. He then added, somewhat unconvincingly:

“If you look at the AT4 figures we can guarantee then we think that the figure you offered for BMW reduction is relatively conservative considering and bearing in mind that the composition of the fraction ‘BMW biodegradable/putrescible’ is not known in detail and the spread of the results of analysis afterward is sometimes more than 100%. Anyhow is there a special formula to calculate thin (sic) BMW reduction figure. I found only a lot of blabla information in the net.”

186. Subsequently, Mr Faraldo asked Taim Weser for the evidence supporting the assumed AT4 input figure of 60 mg O₂/g DM. Not only was this somewhat late in the day to seek any empirical evidence underlying UBB’s bid but the response was simply that Mr Herken had the number from a colleague.

187. By 15 September 2010, alarm bells were ringing as to the lack of evidence to support the assumed 1:1 correlation between AT4 and DR4. UBB asked Parsons Brinckerhoff to explain the assumption that had first been made in Mr Schliebs' calculations. Again, the response was not encouraging:

187.1 Nadia Boyarkina of Parsons Brinckerhoff explained that Mr Schliebs had "assumed that AT4 test is essentially the same test method as the DR4 – a 4-day aerobic test, it is just reported on a different basis." She added that they were seeking confirmation as to the validity of the assumption.

187.2 Noting that the paper shared by Parsons Brinckerhoff did not support the suggestion of a simple correlation, Lewis Grant of Urbaser expressed his concern that a mistake might have been made.

187.3 A fuller response then followed from Mr Schliebs:

"The main reason for using AT4 is that no other data was available or provided by Urbaser. It is a simplified conversion and it's not ideal, but it was the best we could do at the time. It was based on various descriptions of the test methods in literature (sorry I don't have access to those references now).

The AT4 and DR4 tests are a similar test where the sample is aerobically digested over 4 days and the amount of oxygen that is consumed by the microbes is measured over that period. There are some differences in the actual test setup, but the basic principle is similar.

The main difference between the tests is that the AT4 test is a 'static' respiration test, i.e. there is no recirculation of air through the test chamber. The DR4 test is a 'dynamic respiration' test where air is continuously recirculated through the sample.

However, on that basis, AT4 test would be expected to under-estimate the actual biodegradability of the sample relative to the DR4 test. For the final MBT outputs, this will result in a conservative estimate. I can't remember if we also used the AT4 data for the raw waste?? If we did, then we might have also underestimated the biodegradability of the raw waste.

The problem is that the AT4 is the standard test used in Continental Europe. Whereas the EA in the UK has decided to use DR4. Therefore, Urbaser and Taim Weser could only provide us with AT4 data, as all of their reference plants are in Europe. It was only meant to be used as a rough estimate, in the absence of any better data.

Ideally, Urbaser should have undertaken some DR4 tests on their reference plants but I assume time restrictions will make that impossible."

188. Balfour Beatty's Tom Meacock was perceptive in his observations in his 16 September 2010 email:

"It looks like they may well have guaranteed a rather racy BMW diversion performance – which it looks like it was based on untested and simplified assumptions largely from [Parsons Brinckerhoff] ... and with limited or no real input from Urbaser or the technology sub-contractors."

189. Meanwhile, Balfour Beatty's Simon Rooke concluded that they had to get to the bottom of the issue and added:

“Ultimately if we need to change our position or simply cannot deliver this guarantee then we must come clean and see what Essex want to do”

Unfortunately, UBB did not then “come clean.” Instead, it stood by its 84.2% guarantee and ultimately contracted, built and commissioned the facility on the basis of this flawed guarantee. It was only when the facility was under construction in April 2013 that UBB opened discussions as to the possible removal of the guarantee. After discussing the relative merits of BMc, DR4 and AT4, Mr Faraldo moved the conversation to the removal of the BMW reduction guarantee itself. Internally, he referred to this as “the big one” and that he had had to use a “very soft touch” approach. Ultimately, no agreement was reached and UBB was stuck with an ill-considered guarantee.

Performance data

190. UBB’s own reported performance does not suggest a capacity to achieve anything close to BMW reduction of 84.2%:

190.1 In July and August 2015, UBB reported BMW reduction of around 60%.

190.2 From September 2015, BMW reduction ranged between a low of under 15% to a high of just over 45%.

190.3 During the QATs, the average achieved was just over 32%.

191. By February 2016, UBB internally accepted that it had bid an unattainable level of BMW reduction. A note following a meeting on 16 February 2016 recorded UBB’s candid assessment:

“1. 84% BMW reduction using the BMc metric is unattainable at the Basildon MBT because the process we have cannot deliver this high level of performance on the waste input composition we have. The process delivers biodegradation of readily biodegradable material, but not of the less readily biodegradable material – which would take longer than 6 or 7 weeks. The 84% was bid in error, reflecting a misunderstanding that the authority effectively required a Biohall performance value, and the value bid was derived from AT4 performance values being achieved across a number of European facilities – AT4 being the default European metric, and reference test used by the main European process plant manufacturers. This unattainable value is an issue for both UBB and the Authority ...

3. 84% is a headline PFI performance value more often ascribed to BMW diversion from landfill, i.e. not BMW reduction *per se*, but 84% less BMW material going to landfill through a combination of sending some output material elsewhere, and reducing the BMW of the other output that does go to landfill ...”

The BMc test

192. The BMc test is the test adopted by the UK government to assess the suitability of outputs from MBT facilities for landfill. The test provides a measure of the reduction in the potential amount of biogas (carbon dioxide and methane) that might be released by the waste if sent to landfill and allowed to decompose under anaerobic methanogenic conditions. It compares the biogas potential of the input waste with the outputs after bio-stabilisation.

193. The drawback of the BMc test is that the biological tests on the samples are run until biogas production ceases. This can be up to 100 days. As Professor Stentiford explains, this makes the BMc test unsuitable for the day-to-day monitoring and adjustment of a facility. There are, as the professor explains, other tests such as DR4 that can produce far quicker results for such everyday purposes and which, if properly correlated to BMc, can provide an operator with useful data in order to optimise BMW reduction performance. This does not, however, invalidate, the use of the BMc test for use in determining whether the facility has passed the Acceptance Tests. Indeed, even if inconveniently slow, the BMc test was the contractually agreed method of assessing BMW reduction for such purpose unless and until a site-specific correlation was obtained to allow the use of DR4.
194. At trial, UBB sought to blame the BMc test for its failure to meet the BMW reduction performance guarantee and argued that the Authority was in breach of an implied term to act in good faith in refusing to agree either the removal of the BMW reduction test or at least its replacement with an LOI test. Such position was not tenable since any duty on a contracting party to act in good faith cannot stretch to an obligation to agree to giving up a contractual benefit that had been expressly negotiated. Sensibly, following the close of the evidence, UBB abandoned the BMc argument.
195. Dr Weatherby's primary position is that the BMc test is unreliable. Accordingly, he does not offer an opinion as to the facility's ability to pass the contractual BMW reduction Test. Rather, he puts the matter negatively:
- 195.1 At paragraph 6.94 of Dr Weatherby's first report, he wrote:
- “In short, I do not consider it possible to assess whether the BMW reduction test can be passed or not based on the contractual BMc based method. If the test was adjusted to report the performance of the plant as it was intended to, if Band A waste was provided and if UBB improve operations by a number of means, I would expect the result to be close to the guarantee level, but it would be speculation to say whether it would be achieved or not.”
- 195.2 He added, at paragraph 6.71 of his second report:
- “I remain of the view expressed in my First Report that it is not possible to conclude that the Facility cannot achieve the BMW reduction guarantee using Band A waste under the Authority's interpretation of this test because:
- The BMc test method is returning results which are not realistic when compared to other measures of plant performance.
 - Whilst the BMW reduction target is based on Band A waste, the waste has not been in Band A and contains very little food waste, the main driver for the quick biodegradation process.
- Additionally, UBB could adopt further measures such as the diversion of the fines stream from the Refining section for use as CLO to increase the BMW reduction rate.”
196. I do not accept Dr Weatherby's approach. In any event, UBB having rightly abandoned its case that the Authority was in breach of an implied duty of good faith by refusing to agree

to replace the BMc test, the court must approach the question of BMW reduction on the basis of the contractual test. I address the composition issue separately below at paragraphs 310-356. The analysis at this stage proceeds on the assumption of Band A waste and without additional Recyclates from CLO (which, it will be recalled are Compost-Like Outputs).

197. Professor Stentiford has analysed the BMc test results obtained on this project. He observes that samples were divided into three smaller samples and the BMc test run in triplicate. I accept his evidence that the close correlation between the results of the three sub-samples demonstrates that the test results achieved are repeatable and consistent for a given input sample.
198. Professor Stentiford concluded, at paragraphs 245-246 of his first report:
- “245. The historical performance data for the Facility indicates that it has been falling short of the required BMW reduction target by a very significant margin, typically achieving less than half of the reduction required to pass the BMW reduction Test.
246. In my opinion, the BMW reduction target was very ambitious from the outset. Based on UBB’s operation of the Facility, it is my opinion that, even if UBB optimised the performance of the biohalls, it could not achieve this target in order to pass the BMW reduction Test, given the inherent variability of the feedstock and the limited controllability and adjustability of the Taim Weser system.”
199. I accept Professor Stentiford’s evidence and find that, as originally designed, the facility was not capable of passing the BMW reduction Test.

TEST 4: RECYCLATES

200. It is common ground that UBB has not in fact achieved the 14.45% Recyclate guarantee over a 12-week period. Indeed, Dr Weatherby reports Recyclate average performance between 6.4% and 10.7% in each of the years 2015, 2016 and 2017.
201. Over the twelve weeks of the QATs, UBB reported:
- 201.1 a Recyclate rate of 14.58% over weeks 1-6; and
- 201.2 a rate of 13.28% over weeks 7-12.
202. Had this performance been repeated in the Acceptance Tests, the Recyclate test would have been failed because the required recycling rate would not have been sustained over 12 weeks. Dr Weatherby reports, at paragraphs 7.33-7.34 of his report:
- “7.33 UBB achieved the required Recycling Rate during weeks 1-6 of the QAT period, thereby demonstrating that the Facility is able to achieve the required Recycling Rate. This should not be open to question. Achieving a higher Recycling Rate is more an economic challenge than a technical one. More material can be removed from recycling by employing more hand pickers.

More material can be sent to recyclers if UBB pays the recyclers to take the material.

7.34 I note that generally the Recycling Rate is lower than the Acceptance Test guarantee and this was the case during weeks 7-12 of the QAT. However, this was an operational choice of UBB. As UBB considered it had already demonstrated the required Recycling rate during weeks 1-6, there was no need to go to the extra expense of maintaining the Recycling rate. However, this was an economic decision rather than a technical shortcoming.”

203. I accept that the level of recycling achieved is dependent upon the resources put into the extraction of Recyclates. Further, there is evidence that the guaranteed level is capable of being achieved at least over a six-week period. I am prepared on the balance of probabilities to accept that such guarantee is also capable of being met over the required twelve-week period.

204. In passing I observe that it is somewhat ironic that UBB contends that:

204.1 it is perfectly acceptable for it to elect only to prioritise the recovery of Recyclates for the purpose of the Acceptance Tests, thereby being content at other times to send non-ferrous metals and other non-metallic Recyclates to incineration as SRF despite the fact that the waste hierarchy accords greater priority to recycling than energy recovery; but

204.2 it would be unlawful to switch to Bio-Stabilisation mode for the period of the Acceptance Tests because the hierarchy accords greater precedence to energy recovery over disposal to landfill.

TEST 5: SRF QUALITY

205. As already indicated, the Authority accepts that the facility can and does produce SRF that meets the contractual standard.

COMPOST-LIKE OUTPUTS

206. In August 2018, Dr Weatherby suggested that UBB might wish to consider disposing of some of its fine organic stream as compost and that, should it do so, such fines might count contractually as recycling. Commenting on this possibility, Dr Weatherby reported that CLO could be used to boost both Recyclate and Recovery performance by as much as 14%.

207. The parties anticipated that CLO might be recovered to boost the level of Recyclates. Indeed, paragraph 9.1 of MS09 provided:

“The Treatment Outputs generated during Bio-Stabilisation Mode can be separated into two (2) fractions: SOM<15mm and SOM>15mm ... The SOM<15mm fraction, following separation, may be considered as Compost Like Output (“CLO”). However, the Contractor is not guaranteeing any CLO as part of its Recyclate performance guarantee.”

208. I accept that CLO could potentially be a Recyclate under the contract and further that the recycling of CLO could make a very significant contribution to the ability to pass the Recyclate Test. Interestingly, the parties specifically foresaw that CLO might be recoverable from SOM when the facility was operating in Bio-Stabilisation Mode. There is, however, no obvious reason why it should not also be extracted from SRF. Indeed, the extraction of CLO for recycling is higher on the Waste Hierarchy than energy recovery from SRF.

209. Further, I accept that the recycling of CLO could also assist in passing the Recovery and BMW reduction targets in Bio- Stabilisation Mode:

209.1 Recovery:

a) As explained above, Recovery is calculated as follows:

$$100 - \left[\frac{TCW_{SOM}}{TCW_{Tot}} \times 100 \right]$$

b) Thus, recycling the fines fraction in the SOM as CLO in accordance with an off-take contract would translate directly into a higher Recovery performance in that if, for example, an additional 14% of the TCW could be recycled as CLO then not only would the Recyclate performance increase by 14% but so too would Recovery.

209.2 BMW reduction:

a) The relationship between CLO and BMW reduction is less obvious, save that the removal of a relatively organic fraction from the SOM must inevitably reduce the biogas potential of the remaining outputs which, by definition, will be relatively less organic.

b) The effect is, however, more subtle. Dr Weatherby says at paragraph 3.9 of his supplemental report:

“It is more difficult to estimate the impact of CLO on the BMW reduction rate as there are few measurements of the biogas potential of the CLO material. UBB has recently carried out some measurements in November and December 2018 on the >25 mm and < 25 mm fraction of the SRF as presented in Mr Faraldo’s spreadsheet. This data shows that the biogas potential in the fine fraction (339 litres/kg LOI) that would be used for CLO is slightly greater than that of the coarser fraction (330 litres/kg LOI). If it is assumed that the amount of SRF separated as CLO is 54.6%, as currently indicated by UBB’s recent measurements, I estimated the BMW reduction, calculated using the Authority’s interpretation, would be 61.1% (an increase from 32.3% reported in the QAT period). To do this, I have used the proportion of biogas measured in the SRF in November/December 18 and applied it to the QAT results, so I am mixing data from periods which is not precise. The assumptions and calculations behind these numbers are shown in Appendix A.”

210. Dr Weatherby sets out his overall conclusions on this issue in a table at paragraph 3.11 of his supplemental report. In doing so, he takes as his baseline figures the results achieved in the QAT on line 3:

| | QAT L3 reported | With CLO |
|----------------|------------------------|-----------------|
| Recycling rate | 14.6% | 35.4% |
| Recovery rate | 40.2% | 65.8% |
| BMW reduction | 32.3% | 68.6% |

211. In my judgment, the future potential for UBB to recycle fines as CLO is, however, immaterial to the issues in this trial as to whether the facility is currently able to pass the Acceptance Tests:

211.1 As set out at paragraphs 133-136 above, the Recyclate percentage is calculated by reference only to Recyclates that are transported from site by selected reprocessors.

211.2 There is no evidence that any off-take contracts have yet been entered into with a reprocessor selected in accordance with MS09 for the recycling of CLO. The furthest that UBB has been able to take the issue is to update the court through Mr Faraldo's fourth witness statement upon the current state of negotiations with potential reprocessors.

211.3 In any event, CLO does not assist in passing the Throughput Test.

THE QSRF LINE

THE DEVELOPMENT OF THE QSRF PLAN

Introduction

212. A key feature of the original design was that all waste, save the Recyclates recovered within the pre-processing plant, was to be stabilised in the biohalls before being refined to extract aggregates and then disposed of as either SOM or SRF. As originally designed, the outputs from the facility were therefore:

212.1 Recyclates (cardboard, metals, plastics and plastic film) recovered during pre-processing;

212.2 aggregates (stone and glass) recovered during refining; and

212.3 bio-stabilised waste being either SOM or SRF.

213. By January 2015, it was evident to UBB that the density error posed a very serious problem in processing the residual waste after the extraction of Recyclates. As the company recognised, the bio-stabilisation halls were approximately half the size required to process the contracted tonnage of waste. Short of rebuilding the facility, UBB therefore had to find a workaround solution that diverted a significant part of the waste stream away from the biohalls.

214. The need for such a solution was the genesis for the development of the QSRF Line. These design modifications introduced a further output, described by the parties as Quick SRF or QSRF. The essential difference is that while SRF is the output from the facility after bio-stabilisation in the bio-halls, the QSRF Line bypasses the bio-halls entirely. Waste in this

stream is simply shredded, passed through an electromagnet to extract ferrous metals and then diverted away from the facility into 40-yard containers. It is not further processed in order to remove other recyclates or aggregates. Nor is any biodegradable waste in this stream stabilised through the bio-halls. QSRF is not, therefore, a stabilised output.

215. As now operated, the QSRF Line processes two classes of bulky waste:

215.1 HWRC waste: In UBB's original design, the bulky and HWRC waste already bypassed the majority of the pre-processing plant. It was simply shredded and passed under electromagnets before being fed straight into the bio-halls. Under the QSRF modifications, the difference is that this stream bypasses the bio-halls and the refining process. Accordingly, under the modifications, this waste is not stabilised and any aggregates within this stream are not recovered.

215.2 Trommel overflow fraction: In the original design, some recyclates were removed from the overflow fraction as it passed through the secondary sorting cabin (cardboard and plastics). It was then shredded, passed under an electromagnet and stabilised in the bio-halls. Under the QSRF modification, the trommel overflow is diverted straight to the QSRF Line. Accordingly, recyclates are no longer picked out of this stream in the secondary sorting cabin, the waste is not stabilised and there is no recovery of aggregates through the refining process.

216. The introduction of the QSRF Line involved a number of design modifications. They were introduced piecemeal:

216.1 4 March 2015: UBB proposed to install a new conveyor in the reception hall in order to feed the shredded bulky waste to a new electromagnet and then straight into new 40-yard containers.

216.2 24 March 2015: Secondly, UBB proposed that bulky non-biodegradable items such as foam pillows be picked out in the primary sorting cabin and diverted straight to the new QSRF Line. In addition, the trommel overflow fraction was also diverted straight to the QSRF Line.

216.3 19 August 2015:

- a) UBB proposed that a second bulky shredder should be installed.
- b) Further, UBB proposed to install a walking floor and trailer-loading system in order to divert the QSRF Line away from the congested Reception Hall.

217. In addition, on 19 August 2015, UBB proposed modifications to the biohalls. These were not themselves dependent on the other QSRF modifications but were also designed to enable the facility to process more waste.

UBB's internal analysis

218. On 24 January 2015, Mr Faraldo emailed Taim Weser pointing out that they needed to start considering options to address the capacity problems in the biohalls. He observed that UBB was at that time "very far from where [it] should be." He invited ideas from Taim Weser and floated several options, each designed to push the biohalls to their maximum capability. The principal ideas were:

218.1 Shortening the bio-stabilisation period from seven to five or six weeks.

218.2 Increasing the capacity of the infeed area by lengthening the area and pushing it to the limit in terms of stack height and width.

219. In an internal report dated 26 February 2015, UBB identified that modifications were “completely necessary” and urgent. It reported:

“The main problem we have is that we can’t send all the waste to biohalls to a lack of space. The design density is 0.55 t/m³. Now we are getting 0.3 and hopefully we will increase it to 0.4. Masias is going to change the mesh in the secondary shredders to one with larger holes. This will increase the capacity of this equipment. In addition, we think the density could increase too.

This change is not enough. So, we have to choose the kind of waste we are going to send directly to the refining area, like SRF, avoiding the bio-stabilization treatment. Obviously, we can’t send any fraction with organic waste. We want to send directly to the refining area bulky waste and fraction > 300 mm (trommel overflow) shredded. These fractions suppose 200 t per day. This way, depending on the percentage of collections, we will have to send to the biohalls 800 t per day, to fill one infeed. Now, we are filling the infeed with 550-600 t. We are going to do some tests to increase this capacity. In terms of volume, we are going send to the refining area low density fraction, so we expect to increase the density of the waste sent to the biohall.

In summary, we have to send to bio-stabilization treatment less waste with a higher density. To achieve this, we must:

- Change the mesh in the secondary shredders
- Send fraction > 300mm to the bulky shredder
- Send bulky shredder discharge to the refining area
- Increase selections of plastics and paper”

220. On 24 March 2015, UBB set out more detail of its plan in its confidential internal “Process Improvements Report.” The report clearly identified the density error, that the volume of the biohalls was insufficient to process the planned throughput and the need for action to increase the density of the waste and reduce the bulking of material going to the biohalls. The paper noted that the mesh in the secondary shredders had been adjusted but that this alone would not achieve the required change in density. UBB started with the required throughput of 1,278 t/day and proposed the following modifications to reduce the waste sent to the biohalls:

220.1 The diversion of all HWRC waste from the biohalls, amounting to some 200 t/day. The shredded bulky waste would be sent directly to refining.

220.2 Increasing the recovery of recyclates in the pre-processing plant from 8.5% to 15%, thereby increasing recyclates to 162 t/day.

220.3 The diversion of the trommel overflow fraction, being some 11% of the waste stream, from the biohalls straight to refining. This would divert a further 120 t/day.

220.4 The extension of the infeed area in the biohalls with a view to increasing the available volume of each infeed by 10-13%.

221. UBB recognised, however, that there were risks in these proposed modifications. First, there was a risk that the capacity improvements might not be achieved. In any event, UBB projected a continuing shortfall in capacity in the biohalls of 113 t/day even with these modifications. Further, UBB recognised the practical effect of the diversion of waste was that it would need to achieve an even higher level of mass reduction in the biohalls to meet the contractual requirements for Recovery. Indeed, it calculated that the level of Recovery required to compensate for the diversion of waste would have to be 57% which, it recognised, was “much higher” than the design parameters. As to the remaining deficit of 113 tonnes, the paper proposed possible further solutions, including an even more radical bypass by reducing the size of the largest screen in the pre-processing trommels thereby increasing the amount of waste in the trommel overflow.
222. The Process Improvements Report was kept strictly confidential to UBB’s board. David Silva observed that it had caused “quite a commotion” and could not be shared with Essex. Gaining full approval for the proposed modifications from the Authority was seen as of paramount importance. It is therefore clear that UBB had identified by the spring of 2015 that it was essential to divert very substantial volumes of waste from the biohalls in order to have any chance of meeting the contractual Throughput Test.
223. An internal UBB review dated 1 April 2015 identified that the project faced issues that, left unaddressed, could result in termination upon failure to pass the Acceptance Tests and exposing UBB to damages of up to £89 million. The report recorded:
- “The Essex waste facility is currently not able to handle the waste tonnages required under the contract and if unresolved would result in failure to meet the Performance tests require[d] in order to achieve contractual Service Commencement. This situation is principally the result of an incorrect design assumption for the density of the waste received. This error has resulted in a number of elements of the plant being undersized in particular the volumes of the bio-halls. The reduced size of the biohalls means that the plant, as currently configured, will not be able to process the volume of waste anticipated and will not be able to pass the Performance Test demonstrating throughput of 1278Te in a single shift.”
224. The internal report recommended setting up the so-called Red Team to provide leadership and find solutions to the issues facing the facility. Meanwhile, it was critical of the solutions proposed to date, which presumably was a reference to the by-pass of the HWRC and trommel-overflow waste. It recorded:
- “At today’s date we do not have a solution that enables the plant to meet the throughput performance required. The engineering studies produced are incomplete, do not thoroughly explore the issues concerned and it is unclear whether all the claims that underpin the proposals are credible, at the least they are not fully tested. It seems clear that the team as configured is struggling to cope with day to day issues and at the same time deal with a newly emerged work front which is resolving the issue of plant redesign. Based on the proposals seen to date we do not believe that sufficient rigour and resource is being applied to this extremely urgent and concerning issue.”

225. On 10 April 2015, Wardell Armstrong provided consultancy advice to UBB about the Process Improvements Report. It reached a number of stark conclusions:
- 225.1 Even at the assumed density of 0.55 t/m³, the biohalls were too small.
 - 225.2 Even if the modifications functioned as predicted in the Process Improvements Report, they would not fully address the Throughput issue.
 - 225.3 The modifications would have little impact on the overall density of the waste fed to the biohalls.
 - 225.4 Wardell Armstrong's calculations in a mass balance model suggested that the effect of the need to divert significant streams of waste away from the biohalls meant that the contractual Recovery test would not be met. Outputs were projected to be between 70-77% of the input waste whereas UBB was required to achieve Recovery of 47.85% meaning that outputs could not be more than 52.15%.
 - 225.5 While the diversion of the bulky waste might mean that the bio-halls were slightly more effective in degrading the remaining waste, there was a "significant risk" that the overall BMW reduction test would not be met.
 - 225.6 It was not clear how UBB could achieve the suggested improvement in extraction of recyclates.
226. In a subsequent presentation dated 13 May 2015, Wardell Armstrong considered the effect of reducing the bio-stabilisation period from seven to six weeks. While plainly this would free space in the biohalls, it would, in the consultant's view, "rely on very high and unrealistic biological degradation results to able to operate successfully."
227. By the summer of 2015, UBB clearly understood the true scale of the problem:
- 227.1 An internal email dated 15 May 2015 recognised that, even with the proposed modifications, the required Throughput was unlikely to be met. The same email recorded the following important conclusion as to the required action:

"Acceptance criteria – re-write required to represent what is deliverable rather than what is contracted – which in some cases is likely to be impossible."
 - 227.2 A Red Team report dated 12 June 2015 concluded that it had no objective evidence to "provide confidence" that the facility would be able to meet the Recovery, BMW reduction or Recyclate tests at the contractual Throughput. It recommended a commercial strategy of renegotiating the Acceptance Tests and, in particular, a reduction in the Throughput Test and the deletion of the BMW reduction Test. It calculated that the net present value of "buying-down" the contract was as much as £77 million. Professional indemnity insurers were being put on notice and meanwhile UBB explored whether it in turn might have claims against its suppliers.
 - 227.3 On 10 July 2015, UBB issued a "Nightmare Scenarios Paper" that concluded:

"Should the current situation continue, the SPV could be terminated under the Project Agreement for contractor default. It is assumed in this paper that the situation is not rectifiable, there would be no retender, and senior lenders would neither step in nor procure the transfer of the contractor's rights and liabilities to a suitable substitute contractor."

A likely more attractive alternative to termination for contractor default would be to seek to negotiate, in good faith, more deliverable acceptance tests and performance guarantees with the authority. This exercise is in train, albeit despite the present lack of empirical data to establish revised operational levels.

Critically, in tandem, dialogue and negotiation will need to be maintained with the funders who are disadvantaged by reductions in plant capacity and performance.”

227.4 An internal paper dated 30 July 2015 recorded significant issues with both BMW reduction and Recovery:

“The implications of the undersized biohalls and the resultant bypass requirement impact heavily on the BMW reduction ... test making it virtually impossible to pass ...

The mass reduction percentage required in the biohalls resulting from biodegradation and moisture loss being measured against the tonnage of [treatable contract waste] entering the facility and as such becomes more difficult to achieve the greater the tonnage of treatable contract waste that bypasses the bio-halls and is not therefore exposed to the bio-degradation and drying processes that occur there.”

THE APPROVED MODIFICATIONS

Modification 1: The by-pass for bulky non-organic materials

228. Mr Faraldo made the first QSRF proposal by email to Alex Creecy on 13 February 2015. He wrote:

“I would like to check with you the modification we are studying with Masias for the fraction of the bulky waste shredder.

As you know we have a lot of non-organic / low density material (such as foam form mattresses) that are not good for the biological process. With this solution (reversible conveyor) we could maintain the current process line (Shredder+Magnet+Biohalls) and have a new option (Shredder+Magnet+SRF).”

229. Mr Faraldo presented his suggested modification at a contract review meeting on 18 February 2015. The minutes record:

“Pedro presented a concept to allow non-bio bulky waste to be shredded for RDF without impacting on bio-stabilisation process. Meeting approved the concept and requested formal proposal.”

230. By a further email dated 25 February 2015, Mr Faraldo sent some drawings across to Essex. He explained that the proposal was “to increase the flexibility of the overall plant providing the option of not sending ‘low-density and low-biodegradability waste’ to [the] bio-stabilisation process.” He added:

“As discussed as well we do not intend to use this option in the event HWRC contains biodegradable waste or potentially recyclable waste (black bag) that will be run through processing/biohall. We have several reason (sic) to do so, as biodegradable waste will

improve our biological process, increase the density in the infeed area and help us to achieve the performance guarantees (specially Recovery and BMW reduction).”

231. Mr Faraldo formally submitted this by-pass proposal on 4 March 2015. In doing so, he again repeated the statements that the proposal was to “increase the flexibility of the overall plant providing the option of not sending ‘low-density and low-biodegradability waste’ to the bio-stabilisation process” and that UBB did not intend “to use this option in the event HWRC contains biodegradable waste or potentially recyclable waste (black bag) that will be run through pre-processing/biohall.”
232. Accordingly, the proposal as presented and explained to the Authority was limited in its scope:
- 232.1 The modification was to introduce additional functionality in that it added an optional bypass for use when processing low-density non-organic waste. The specific example given was of foam mattresses.
- 232.2 The bypass was proposed to prevent bulky low-density non-organic waste being fed into the bio-stabilisation halls for little or no biological benefit.
- 232.3 The modification was not to be used to divert HWRC waste wholesale but was an additional option for use in such cases where bio-stabilisation would have no tangible benefit.
- 232.4 Further, UBB assured the Authority that the bypass would not be used when the HWRC waste contained biodegradable or potentially recyclable waste. Specifically, it would not be used for black-bag waste within the HWRC stream.
233. The limited scope of the initial proposal and the low-key description of it as an “option” to add flexibility are, in my judgment, in sharp contrast to UBB’s internal realisation that this and other modifications were required in order to address a serious problem caused by a fundamental design error that, left unaddressed, would mean that the facility had no prospect of processing the required throughput of waste.
234. On 10 March 2015, Mr Creecy responded to the 4 March proposal. He explained that the Authority was content to respond under the simplified review procedure set out in schedule 9. He responded “Level A – no comment” which, pursuant to paragraph 4.1 of schedule 9 to the contract, meant that UBB was then contractually required to make the modifications. He added that it would be necessary to make consequential changes to the service method statements and also to the as-built drawings. He did not require immediate submission of the proposed amendments to the method statements but said that they should be provided in April 2015 upon the forthcoming annual review.

Modification 2: The by-pass for the trommel-overflow fraction

235. On 24 March 2015, Mr Faraldo submitted UBB’s proposals to enable the trommel-overflow fraction to be diverted to the bulky shredder and to add an additional magnet before the shredders and an additional baler for plastic film. Mr Faraldo added:

“These improvements to the Facility would be performed at no cost to the Authority and would be completed prior to the commencement of the Acceptance Tests.”

236. Mr Creecy asked for more information. Specifically, by an email dated 30 March 2015 he asked UBB to identify any risks arising from these proposed changes that could impact on the Authority. Luis Perez, the Project Director at the facility, responded on 9 April 2015:

“... the EPC contractor can confirm that we have not identified any risks arising from the changes that could impact the Authority.”

237. It is difficult to reconcile such assurance with UBB’s own internal identification of risks, including the risk that the diversion of waste from the biohalls would require the bio-stabilisation process to achieve a level of reduction somewhat in excess of the facility’s own design parameters. I do not accept Mr Faraldo’s assertion in cross-examination that it was not necessary to identify such known risk because the performance risk lay with UBB.

238. Essex approved the proposed modifications. Its letter of 20 April 2015 again accepted the proposals under schedule 9, gave the formal “Level A – no comment” response and indicated that the Authority was happy to receive the amended service method statements at the forthcoming annual review.

Modifications 3-5: The second bulky shredder, the bio-hall changes and the refining changes

239. On 22 July 2015, Mr Faraldo emailed Mr Creecy about the possibility of reducing the period in the biohalls from seven to six weeks. I have already commented on UBB’s disreputable conduct in undertaking what Mr Faraldo referred to as “motorbike selling.” Certainly, it is plain that UBB proposed reducing the period as part of its strategy to extricate itself from the problem caused by the density design error and not out of some desire to improve the performance of the biohalls.

240. On 19 August 2015, UBB submitted further proposals:

240.1 Modification 3: The installation of a second bulky shredder to shred waste from the QSRF Line.

240.2 Modification 4: Modifications to the infeed bridge and rotopala in the biohalls together with a reduction in the bio-stabilisation period to six weeks.

240.3 Modification 5: Modification of the screen size in the refining trommels in order to improve the recycling performance and the quality of the SRF outputs by recovering more aggregates.

241. By its letter of 8 September 2015, the Authority accepted modifications 3, 4 and 5 under schedule 9 and again gave the formal “Level A – no comment” response. It pointed out, that the as-built drawings were significantly overdue and again sought amended service method statements reflecting these further modifications.

THE WALKING FLOOR AND TRAILER-LOADING SYSTEM

242. On 19 August 2015, UBB also submitted its proposal for the installation of a walking floor and trailer-loading system in order to divert the QSRF Line away from the congested reception hall (modification 6). By its letter of 8 September 2015, the Authority rejected this further proposal. The proposal was resubmitted on 20 October 2015 and rejected again on 9 November 2015.

UBB'S ENTITLEMENT TO OPERATE THE APPROVED MODIFICATIONS

The effect of approval under schedule 9

243. The contract contained two mechanisms for the approval of modifications to the facility. Schedule 9 provided a fast-track review procedure while schedule 21 provided a more complex change protocol. Approval of modifications pursuant to schedule 9 has the following consequences:
- 243.1 First, by paragraph 4.1 of schedule 9, the contractor is required to comply with and implement the approved modifications.
- 243.2 Paragraph 4.5 adds that the modification could thereafter be “used or implemented for the purposes for which it is intended but, save to the extent expressly stated in this Contract, such [approval] shall not otherwise relieve the Contractor of its obligations under this Contract nor is it an acknowledgment by the Authority that the Contractor has complied with such obligations.”
- 243.3 Paragraph 5.3 provides that approval does not operate to exclude or limit the contractor’s obligations or liabilities or the Authority’s rights under the contract.
- 243.4 Clause 16.5.3 provides that once consent is given pursuant to schedule 9, a modification forms part of the construction programme.
- 243.5 Clause 16.7 provides that notwithstanding clause 16.5 and schedule 9, changes to the works method statements (other than to certain technical drawings) require the express prior written consent of the Authority, such consent to be:
- “(a) in the absolute discretion of the Authority in respect of matters which may or would in the reasonable opinion of the Authority have a detrimental effect on the Performance Guarantees or the Contractor’s ability to achieve the Performance Guarantee; or
 - (b) in respect of matters not set out in (a) above ..., through the Review Procedure.”
- 243.6 Clause 22.3.1 provides that the contractor is permitted to propose changes or amendments to the service method statements. Changes other than to such technical drawings are dealt with as follows:
- “(a) any change or amendment which may or would in the reasonable opinion of the Authority have a detrimental effect on the Performance Guarantees or the Contractor’s ability to achieve the Performance Guarantees shall be treated and assessed as a Contractor Change and accordingly be subject to Authority approval in accordance with Schedule 21 (Change Protocol); or
 - (b) in respect of matters not set out in (a) above ..., such change or amendment to be submitted to the Authority for review pursuant to Schedule 9 (Review Procedure).”

244. Here, modifications 1-5 were approved pursuant to schedule 9. On each occasion, the Authority expressly waived its rights to require the proposed change to be submitted pursuant to the change protocol under Part 5 of schedule 21. Accordingly, and subject to the further planning issues dealt with below:
- 244.1 UBB was not just entitled to make the approved modifications but was obliged to do so.
- 244.2 The diversion of HWRC waste (modification 1) can, however, only be used for its stated purpose of bypassing the pre-processing and bio-stabilisation modules when processing bulky low-density non-organic waste, but cannot be used to divert HWRC waste wholesale or to process black-bag or other biodegradable waste in the HWRC stream.
- 244.3 Notwithstanding such modifications, UBB remained liable to meet the performance guarantees and pass the Acceptance Tests.
245. At trial, the Authority asserted that it had been deliberately misled by UBB. For the reasons already explained, there was, unfortunately, a proper basis for such allegation. I reject UBB's suggestion that this was nothing more than an improper tit-for-tat response to its own case that the Authority acted other than in good faith. That said, UBB is right to point out that the Authority failed to plead any case in respect of this matter. There is accordingly no claim that the Authority's approval was vitiated by some misrepresentation.

Planning issues

(a) Material change of use

246. The Authority contends that the installation and operation of the QSRF Line was in any event in breach of planning permission. Section 57 of the *Town and Country Planning Act 1990* provides that development should not be carried out except with planning permission. Development is defined by s.55 as:
- “the carrying out of building, engineering, mining or other operations in, on, over or under land, or the making of any material change in the use of any buildings or other land.”
247. It is common ground that the installation of the QSRF Line was not operational development since such works only affected the interior of the building and did not materially affect its external appearance. The Authority argues, however, that the operation of the QSRF Line nevertheless comprises a material change in use. This argument was not pursued with any great vigour in the Authority's closing submissions, or indeed by its planning expert, Christopher LeCointe. In my judgment, they were right not to do so:
- 247.1 Planning permission was granted for an “enclosed facility for the Mechanical and Biological Treatment of municipal solid waste and commercial and industrial waste.” As both planning experts identify, the prior lawful use of the facility was waste management including offices and car parking.
- 247.2 The introduction of a further line for the mechanical treatment of part of the waste stream was not a change of use, let alone a material change of use. The amended

facility with the QSRF Line is still used for waste management and incorporates offices and car parking.

(b) Breach of planning permission

248. The Authority's principal argument is that the installation of the QSRF Line was a breach of condition 2 of the planning permission, which provided that the development should be carried out in accordance with the details of the application and, among other documents, the Planning Statement and the Environmental Statement.

249. In *Trump International Golf Club Scotland Ltd v. Scottish Ministers* [2015] UKSC 74, [2016] 1 W.L.R. 85, the issue was the proper approach to construing conditions imposed under s.36 of the *Electricity Act 1989*. Before turning to the proper approach under the 1989 Act, Lord Hodge observed, at [33]:

“There is a modern tendency in the law to break down the divisions in the rules on the interpretation of different kinds of document, both private and public, and to look for more general rules on how to ascertain the meaning of words. In particular, there has been a harmonisation of the interpretation of contracts, unilateral notices, patents and also testamentary documents ...

Differences in the nature of documents will influence the extent to which the court may look at the factual background to assist interpretation. Thus third parties may have an interest in a public document, such as a planning permission or a consent under s.36 of the 1989 Act, in contrast with many contracts. As a result, the shared knowledge of the applicant for permission and the drafted of the condition does not have the relevance to the process of interpretation that the shared knowledge of parties to a contract, in which there is no third party interest, has. There is only limited scope for the use of extrinsic material in the interpretation of a public document, such as a planning permission or a s.36 consent: *R v. Ashford Borough Council, Ex p Shepway District Council* [1999] PLCR 12, per Keene J at pp.19C-20B; *Carter Commercial Developments Ltd v. Secretary of State for Transport, Local Government & the Regions* [2003] JPL 1048, per Buxton LJ at [13] and Arden LJ at [27]. It is also relevant to the process of interpretation that a failure to comply with a condition in a public law consent may give rise to criminal liability... This calls for clarity and precision in the drafting of conditions.”

250. Summarising therefore the approach to construction, Lord Hodge said, at [34]:

“When the court is concerned with the interpretation of words in a condition in a public document such as a s.36 consent, it asks itself what a reasonable reader would understand the words to mean when reading the condition in the context of the other conditions and of the consent as a whole. This is an objective exercise in which the court will have regard to the natural and ordinary meaning of the relevant words, the overall purpose of the consent, any other conditions which cast light on the purpose of the relevant words, and common sense. Whether the court may also look at other documents that are connected with the application for the consent or are referred to in the consent will depend on the circumstances of the case, in particular the wording of the document that it is interpreting. Other documents may be relevant if they are incorporated into the consent by reference ... or there is an ambiguity in the consent, which can be resolved, for example, by considering the application for consent.”

251. Commenting on earlier cases in which judges had sought to lay down specific principles for the interpretation of planning conditions, Lord Carnwath added, at [53], that he saw dangers in an approach that might lead to the impression that there is a separate set of rules applicable to planning conditions or indeed that the process is one of great complexity.

252. Although the Supreme Court in *Trump* was not construing the terms of a planning permission, it is plain that the court intended its approach to be of wider application. Indeed, the approach in *Trump* has since been applied by the Supreme Court in the planning context in *Lambeth London Borough Council v. Secretary of State for Housing, Communities & Local Government* [2019] UKSC 33; [2019] 1 W.L.R. 4317. In *Lambeth*, Lord Carnwath observed, at [19], in terms that will be familiar to any contract lawyer:

“In summary, whatever the legal character of the document in question, the starting point – and usually the end point – is to find ‘the natural and ordinary meaning’ of the words there used, viewed in their particular context (statutory or otherwise) and in the light of common sense.”

253. Condition 2 of this planning permission has already been the subject of judicial review proceedings heard by Lieven J in July 2019: *UBB Waste (Essex) Ltd v. Essex County Council* [2019] EWHC 1924 (Admin). The judge held that in construing condition 2, the terms of the Planning and Environmental Statements, among other documents, fell to be considered. This was plainly right since these statements were expressly incorporated by reference. As Lieven J observed, in cases like this where substantial documents are incorporated, one needs to take an overview of the documents.

254. Section 5.1 of the Planning Statement explained:

“The waste received will be processed in the following three stages:

- Pre-processing;
- Bio-stabilisation; and
- Refining.

In broad terms, the pre-processing stage will allow for the recovery of high levels of recyclable material from the residual stream with the remaining (largely organic) fraction being passed through to the bio-stabilisation phase.”

255. By Appendix 8 to the Planning Statement, UBB described the treatment process further:

“The MBT facility will treat Municipal Solid Waste (MSW) from Essex County Council and Southend-on-Sea Borough Council, including Waste Collection Authority (WCA) residual waste, trade waste, bulky waste, street sweepings and waste from Household Waste Recycling Centres (HWRCs). This will be through a process of pre-treatment, bio-stabilisation and refining. The process is designed to reduce the weight and volume of material being sent to landfill while extracting materials for recycling and producing either a Stabilised Output Material (SOM) or a Solid Recovered Fuel (SRF) or both.”

256. Section 1.6 of the Environmental Statement provided an outline description of the proposed development. At section 1.6.1, the document explained that waste would be treated in three stages: pre-processing, maturation and refining.
257. I reject UBB's submission that the Authority's case depends upon an unreasonable reliance on the detail of plans. The question, just as in the case before Lieven J, is to determine the natural and ordinary meaning of the planning permission which, in turn, incorporates by reference the Planning and Environmental Statements. In my judgment, these statements plainly stated that the waste would be processed and, after the extraction of recyclates, composted in the bio-stabilisation halls before passing through the refining unit. Therefore, operating the facility such that a very substantial quantity of waste is diverted away from the biohalls altogether is not in accordance with condition 2. Further, the mass diversion of waste was plainly not *de minimis*.
258. I am fortified in this construction of condition 2 by Lieven J's own analysis. The case before her involved UBB's challenge to the grant of a certificate of lawfulness pursuant to s.192 of the 1990 Act by which Essex, as the Waste Planning Authority, certified that the introduction to the facility of 30,000 tonnes per annum of source-segregated green garden waste was lawful. Construing the Planning and Environmental Statements among other documents incorporated into the permission, the judge concluded that the permission was for the processing of residual waste and that accordingly the permission did not allow the introduction of source-segregated waste.
259. Therefore:
- 259.1 The introduction of the QSRF Line by modifications 1 and 2 was in breach of planning condition 2.
- 259.2 Modifications 3, 4 and 5, which simply involved some amendment to the pre-processing and bio-stabilisation procedures, did not involve any such breach.

(c) The consequences of the planning breach

260. On 18 January 2019, UBB applied for a certificate of lawfulness in respect of the existing use of the development. On 27 March 2019, the Authority (in its capacity as the Waste Planning Authority) refused the application on the basis that the planning permission required all waste to go through pre-processing, bio-stabilisation and refining. Nevertheless, the planning authority determined to take no enforcement action. That is not, however, an answer to the different question of the contractual effect of the planning breach.
261. Clause 13.1.3 of the contract provided:
- “The Contractor shall or shall procure that the Construction Sub-Contractor (and its sub-contractors and consultants) shall carry out the design ... and the construction, completion, commissioning and testing of the Works so that: ...
- 13.1.3 the Works fully comply with and meet all the requirements of ... all Consents ...”

262. Further, during the Services Period, UBB was obliged to provide the Services in accordance with the terms and requirements of any planning permission: clause 22.1.1(f).

263. At first blush, there is therefore a conflict between UBB's obligation to make modifications to the facility upon approval of the initial QSRF modifications and UBB's obligation not to construct the facility in breach of the planning permission. The answer to such apparent conflict is that contractually the planning risk remained with UBB:

263.1 Clause 10.3 provided:

"... insofar as any Consents are required for the carrying out of any part of the Works at or off the Site and/or the operation and/or use of the Site, the Contractor will at its own expense in all respects procure that such Consents are obtained prior to the commencement of the relevant part of the Works, or the relevant operation or use of the Site (as the case may be), and, in any event, by any such date or dates as may be required to comply with the Construction Programme (as amended from time to time in accordance with this Contract), and will supply copies of such Consents to the Authority."

263.2 Clause 90.2 provided:

"Neither the giving or any approval ... nor the review of any document or course of action by, or on behalf of the Authority ... shall relieve the Contractor of any of its obligations under this Contract ..."

263.3 Clause 90.3 added:

"... no examination or lack of examination by the Authority ... of the Contractor's drawings, documents, calculations or details relating to the design, construction, completion, commissioning and testing of the Facility ... nor any comment, rejection or approval expressed by such person in regard thereto, either with or without modifications, shall in any respect relieve or absolve the Contractor from any obligations or liability under or in connection with this Contract ..."

264. Thus, notwithstanding the approval of many of the QSRF modifications, UBB is not entitled to divert waste away from the biohalls without first obtaining revised planning permission for the facility. Further, UBB cannot avoid this conclusion by resorting to implied terms of good faith since the contract expressly places the planning risk upon the contractor.

UBB'S ENTITLEMENT TO INSTALL THE WALKING FLOOR AND TRAILER-LOADING SYSTEM

UBB's case

265. At paragraph 61 of its Defence and Counterclaim, UBB argues:

"[The proposed walking floor and trailer-loading system] were not related to the production of QSRF (which had already been approved), but rather related to the handling of the QSRF once produced. These changes were necessary to operate the QSRF Line (as previously approved) as the number of truck movements to transport small quantities of QSRF from one side of the Facility to another would be unworkable."

266. Thus, UBB argues that no further approval was in fact required since these further modifications were consequential upon the previous approved changes and were therefore “covered” by such earlier approval. It adds that the Authority had waived its right to and/or is estopped from relying on schedule 21. Alternatively, UBB argues that the Authority acted unreasonably, capriciously and in breach of its alleged duty to co-operate in good faith and not to obstruct contractual performance in refusing to consent to these further modifications. Further, it pleads that:
- 266.1 having authorised changes to be made to the facility at UBB’s expense;
 - 266.2 UBB having spent some £2.7 million on making such changes; and
 - 266.3 having allowed UBB to operate the QSRF Line without objection,
- the Authority is now estopped from objecting to the use of the QSRF Line and has waived any right of objection.

Implicit approval

267. In my judgment, the argument that no further approval was required can be swiftly dispatched. This contract contained a sophisticated mechanism for the submission both of minor modifications and contractor changes under schedules 9 and 21. The approval of the earlier modifications plainly did not entitle UBB to install a walking floor or trailer-loading system. In any event, I do not accept the central premise that these further modifications were necessary in order to operate the QSRF Line as previously approved since the by-pass of bulky HWRC waste had been proposed and approved for the limited purpose of diverting low-density non-biodegradable bulky waste away from the biohalls and not for the full-bore diversion of all HWRC waste. These modifications might well have been necessary to operate the QSRF Line as UBB intended, but they were not necessary to operate the more limited diversion of waste that had been proposed and approved.

Estoppel & waiver

268. The Authority had certainly waived its rights to require the approved modifications to be submitted pursuant to schedule 21, but on a proper reading of its letter of 8 September 2015 there was no waiver of its rights under schedule 21 in respect of the walking floor and trailer-loading system. Further, while the Authority would be estopped from now seeking to challenge the approved modifications for their stated purposes, there is no estoppel in respect of UBB’s further modifications to install a walking floor and trailer-loading system. In short, UBB proceeded at its own risk in proposing and installing more limited modifications to introduce a QSRF Line for the claimed purpose of diverting the low-density non-biodegradable bulky waste and the trommel-overflow fraction away from the biohalls. If it considered that such investment was only viable in the event that it could also install the walking floor and trailer-loading system then it should have brought forward its full proposals for the bulk diversion of waste from the outset rather than proceed piecemeal.
269. In cross examination, UBB sought to establish that Mr Creecy knew full well that it intended to operate the QSRF Line as a mass diversion of waste away from the facility. The point can be taken shortly. I accept Mr Creecy’s evidence that the penny only dropped in October 2015 and that he was genuinely shocked when he realised that UBB was proposing to produce QSRF and normal SRF in equal proportions. This is borne out by his contemporaneous emails and I reject the idea that his surprise was contrived. For what it is

worth, I do, however, accept UBB's argument that Mr Creecy should perhaps have identified rather sooner than he did the true extent of UBB's proposed diversion of waste. There were, as Mr Creecy accepted in cross examination, earlier clues that should have allowed him to piece together the picture. Nevertheless, such finding does not assist UBB:

269.1 UBB designed and built a facility that was far too small to process the guaranteed throughput of waste.

269.2 Realising its error, it determined that it needed to divert vast quantities of waste away from the biohalls and create a new output, QSRF.

269.3 UBB might have chosen openly to declare its fundamental design error and the seriousness of the consequent throughput problem. Had it done so, it could have openly disclosed to the Authority that the contracted throughput of waste could only be processed by the introduction of the QSRF Line and that such line would involve the mass diversion of all bulky waste away from the biohalls.

269.4 Of course, a far less ambitious case for QSRF could be logically and attractively "sold" to the Authority by pointing to the futility of seeking to compost foam mattresses and other low-density non-biodegradable bulky waste and arguing that the performance of the facility would be improved by extracting such waste, while assuring the Authority that biodegradable waste in the HWRC stream would not be diverted.

269.5 Having chosen to proceed on such basis, UBB cannot now complain that the Authority did not read between the lines and divine its true intentions.

270. In any event, for the reasons explained below, the Authority was entitled to object to modification 6.

Was the Authority in breach of contract in failing to approve modification 6?

271. The walking floor and trailer-loading system were necessary because UBB intended to operate the QSRF Line at full bore. There was nothing unreasonable, capricious or irrational in the Authority's rejection of these further modifications. Further, there is no basis for alleging a lack of good faith in such rejection:

271.1 As Mr Creecy explained in his evidence, the Authority's rejection of this modification followed a careful consideration of both the merits and practicality of the proposal.

271.2 The Authority was entitled to conclude that these further modifications were not necessary in order to operate the QSRF Line for the limited purposes already approved.

271.3 For the reasons explained at paragraphs 296-306, running the QSRF Line at full bore would make it impossible for the facility to pass the performance guarantees and therefore the Acceptance Tests. Plainly it cannot have been unreasonable, capricious or irrational to reject modifications that would prevent UBB from passing the critical Acceptance Tests.

271.4 Indeed, the implied terms cannot be used to undermine the parties' express agreements that:

- a) modifications approved pursuant to schedule 9 did not relieve UBB of its obligations under the performance guarantees or of the need to pass the Acceptance Tests: Sch 9, paras 4.5 & 5.3;

- b) modifications to the Works Method Statements that might have a detrimental effect on meeting the performance guarantees were in the “absolute discretion” of the Authority: clause 16.7(a); and
- c) proposed changes to the services method statements that might have such a detrimental effect would be treated and assessed as a Contractor Change in accordance with the change protocol under schedule 21: clause 22.3.1(a).

The planning issues

272. Modification 6 is part of the system for the mass diversion of waste away from the biohall. Accordingly, for the reasons already explored at paragraphs 248-259 above, modification 6 was in breach of condition 2 of the planning permission. Thus, UBB is not in any event entitled to make this modification without planning permission.

THE MODIFIED METHOD STATEMENTS

273. As noted above, in March 2015, Mr Creecy anticipated that the services method statements would need to be amended in order to incorporate the approved modifications. Nothing however was submitted until October.
274. While amendments were proposed in respect of MS01, MS06 and MS17, UBB only complains about the Authority’s rejection of its amendments to MS06. Accordingly, I shall focus on those amendments. On 19 November 2015, UBB sought approval of modifications to MS06 which specified the conduct of the Acceptance Tests. The draft proposed a number of significant changes:
- 274.1 At table 6.6b, UBB proposed amending the Throughput Test to require no less than 800 tonnes of the minimum of 5,128 tonnes that was to be processed each fortnight to be derived from the HWRC/bulky waste.
- 274.2 At paragraph 6.6.6, UBB proposed that:
- a) the Throughput Test be assessed over 12 rather than 13 weeks; and
 - b) the Throughput Test be amended so that QSRF outputs were added to both the input waste and the outputs.
- 274.3 At paragraph 6.6.6.6, UBB proposed that SRF quality be assessed by taking a blended assessment of the measured quality of both the SRF and QSRF.
- 274.4 At paragraph 6.6.7, UBB proposed that the Recovery Test be assessed over 12 rather than 19 weeks.
- 274.5 At paragraph 6.6.8, UBB proposed that the BMW reduction Test be assessed over 8 rather than 9 weeks.
- 274.6 At paragraph 6.6.9, UBB proposed that the Recyclate Test be assessed over 12 rather than 19 weeks.
275. These amendments were proposed along with modifications to the testing regime under MS17. UBB proposed to assess Reduction by counting the biogas in all inputs including QSRF but only the biogas in the SOM provided that the QSRF met the SRF specification. The effect of this modification would be that the more waste was diverted to the QSRF

Line, the easier it would become to pass the Reduction Test. Accordingly and counterintuitively, the mass diversion of waste away from the biohalls would increase the reported BMW reduction without actually improving the bio-stabilisation performance of the plant.

276. By its letter of 11 December 2015, the Authority formally rejected UBB's proposals. It explained:

“The reason for rejecting the documents is that this Method Statement is significantly affected by the ongoing discussions relating to the ‘Quick SRF’ proposals and the switch in testing methodology from BMc to DR4.

While these discussions are ongoing, and so as not to hold up the process, the Authority has made comments on the Submitted Items which are attached to this letter. Once the switch in testing methodology is resolved, all of these documents will require re-submission taking these comments into consideration ...

To help progress discussions relating to the ‘Quick SRF’ and to respond to Chris Winspear's email of the 07/12/15 regarding MS17, I include the Authority's comments on the revised Mass Balance Model that need to be addressed. In addition, we are yet to receive a satisfactory proposal regarding the mitigation of the electricity consumptions issues arising from the proposed changes to the Facility operating methods.

We look forward to receiving the additional information as requested so that the review and approval of this Method Statement can be completed as quickly as possible.”

277. I quote the letter at some length because it is the focus of UBB's complaint. UBB pleads at paragraph 67A of the Defence and Counterclaim:

“The failure to amend, in particular, MS06 renders it (on the Authority's construction of the Acceptance Tests) impossible to pass the Throughput Test (as the QSRF Line inputs are not included) and distorts the Recovery Test (as the QSRF Output is excluded).

The Authority's refusal to amend MS06, or parts of MS06 related to the QSRF Line, in its letter of 11 December 2015 or thereafter having approved the QSRF Line is capricious, irrational, in breach of the duty to co-operate in good faith and/or a decision made for an improper purpose (namely to allow the Authority to terminate the Contract).”

278. The allegation that the Authority acted capriciously, irrationally, improperly or in breach of the alleged duty by refusing to agree the amendments is, in my judgment, entirely without foundation:

278.1 First, if the Authority is right to contend that QSRF is not counted in assessing whether the facility has passed the Acceptance Tests, it is not the Authority's failure to amend such tests that makes it impossible to pass the tests but UBB's failure to design a facility capable of processing the guaranteed waste and achieving the guaranteed BMW reduction.

278.2 Further, the context is important. By November 2015:

- a) UBB had on the basis of alleged operational improvements, persuaded Essex to agree physical modifications to the facility that allowed the diversion of bulky waste and the addition of a new output;
- b) UBB had admitted that it had built a facility that would not be capable of processing the contracted throughput of waste and that was at real risk of failing the Acceptance Tests;
- c) UBB had revealed the true extent of the QSRF diversion;
- d) UBB had failed to obtain the Authority's agreement thus far for the installation of the walking floor and trailer-loading system;
- e) the facility had failed to achieve BMW reduction of anything more than three-quarters of the contractual performance guarantee;
- f) UBB had opened discussions to replace the methodology for the BMW reduction Test from the BMc test to the as yet uncorrelated DR4 test; and
- g) it had been identified that the Authority would need to seek DEFRA's approval of any changes to the performance guarantees if it were not to put the WIC funding at risk.

278.3 The proposed amendments to MS06 were not essential modifications necessary in order to allow UBB to operate the QSRF Line. Their intention appears instead to have been to make it easier for the facility to pass the Acceptance Tests. Indeed, this observation is fortified by UBB's own case that amendment is required to count the QSRF inputs and outputs in order to make it possible for the facility to pass the Acceptance Tests.

278.4 In such circumstances, the Authority was absolutely entitled to tread carefully and to seek to tie up its consideration of the proposed changes to the method statements with the wider discussions about the QSRF Line and the possible move away from the BMc test. It did not, however, simply give a blanket rejection but it went on to offer its comments on the proposed revisions to MS06.

CONCLUSIONS

279. For the reasons explained above:

279.1 UBB was entitled to make modifications 3, 4 and 5.

279.2 UBB was not entitled to divert waste away from the biohalls in accordance with modifications 1, 2 and 6.

BUYING DOWN THE ACCEPTANCE TESTS

280. On 9 July 2015, UBB fired the first shot in its effort to renegotiate the contract. It sought the complete removal of the BMW reduction guarantee and proposed that the Recovery and Recyclate tests should be run over 12 rather than 6 weeks. Such variations would, it was suggested, allow the parties to bring forward the Planned Services Commencement Date by some 12 weeks. In return, UBB offered a one-off payment of £2,825,000 payable upon achieving Service Commencement. Thereafter, the removal of the biological tests would see a reduction in the Services Gate Fee worth some £356,491 per annum at 2010 prices.

281. At a meeting on 26 August 2015, David Silva informed the Authority’s representatives that UBB would not achieve the reduction figure and “outlined his requirement for changes.” He suggested a minimum BMW reduction of 61%, being a little under three-quarters of the contractual figure of 84.2%. Chris McCarthy added that he could not see how the BMW test could be met and that the project would hit the longstop. He urged the Authority therefore to agree to accept the project on the basis of its operation in only SRF mode.
282. No such agreement was ever reached. I reject out of hand the argument that any contractual duty of good faith could possibly stretch to requiring the Authority to renegotiate the key environmental standards at the heart of this contract or to give up its contractual right to hold UBB to the parties’ bargain. Indeed, the very argument is to realise the fear expressed by Moore-Bick LJ in *MSC Mediterranean Shipping Co. SA v. Cottonex Anstalt* [2016] EWCA Civ 789, at [45], that an implied term of good faith might be “invoked as often to undermine as to support the terms in which the parties have reached agreement.”
283. Nevertheless, and lest I am wrong to dismiss the argument so lightly, I am in any event satisfied that there was nothing commercially unacceptable in the Authority’s response to UBB’s request to renegotiate the contract. Indeed, the position was complicated by the terms and conditions imposed by DEFRA upon the grant of WIC funding. The WIC letter provided:
- “2. DEFRA will have the right to review the grant payment if the project facilities fail to deliver the BMW diversion set out in the [Final Business Case] ...
 - 4. The Authority must not, without DEFRA’s prior written approval, agree to or make any material changes to the terms of the Contract or any other changes which represent a departure from the approved Final Business Case. Any plans for any such changes must be reported to DEFRA and approved by DEFRA before the changes are agreed with the Contractor or implemented. The Authority must, if so required by DEFRA, submit a Variation Business Case to DEFRA and must not proceed with such changes until DEFRA’s approval to those changes has been given. Approval to such changes would be given by way of a further Waste Infrastructure Credit Letter... DEFRA has a right has a right to review progress of this project at 3 yearly intervals (commencing at the date of issue of this Waste Infrastructure Credit Letter) to ensure that the project remains in line with the approved Final Business Case and the Waste Infrastructure credits.”
284. Accordingly, the Authority could not simply agree either to abandon the BMW reduction test or to accept changes to the Acceptance Tests without DEFRA’s approval since it would otherwise be putting funding of £100.9 million at risk.
285. At the meeting on 26 August 2015, Mr Kelsbie responded on behalf of the Authority that there were two scenarios open to it: drop the BMW test in return for compensation or let the contract play out as to its possible termination. The first option would require political approval within the Authority and DEFRA’s agreement in view of the WIC funding. Pat Wheeler of DEFRA confirmed that approval would not be a quick process and was highly likely to lead to a reduction in WICs that might make the project unaffordable. Equally, both the Authority and DEFRA agreed that termination was not an attractive option.

286. By a letter dated 7 September 2015, Mr McCarthy confirmed that UBB considered that it was unlikely that it could pass the Acceptance Tests by the longstop date. He sought to buy down UBB contractual obligations by again offering compensation. In return, UBB sought:
- 286.1 the removal of the need to pass the Recovery Test, the BMW reduction test in bio-stabilisation mode and the Recyclate tests, both as part of the Throughput test and as separate freestanding tests; and
 - 286.2 agreement that the facility would operate in SRF mode throughout the Services Period (thereby avoiding the need to establish BMW reduction performance).
- Further, UBB pointed out that the Authority would in any event be compensated for any failure to meet the Recovery and Recyclate tests through the payment mechanism in the contract.
287. At a meeting on 16 September 2015, Mr Creecy expressed his shock that UBB was only achieving BMW reduction of 38%. UBB blamed the BMC methodology for this poor result and proposed its replacement with AT4. The matter was taken up by Mr McCarthy in his letter of 21 October 2015. He explained that UBB would like to discuss the basis for a revised commercial arrangement as soon as possible. Specifically, he suggested moving to another testing regime such as AT4 or RDRI. He added that should such a change still result in the facility falling short then UBB would like to discuss a contingency plan for moving to some other metric to measure performance. To encourage the Authority to engage, the letter referred to the risk that the senior lenders funding the project might call in their loans in the event that the contractual longstop date were missed.
288. The parties explored the possibility of moving away from BMC in a series of technical meetings:
- 288.1 On 20 November 2015, they discussed a possible correlation of $BMc = 2.2 \times DR4$. UBB commented, however, that it considered that the BMW reduction target would not be achieved with the current waste mix even under optimal operational conditions. Andrew Godley of Ricardo (technical advisers to the Authority) added that while the target was challenging without the QSRF modifications, with such modifications it was “very testing” and would most likely not be achieved.
 - 288.2 On 15 December 2015, UBB promoted the LOI test but the Authority’s representatives stressed the need to establish a direct correlation with BMC in order to safeguard the WIC funding.
 - 288.3 On 8 January 2016, the Authority gave its further technical response to the LOI proposal. It expressed concern as to the accuracy of LOI testing and as to the correlation between BMC and LOI.
289. Further, on 11 December 2015, the Authority wrote to UBB indicating that it was amenable to the proposed switch from BMC to DR4 methodology to test the BMW reduction. Such agreement was expressly subject to contract and a number of conditions, principally:
- 289.1 agreement by DEFRA that it would not affect the WICs;
 - 289.2 agreement as to the details of the DR4 testing regime;

- 289.3 payment of £2,825,000; and
289.4 all other Acceptance Tests being passed.

290. Ultimately, no agreement was reached. This was perhaps inevitable:

290.1 Technical discussion as to the replacement of BMC for another testing regime was never likely to bear fruit since:

- a) the Authority needed to be clear that the new test could be correlated to BMC such that there was no reduction in the performance guarantee that would put the WIC funding at risk; while
- b) UBB needed to achieve a serious relaxation of the performance guarantees and so avoid the imposition of a replacement test that correlated to the contractual test.

290.2 The Authority's room for manoeuvre was seriously limited by the terms of the WIC funding and DEFRA's intransigence in approving significant changes to the Acceptance Tests.

290.3 Officers were also somewhat boxed in by the clear direction from Councillor Kevin Bentley that the Authority was to ensure that the facility was to enter the Services Period by the summer of 2016, it was not to cost more and officers were not to compromise on the agreed environmental standards.

291. The evidence does, however, indicate that the Authority seriously explored the possible options for saving this project and that it was just as frustrated as UBB not to find a solution. By way of example:

291.1 By his email dated 22 November 2015, Mr Creecy described the meeting on 20 November as having been his "last hope" for the project and added:

"... the conclusion that the BMW guarantee is not achievable with the Quick SRF by-pass is somewhat depressing. The Authority is completely boxed in because of the PFI credit agreement which ties our hands and prevents what would otherwise be a fairly sensible commercial negotiation to release UBB from the BMW guarantee in exchange for a gate fee reduction.

All we can do now is to continue to apply what pressure we can to UBB (in apparent unison with Motts) and pray for some kind of technical miracle in this biohalls!"

291.2 The following day, Mr Creecy very much went into bat for UBB in an internal email:

"Now that we know where we stand with DEFRA, it strikes me that we have nothing to lose from approaching [Infrastructure UK] to see if we can get a fairer hearing on our PFI Credit situation. Standing back from the problem, it seem (sic) crazy that a perfectly good piece of infrastructure and reasonable project could go to waste simply on the back of a narrow requirement to reduce the BMW that is no longer required by the Authority due to the repeal of LATs. Surely HM Treasury would rather see all the employment and environmental upsides from the continuation of the project together with the preservation of the UK infrastructure brand?"

- 291.3 In his oral evidence, Mr Creecy maintained his desire to keep the project on track, albeit he accepted that the matter was not so simple. Not only was there the issue of the infrastructure credits but, he explained, there would have been a significant procurement risk if the Authority had agreed to remove the BMW reduction test. Essex would also have left itself exposed to the so-called LATS2 risk.
292. Mr Stewart sought to establish through cross-examination of Mrs Lee that the Authority is in reality seeking to terminate this contract for convenience while dressing it up as termination for contractor default. Such case involves two central propositions:
- 292.1 First, that, whatever the problems with the facility, it is successfully diverting waste from landfill.
- 292.2 Secondly, that the political and financial landscape had changed such that the Authority decided that it wanted to extricate itself from this contract.
293. As to the first point, Mrs Lee accepted in cross-examination that there was nothing in the Authority's waste strategy that was incompatible with the plant as delivered but observed that the volume of SRF produced was higher than had been hoped. She accepted that the plant had successfully diverted waste away from landfill but asserted that it was not taking all of the Authority's waste. For example, while the plant processed some 305,000 tonnes of waste in 2017/18, a further 70,000 tonnes was not taken in leaving some black-bag waste going to landfill. Further, she explained that the Authority's complaint is that UBB is not delivering to its contractual commitments.
294. As to the second, Essex pays UBB a commissioning payment per tonne processed through the facility during the commissioning phase. Since such fee is significantly lower than the gate fee paid once the facility enters the services period, Mrs Lee accepted that in 2015 the Authority identified that it was saving money by reason of the delay in passing the Acceptance Tests. Indeed, on 19 January 2015, Gerald Price e-mailed that the Authority needed to "sit back and enjoy the financial benefit of delay." Mrs Lee denied, however, that such advantage subsisted:
- 294.1 She referred me to a Financial Fact Sheet dated 31 March 2018. Taking the figures for 2017/8, the comparative costs per tonne of waste were as follows:

| | Cost per tonne |
|--|-----------------------|
| Landfill | £102.92 |
| Facility in Services Period after WICs | £102.66 |
| Facility in commissioning phase after WICs | £94.47 |

- 294.2 On 16 May 2018, the Authority agreed with DEFRA that the payment of WICs should be reprofiled. Once these calculations were adjusted to allow for the reduction in WICs, Mrs Lee insisted that the Authority was not making substantial savings by reason of the delay in passing the Acceptance Tests.
- 294.3 Further, Mrs Lee pointed out that the shortfall in Recovery has meant that the facility has produced more SRF than it should have done, thereby increasing the Authority's spend on SRF.

295. Mrs Lee accepted that, as early as September 2015, Deloitte was instructed by the Authority to model both the costs of termination and the Authority's other options. By that date, however, UBB had reported to the Authority that it would not be able to pass the Acceptance Tests. It was therefore prudent to start modelling the financial consequences of various scenarios.

CAN THE MODIFIED FACILITY PASS THE ACCEPTANCE TESTS?

296. In view of my conclusion that UBB is not entitled to operate the QSRF Line as presently constructed, this issue does not strictly arise. I shall, however, consider the issue lest I am wrong in my earlier conclusions.

TEST 1: THROUGHPUT

297. Professor Stentiford and Dr Weatherby agreed that with the QSRF Line in operation, the facility can meet the tonnage requirement of the Throughput Test provided that the tonnage of waste processed via the QSRF Line can properly be included in such calculation.

298. As discussed above at paragraph 119, paragraph 6.6.6 of MS06 requires that:

“... a minimum of the predetermined flow rate (as specified in Table 6.6b above) of Treatable Contract Waste must be fed into the pre-processing module, feeding the bio-stabilisation line operating at maximum capacity, in order to pass this Acceptance Test.”

299. Accordingly, the contractual test requires the measurement of the tonnage of waste fed into the pre-processing module that feeds the bio-stabilisation line, and not tonnages diverted from such pre-processing module. Indeed, putting the matter more starkly, it would be somewhat surprising if on a proper construction of the Throughput Test a mechanical biological waste-treatment facility required to process 5,128 tonnes per fortnight could be said to achieve such throughput by counting waste that bypasses both the mechanical processing unit and the biohalls but is simply shredded and “pushed out the back door.”

300. It is therefore academic to consider whether, if one were allowed to count the QSRF, the facility has in fact met the tonnage requirement while operating the QSRF Line. Nevertheless, Dr Weatherby initially asserted that, on such basis, the Throughput Test had been passed during three consecutive fortnightly periods during the QATs. On analysis, I prefer Ir. Martens' evidence that even if one includes the QSRF waste, the Throughput Test was not in fact met even during the QATs:

300.1 The tonnage requirement was not met since UBB fed the line on more days and for more hours than permitted by MS06.

300.2 In any event, the Throughput Test was not met since UBB failed during such test period also to pass the other performance guarantees.

TEST 2: RECOVERY

301. The experts are not agreed as to whether the facility can pass the Recovery Test with the QSRF Line in operation. Professor Stentiford concludes that diverting 25% of the waste through the QSRF Line significantly increases the level of recovery that must be achieved on the rest of the waste to around 64%, making the Recovery Test more difficult to pass. He observes at paragraph 297 of his first report:

“In summary, the operation of the QSRF diversion requires UBB to trade Recovery and BMW reduction performance for throughput tonnage ... In my opinion that trade off makes it extremely unlikely, or even impossible, that UBB could meet all three requirements at once.”

302. Certainly, UBB failed to evidence its ability to pass the Recovery Test while operating the QSRF Line at full bore during the QATs. Indeed, UBB did not argue otherwise and rested its argument as to the Recovery Test on the basis that, on a proper construction of the contract, it was deemed to pass the test in SRF Mode and could not lawfully be required to test the facility in Bio-Stabilisation Mode. I have already rejected that argument at paragraphs 138-155 above.

TEST 3: BMW REDUCTION

303. I have already considered in some detail the question of whether the facility could pass the BMW reduction Test as originally designed. Having concluded that it cannot, I can take the question of its ability to pass the test with the QSRF Line operating at full bore rather more quickly.
304. As was recognised by the parties, diverting a considerable proportion of the waste away from the biohalls could only make it more difficult to pass the BMW reduction Test since even higher levels of biodegradation would be required to meet the contractual target. While Professor Stentiford regarded the BMW reduction guarantee to be “very ambitious”, it became, in his view, “impossible to achieve” when operating the QSRF Line at UBB’s typical rate of 25%. As already noted, the professor rightly identified the tension between processing an increased tonnage of waste through the diversion while also meeting the contractual recovery and reduction targets.
305. Professor Stentiford demonstrated using UBB’s own figures that as soon as the QSRF diversion reached 20%, it would become mathematically impossible for the facility to pass the BMW reduction Test since the required rate of biodegradation in the biohalls would exceed 100%. His analysis was compelling and, when pressed in cross-examination, Dr Weatherby accepted that the operation of the QSRF Line made it impossible to pass the test.
306. Further, when asked in cross-examination about the results of the QATs, Dr Weatherby conceded:
- “As I think I have said in my report, if you look at the QAT test and consider the impact of the bypass on the QAT results, they show that it makes the BMW test impossible to pass.”

TEST 4: RECYCLATES

307. The bulk diversion of waste without extracting any recyclates save for the ferrous metals will inevitably make it more difficult to pass the Recyclate Test. I am, however, prepared to accept that the test might still be capable of being passed if sufficient operatives were used to prioritise recycling and performance were boosted by the production of CLO.

TEST 5: SRF QUALITY

308. Again, this is not in issue.

THE QUASI-ACCEPTANCE TESTS

309. UBB pleaded that the Authority should have accepted the QATs as evidence of its ability to pass the Acceptance Tests. Such argument was always hopeless since the QATs were not formally monitored by the Independent Certifier or conducted in accordance with the method statements. The point is, however, academic since:

309.1 the facility as originally designed cannot pass the Throughput and BMW reduction Tests;

309.2 UBB is not entitled to operate the QSRF Line;

309.3 even if were entitled to operate the QSRF Line, the modified facility cannot pass the Throughput, Recovery or BMW reduction Tests; and

309.4 in any event, the QATs did not evidence the modified facility's ability to pass the Acceptance Tests.

COMPOSITION ISSUES

UBB'S DESIGN ASSUMPTIONS

310. In designing the facility, UBB and Taim Weser determined that changes in composition were unlikely to have any significant effect upon performance. Accordingly, UBB's bid did not specify any limits for either the BMW putrescible or the BMW combustible content of the waste. It explained:

“The Consortium's general approach has been to accept waste composition risk across the range of waste categories, with the exception of Residual non-combustible...

Urbaser operates over 40 MBT facilities across Europe processing residual MSW and is therefore familiar with managing the risks of changing waste composition and its impact on recyclable performance....

No minimum or maximum limit for the putrescible/biodegradable BMW has been stated as the Consortium is comfortable that this fraction has a stable Carbon to Nitrogen ratio that will allow the fermentation process to function within the parameters required for meeting the Performance Standards.”

311. UBB's technical bid specified the measures that it would take to mitigate changes in composition risk. In respect of the risk of a decrease in the overall level of BMW biodegradable/putrescible waste, UBB asserted:

“This is not really seen as a major risk as the forecast of future waste collection regimes should not have a substantial impact on the Base case Values.”

312. By an email sent on 21 May 2010, Lewis Grant of Urbaser asked David Silva and Pedro Faraldo to check his draft response in respect of composition. He added that he had provided some “grade A bullshit” and that the matter really needed checking. I do not accept the Authority’s submission that this indicated that the bid team did not itself believe that its responses were accurate; more that Mr Grant had prepared a draft that needed to be checked by someone with more technical knowledge.

313. Mr Faraldo appeared confused as to precisely what had been guaranteed. By an email dated 10 September 2010, he referred to a discussion with ORA the previous day about a “very important issue”, namely the interplay between the performance guarantees and composition risk. He suggested that the BMW reduction figure of 84% had only been guaranteed on the assumption that they received waste matching the Base Case composition and that, in the event of variance in the composition, UBB was only guaranteeing BMW reduction of 60%, being the minimum percentage acceptable to the Authority in its ISOS. Equally, he suggested that UBB was only guaranteeing Recovery of 48% on the Base Case and that the default position in the event of variance was the Authority’s minimum acceptable bid of 44%.

314. Tom Meacock of Balfour Beatty replied on 20 September 2010 correcting Mr Faraldo’s misreading of the position. He explained:

“Basically my reading of the situation is:

1. Essex have provided a base composition which is to be used by all bidders as a base for the submission only and isn’t guaranteed by them.
2. We have to guarantee our performance against any composition within the min/max limits we specify in Appendix 6.
3. If composition falls outside the limits (which in our case we’ve said is only a Residual non-combustible limit) then we don’t need to guarantee our performance.

This is how I would expect it to work and is in line with how I recall the Lancashire waste mechanism working (which was also an MBT project).

As such we should work on basis of our guaranteed performance being the 84% for BMW Diversion and 48% recovery for all compositions within the appendix 6 min/max limits.”

315. Dr Pickering of ORA expressed his concerns on 28 October 2010:

“The mass balance still shows the assumptions of how the 84.2% BMW reduction is arrived at, but it should be noted that ORA are not verifying that the plant will meet this level of reduction. ORA remain of the opinion that the BMW reduction of 84.2% is relatively high for a 6-week process and it is not clear where the margin for error between what the mass balance predicts in terms of BMW reduction and recovery rate is allowed for, especially given the limited restrictions originally set by Urbaser on the waste composition. Urbaser’s recent revision of the input bandings (to set limits for putrescible and combustible BMW) should help in this respect.

As discussed before, the actual ability to meet the 84.2% BMW reduction will be dependent on:

- The degree to which the assumptions used in the model match reality
- The level of sampling and lab analysis variation
- The actual performance of the plant
- The nature of the Contract Waste which has to be treated at the facility.”

316. Nevertheless, on 3 May 2011, UBB submitted its detailed solution. Its revised Contract Waste Composition Risk Assessment Table can be summarised as follows:

| | Base Case composition | Minimum/maximum Limit Value | Minimum/maximum Authority Change Limit Value |
|-------------------------------|------------------------------|------------------------------------|---|
| Inerts | 4.8% | N/A | N/A |
| Plastics | 14.9% | N/A | N/A |
| Metals | 4.7% | N/A | N/A |
| Residual non-combustible | 12.4% | +40% | +40% |
| BMW combustible | 32.6% | +50% | +50% |
| BMW biodegradable/putrescible | 30.6% | -20% | -40% |

317. In other words, UBB agreed to accept the risk of variation in composition from the assumed Base Case within these parameters. Accordingly:

- 317.1 UBB accepted the risk of any variation in levels of inerts, plastics and metals;
- 317.2 UBB did not require any minimum level of residual non-combustible waste and BMW combustible waste, but would not guarantee performance if the level of such waste reached 40% or 50% respectively above the Base Case;
- 317.3 UBB accepted the risk of any variation in BMW putrescible waste unless the level fell below 24.48%, being 20% below the Base Case;
- 317.4 if the level of putrescibles fell below 24.48% then adjusted performance standards would be guaranteed; and
- 317.5 if the level of putrescibles fell below 18.36% (being 40% below the Base Case composition) then UBB could not continue to operate without contractual changes.

THE COMPOSITION BANDS

318. UBB’s composition risk assessment fed directly into the setting of three composition bands at Part 2 of Schedule 31 to the contract:

| | Band A | Band B | Band C |
|-------------------------------|----------------|-------------------|---------------|
| Inerts | ≥0% | N/A | N/A |
| Plastics | ≥0% | N/A | N/A |
| Metals | ≥0% | N/A | N/A |
| Residual non-combustible | ≥0% to <17.36% | N/A | ≥17.36% |
| BMW combustible | ≥0% to <48.90% | N/A | ≥48.90% |
| BMW biodegradable/putrescible | ≥24.48% | >18.36% to 24.47% | ≤18.36% |

319. The contract provided that the composition of the waste should be regularly tested. Between the Commencement Date and the Readiness Date, the Authority was required by clause 21.9.1 to undertake Composition Tests, referred to as the “Authority Pre-Commissioning Composition Tests”. Thereafter, UBB was required to undertake the testing during the Commissioning Period. Clauses 21.9.2 – 21.9.5 provided:

“21.9.2 During the Commissioning Period, the Contractor shall undertake Composition Tests in respect of the Contract Waste, in accordance with this Clause 21.9 (including Clause 21.9A and Clause 21.9B) and Part 4 of the Composition Testing Protocol in Schedule 31 of this Contract (the ‘Commissioning Composition Tests’).

21.9.3 The Contractor shall issue the results of each set of Commissioning Composition Tests, in writing, to the Authority no later than five (5) Business Days following the receipt of the results of the relevant tests from the relevant testing laboratory.

21.9.4 The Authority shall be entitled to dispute the results of any Commissioning Composition Tests and the Contractor shall be entitled to dispute the results of any Authority Pre-Commissioning Composition Tests by referring the matter for resolution in accordance with the Dispute Resolution Procedure.

21.9.5 The Composition Test results shall be determined on a rolling annual average basis using the average results from the four most recent Composition Tests and where there are less than four Composition Tests, the average of the available Composition Tests shall be used for this purpose.”

320. The consequences of falling outwith Band A were set out at clause 21.9A.2:

“21.9A.2 If the results of any Composition Tests confirm that the composition of the Contract waste does not fall within Composition Band A, the Contractor shall, no later than twelve (12) Business Days following the date of issue of the Composition Test results ..., produce a report (an ‘Impact and Remedy Report’), together with supporting evidence ...

21.9A.4 The Authority shall be entitled to dispute the content of any Impact and Remedy Report by referring the matter for resolution in accordance with the Dispute Resolution Procedure.”

321. The contract distinguishes between a Low Level Composition Issue, defined as a “composition issue which is capable (or reasonably likely to be capable) of rectification by sourcing Waste which will improve the overall composition of the Contract Waste”, and a High Level Composition Issue, defined as not being so capable (or reasonably likely to be capable) of rectification. In the case of High Level Composition Issues, the parties are required by clause 21.9B.1.3 to undertake an Options Review “to address the deficiency in the composition of the Contract Waste” whereas, in the case of Low Level Composition Issue, the Authority can first seek to address the deficiency by other measures.

322. Clause 21.9B.2 provides that in the case of an Options Review:

“the Parties shall consider and agree the extent to which adjustments can be made to the Facility (or the design of the Facility) and/or the Commissioning Plan and/or the process equipment and/or operational practices in order to address the deficiency in the composition of the Contract Waste.”

323. Clause 21.9.B.4 provides:

“Following the Options Review, the Authority shall instruct an Authority Change in order to introduce measures to deal with the deficiency in the composition of the Contract Waste such as making adjustments to the Facility (or the design of the Facility) and/or the Commissioning Plan and/or the process equipment and/or operational practices and/or the performance requirements the Contractor is required to meet, and, in which case, for the purposes of Schedule 21 of this Contract:

21.9B.4.1 Such an Authority Change shall be deemed to be within the contemplation of the Parties;

21.9B.4.2 a deficiency in the composition of the Contract Waste will not, of itself, be a valid ground for the Contractor to reject an Authority Change in accordance with Paragraph 2 or Part 1 of Schedule 21 and it shall not be a breach of Paragraph 2.1 of Part 1 of Schedule 21 for the Authority to propose an Authority Change in such circumstances;

21.9B.4.3 the Contract shall co-operate with the Authority in devising an optimum solution for the implementation of the remedial action which takes account of factors such as the long term implications of the deficiency in the composition of the Contract Waste, the value for money implications of the options available and the impact on the overall risk profile of the Project,

Provided always that if for any reason (other than due to the breach or negligence of the Contractor or any Contractor Related Party) an Authority Change instructed pursuant to this Clause 21.9B.4 is not implemented, to the extent the Contractor demonstrates that a High Level Composition Issue has delayed or is delaying the carrying out of the Commissioning Plan, such High Level Composition Issue shall constitute a Relief Event and the Contractor shall be entitled to the direct costs (including any increased commissioning costs and/or loss of revenue and/or liability for finance costs) caused by the delay in the implementation of the Commissioning Plan.”

THE FALL IN BMW PUTRESCIBLE WASTE

324. On 9 February 2016, composition testing revealed a drop in the level of BMW putrescible waste. In the early hours of 10 February 2016, Mr Faraldo welcomed the news in an internal email:

“Perhaps here is one of the answers to all the problems!! (maybe the solution) Attached the latest composition results based on combined WCA/Bulky. We are outside Band A!

As you can imagine this could potentially set out a completely different scene for our discussion with ECC so we need to be absolutely sure we have a great understanding of the results can I please ask you to have a quick look to it so we can discuss the findings and how we can use them?”

325. A few hours later, Mr Faraldo added that he was “getting kind of excited.” He mused that commissioning would have to stop until there was an agreed solution and at the Authority’s cost. He then added:

“Apparently we have to notify ECC of the results, and we have 12 business day (sic) to present an Impact and Remedy Report, defining if we consider a low level impact (can be solve (sic) with additional waste) or high level impact (not solved with additional waste). We need to tell them the impact that the composition have (sic) in the Commissioning and proposed solution. If it is confirmed, ECC cover all costs, delays etc

Imagine that we propose as solution the QSRF, modifications in the [bio-halls], etc and ECC will have to cover the cost of all modifications? (we can even tell them that in some way the density problem is their fault ...)”

326. On 29 February 2016, Mr Faraldo sought assistance in the drawing up an Impact and Remedy Report. He wrote:

“Summarising the latest composition results ... they show that the waste is below the lower limit of the BMW Putrescible, which forces us to fulfil the performance and carry out the Acceptance Test, and place the blame for everything with the customer who would have to bear all of the costs if it is confirmed. As you would imagine, it is the lawyers and co. that are very excited, and as was to be expected the serious work ends up falling on us to the ‘technicians.’

The idea is to begin to build a report that can identify the issues created by the ‘crappy’ waste and, to some extent, assess if they can be resolved without stopping the Commissioning. We need to present something on Friday so there is no much time for embellishments, and we have to focus it on listing every issue that we can link to the lack of biodegradable material. I would like to begin ‘like the English’, which is to say without being embarrassed to say that we have a lot of flies because there is very little food, which in reality means that there is a lot of food but it is old, and therefore there is a greater probability of attracting flies (such nonsense to begin with ...). Of course, at some point a ‘reasonable’ cut will need to be made, or not? ...

Juan H / Javi, if anyone has any input on the nonsense, it’d be welcome, so if you have any crazy ideas share them there.”

Plainly, Mr Faraldo was contemplating that UBB might be able to seize upon the latest composition data to blame the waste for all ills and propose the acceptance of the QSRF Line and other modifications as part of the necessary solution, all at the Authority's cost. It was an audacious plan given that the true causes of the facility's inability to pass the tests were the serious density design error and the unrealistic BMW reduction bid.

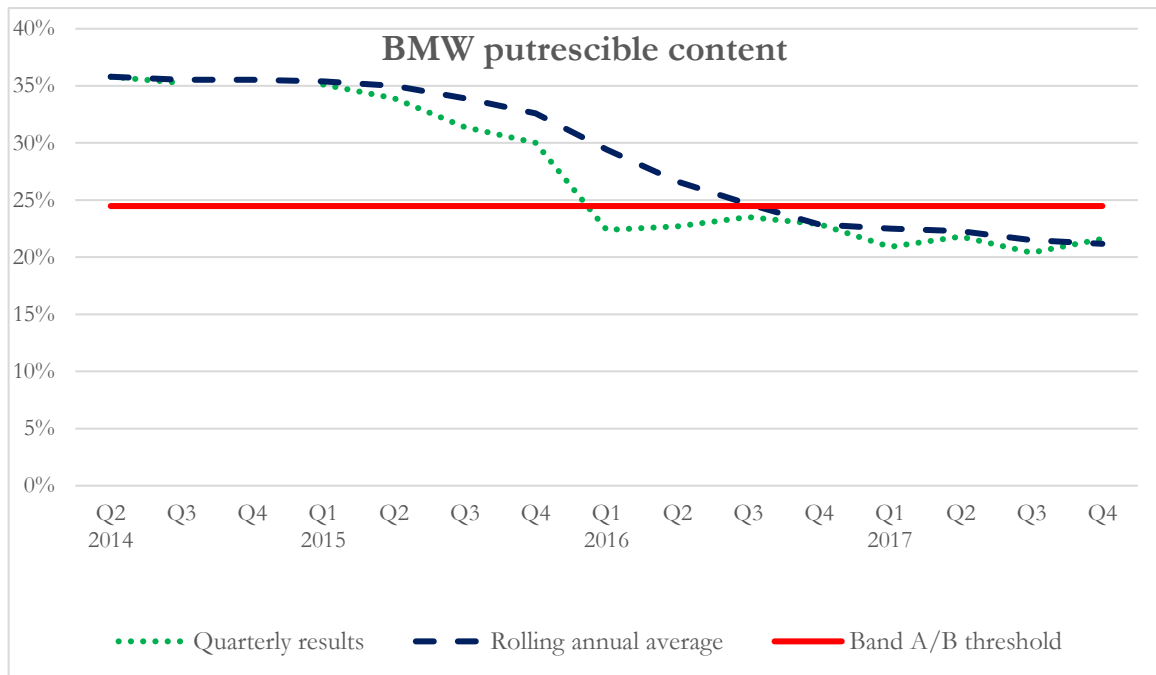
327. Further, once the composition issue was first raised, I am satisfied that Mr Faraldo's focus was upon ensuring that the waste remained in Band B. Indeed, he admitted as much in cross examination. There is much force in Mr Taverner's submission that this is very telling since if UBB really believed that the facility could pass the Acceptance Tests with Band A waste, then it would have wanted to ensure that it received Band A waste.

THE COMPOSITION DATA & ROLLING ANNUAL AVERAGE

328. While UBB argues that the Commissioning Composition Tests carried out in 2015 were not representative and the Authority challenges the tests carried out in 2016 on the basis of alleged departures from MS17, it is useful to start by considering the results obtained. I therefore tabulate the raw test results for the critical BMW putrescible fraction. In doing so, I add the rolling annual average:

| Quarter | BMW putrescible content | Rolling annual average |
|----------------|--------------------------------|-------------------------------|
| Q2 2014 | 35.8% | 35.8% |
| Q3 2014 | 35.2% | 35.5% |
| Q4 2014 | <i>Not tested</i> | 35.5% |
| Q1 2015 | 35.1% | 35.4% |
| Q2 2015 | 33.9% | 35% |
| Q3 2015 | 31.4% | 33.9% |
| Q4 2015 | 30.0% | 32.6% |
| Q1 2016 | 22.4% | 29.4% |
| Q2 2016 | 22.7% | 26.6% |
| Q3 2016 | 23.5% | 24.7% |
| Q4 2016 | 22.9% | 22.9% |
| Q1 2017 | 20.9% | 22.5% |
| Q2 2017 | 21.8% | 22.3% |
| Q3 2017 | 20.4% | 21.5% |
| Q4 2017 | 21.6% | 21.2% |

329. This data is rather more accessible in graphical format. As well as plotting the BMW putrescible levels in each quarter and the rolling annual average, I add a line showing the Band A/B threshold of 24.48%:



330. The following matters are evident:

330.1 The BMW putrescible content in 2015 was high but falling.

330.2 If judged simply over one quarter, the BMW putrescible content fell into Band B in Q1 2016 and remained below the threshold throughout 2016 and 2017.

330.3 As one would expect, the rolling annual average smooths out the variations. It did not fall below the Band A threshold until Q4 2016, but it then remained in Band B throughout 2017.

330.4 I should add for completeness that there might well be an argument for dealing differently with the calculation of the rolling average in Q4 2014 and Q1-Q3 2015 in view of the fact that there are no test results for Q4 2014. The point is, however, irrelevant to the issues in this case and the rolling-annual average for these quarters was plainly well in excess of 30% at all times during these quarters whatever methodology is adopted.

331. UBB argues that the tests in the first two quarters of 2016 triggered UBB's obligation to produce an Impact & Remedy Report pursuant to clause 21.9A.2, which provides:

“If the results of any Composition Tests confirm that the composition of the Contract waste does not fall within Composition Band A, the Contractor shall, no later than twelve (12) Business Days following the date of issue of the Composition Test results ..., produce a report (an ‘Impact and Remedy Report’), together with supporting evidence ...”

332. Mr Stewart stresses the word “any” and argues that the obligation arises where a single test reports waste falling outside Band A in a particular quarter. If he is right, then the contractual machinery for dealing with composition issues kicks in and might ultimately lead to an Options Review and Authority Change Notice before the waste fell into Band B on the basis of a rolling annual average. Mr Stewart argues that such conclusion is not surprising since otherwise resolution of any composition issue might be postponed by up to a year, and yet the Commissioning Period was only intended to run from 6 July 2014 to 12 July 2015.

333. I reject Mr Stewart’s analysis:

333.1 It is, in my judgment, inconsistent with clause 21.9.5, which provides:

“The Composition Test results shall be determined on a rolling annual average basis using the average results from the four most recent Composition Tests and where there are less than four Composition Tests, the average of the available Composition Tests shall be used for this purpose.”

333.2 Further, it is inconsistent with the flow diagram at Part 5 of Schedule 31 which clearly shows that the Composition Test results are to be determined on a rolling annual average basis and the question then posed, on the basis of such rolling average, as to whether the waste is in Band A. Such diagram can be properly used as an aid to construction; indeed, the parties so agreed at clause 21.9C.1 while also agreeing that the flow diagram was not itself contractually binding and that the provisions of the contract would prevail in the event of conflict or inconsistency.

333.3 Mr Stewart’s argument is also inconsistent with MS17. While the contents of the method statements yield to any contrary provision in the body of the contract (see paragraph 88 above), there is no such contrary provision. Paragraph 17.4.2.5 of MS17 provides:

“The method for calculating the rolling average across the six (6) material categories and therefore determining which composition band the Contract Waste falls into will be consistent with the following clauses of the Contract:

For the Commissioning Period:

- Clause 21.9.5 – sets out the requirement for calculating the average consumption based on the four (4) most recent quarterly composition tests and
- Clause 21.9A (Composition Test Results) – sets out the procedure for reporting this as part of the impact and remedy report set out in this clause”

334. I therefore draw the following conclusions:

334.1 The result of each Composition Test is determined on the rolling annual average basis. This much is clear from clause 21.9.5. Accordingly, UBB accepted the risk that waste composition might fluctuate not just from day to day but from quarter to quarter.

334.2 Thus, any individual Composition Test can only confirm that the waste falls within a particular band after application of the rolling annual average.

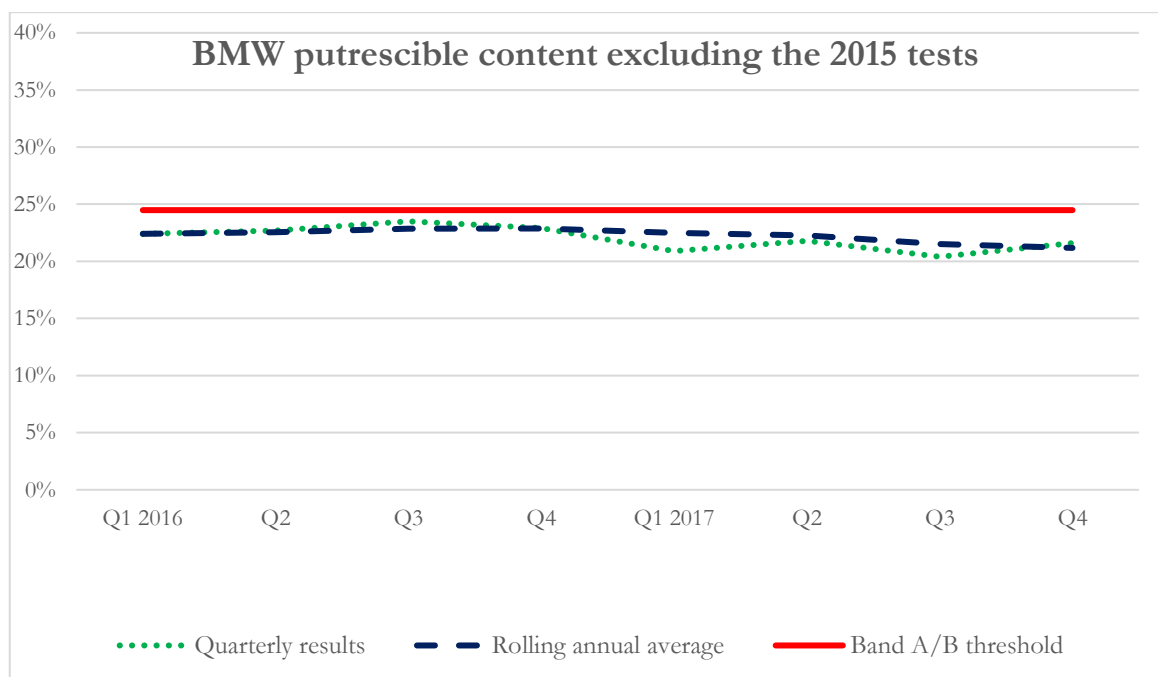
334.3 The obligation to produce an Impact & Remedy Report is – as clause 21.9.2 provides – triggered upon any individual Composition Test reporting that the composition of

the waste had fallen outside Band A. Since, however, the result of each test is to be reported on a rolling-average basis, the mere fact that the raw test data for a quarter shows that the BMW putrescible content has fallen below 24.48% is not of itself sufficient to require an Impact & Remedy Report.

334.4 Accordingly, the waste only fell into Band B in Q4 2016 and the obligation to produce an Impact & Remedy Report only arose following the issue of the Q4 test results.

CHALLENGING THE COMPOSITION TESTS

335. Plainly the position would be very different if, as UBB argues, one both excluded the 2015 results and left out of account the pre-commissioning results achieved in 2014. Rebasing the graph at paragraph 329 above, it will be seen that, if one starts with the Q1 2016 data, the rolling annual average would be in Band B throughout 2016 and 2017:



336. In turn, the Authority challenges the test results for Q1 and Q2 in 2016. If they are successfully excluded then, even if the 2014/5 results are also to be excluded, the annual rolling average would not have fallen below 24.48% until later in 2016.

337. Clause 21.9.4 does not itself specify any period within which a party can dispute the result of a composition test. UBB argues, however, that there is an implied term that any such challenge should be made by referring the matter for resolution in accordance with the agreed dispute resolution procedure within a reasonable time. Further, UBB argues that a reasonable period in this context would be less than a month.

338. In support of UBB's argument, Mr Stewart refers me to the observation of Lord Watson in *Hick v. Raymond & Reid* [1893] A.C. 22, at page 32, that there is a rule of general application that:

“when the language of a contract does not expressly, or by necessary implication, fix any time for the performance of a contractual obligation, the law implies that it shall be performed within a reasonable time.”

339. Essex responds that clause 21.9.4 does not impose an obligation but creates a right of challenge. Such right, it argues, is not, on a proper construction of the contract, qualified by the alleged implied term. Mr Taverner adds that the implied term would be inconsistent with the express provisions of clause 21.9.4 and that in any event there are no proper grounds for implying the term in this sophisticated commercial contract. The law addresses unreasonable delay in the exercise of contractual rights by the doctrines of estoppel and waiver.

340. I do not accept that the proposed implied term should be rejected for apparent conflict with an express term. Here, the contract is silent as to the time within which a party can exercise its rights under clause 21.9.4. Mr Taverner is right to submit that clause 21.9.4 creates rights rather than obligations. I reject, however, his argument that such distinction prevents the court from implying a term as to time. Indeed, such submission is, in my judgment, contrary to established authority. By way of example:

340.1 In *Reardon Smith Line Ltd v. Ministry of Agriculture, Fisheries & Food* [1963] A.C. 691, at page 731, Lord Devlin construed an option as subject to an implied term that it should be exercised within a reasonable time and for the communication of such election to the party.

340.2 In *United Dominions Trust (Commercial) Ltd v. Eagle Aircraft Services Ltd* [1968] 1 W.L.R. 74, the Court of Appeal implied a term that a finance company's right to call on the sellers of aircraft to repurchase the planes should be exercised within a reasonable time.

340.3 Further, in *Zeeland Navigation Co. Ltd v. Banque Worms* [1995] 1 Lloyd's Rep. 251, Rix J (as he then was), implied a term that a bank should exercise its right to give notice requiring a ship to be sold (in the event that it neither secured employment nor the reasonable prospect of employment by 31 December 1993) within a reasonable time of such deadline.

341. In my judgment, the proposed implied term falls to be tested against the usual principles that I have already set out at paragraphs 92-95 above. Doing so, the proposed term is both reasonable and equitable, but as Lord Neuberger observed in *Marks & Spencer* (supra), this perhaps adds little if anything to the analysis. In turning to the critical question of whether the term is necessary to give the contract business efficacy, I first analyse the contractual scheme:

341.1 The results of Composition Tests are to be reported within five business days (clauses 21.9.1 & 21.9.3).

341.2 The Authority is entitled to dispute the results of Commissioning Composition Tests and UBB is entitled to dispute the results of the Authority Pre-Commissioning

Composition Tests by referring the matter for resolution under the Dispute Resolution Procedure (clause 21.9.4).

- 341.3 Should such tests show that the waste does not fall into Band A, UBB would be required to produce an Impact & Remedy Report within a further twelve business days confirming both the impact of the test results upon its ability to meet the Commissioning Requirements and proposing remedial action to address the deficiency in the waste and to mitigate any delay in implementation of the Commissioning Plan (clause 21.9A.2).
- 341.4 The Authority is entitled to dispute any Impact & Remedy Report, again by referring the matter for dispute resolution (clause 21.9A.4).
- 341.5 Where an Impact & Remedy Report confirms, or it is determined under the dispute resolution procedure, that the waste does not fall into Band A, then the contract distinguishes between Low and High Level Composition Issues. High Level Issues trigger an Options Review while Low Level Issues may be dealt with by procuring additional sources of waste to improve the overall composition (clause 21.9B.1).
- 341.6 Following an Options Review, the Authority is required to instruct an Authority Change in order to introduce measures to deal with the deficiency in the composition of the waste (clause 21.9B.4).
- 341.7 The Dispute Resolution Procedure is set out at Schedule 22 to the contract. The parties are first required, by paragraph 3, to “consult in good faith in an attempt to come to an agreement.” Failing agreement, they are to refer their dispute to adjudication. As is usual, the adjudicator’s decision has what has been described as “temporary finality” pending any contrary decision of the court. The adjudication timetable is typically tight:
- a) The parties are to submit their written arguments within ten business days of referral (paragraph 5).
 - b) The adjudicator is required to provide a written decision within, usually, 25-30 business days of the appointment or reference (paragraph 6).
342. The context of the Commissioning Composition Tests is that these tests are carried out before and then during the Commissioning Period during which UBB is required to ramp up the processing of waste in accordance with its Commissioning Plan in order to prepare the facility to pass the Acceptance Tests. The purpose is to ensure that the waste is in Band A and, if it is not, to ensure that action is taken by either sourcing additional waste or by considering modifications to address the deficiency (through the Options Review) and then delivering such modifications (through an Authority Change Notice). Time is important since UBB was required, by clause 13.1.2, to pass the Acceptance Tests by the Planned Services Commencement Date which was a little over 12 months after the Planned Readiness Date. Further, the Authority would be entitled to terminate the contract in the event that UBB failed to pass the Acceptance Tests by the Acceptance Longstop Date some 18 months later.
343. Accordingly, I accept UBB’s argument that it was an implied term of the contract that a party should dispute the results of a Composition Test within a reasonable time.

UBB'S CHALLENGE TO THE 2015 TEST RESULTS

344. UBB pleads at paragraph 90 of its Defence & Counterclaim that, although the ramp-up period was anticipated to take around 4 weeks, it actually took a year “primarily due to the low density of the waste (which was, in part, due to the low putrescible content of the waste).” I accept that the ramp-up period was significantly extended because of the design error already identified in respect of density but I reject the suggestion that the delayed ramp up had anything to do with the alleged low putrescible content of the waste. Indeed, as set out above, the BMW putrescible content of the waste did not fall below 30% in any of the 2015 tests.

345. UBB rightly asserts that the waste delivered during the extended ramp-up period was limited to waste from a restricted number of districts and that it contained little or no HWRC waste. It therefore asserts that the waste was not representative of the Contract Waste and pleads, at paragraph 95 of its Defence & Counterclaim:

“As the waste delivered in 2015 was unrepresentative of the Contract Waste, in or around April 2015, and as evidenced by an email from Alex Creecy of the Authority to Mr Faraldo dated 24 April 2015, the parties agreed that:

- (1) The Contract did not anticipate sampling from a limited number of sources;
- (2) Sampling at that time was unlikely to generate a result that was representative of Contract Waste; and
- (3) Such results should therefore be excluded from the rolling quarterly average calculation referred to in Clause 21.9.5 of the Contract (and addressed further below).”

346. UBB further pleads, at paragraph 171(2) that the 2015 test results should be left out of account in calculating the rolling average because of such alleged agreement and because the tests were not representative of the Contract Waste. Such argument is developed at paragraph 171(2)(b) of the pleading:

“The 2015 tests were not representative of Contract Waste. UBB relies, amongst other things, on:

- (i) Clause 21.9.2 which stipulates that UBB shall undertake Composition Test “*in respect of Contract Waste*”. Tests of waste unrepresentative of Contract Waste do not comply with Clause 21.9.2.
- (ii) Clause 21.9A.1 and Clause 21.9A.2 which show that the purpose of Composition Tests is to confirm what the Composition Bands the Contract Waste falls into. Tests of unrepresentative waste do not fulfil this purpose.
- (iii) Practical issues which would arise if the 2015 tests are included within the rolling average together with representative Contract Waste.”

The alleged agreement

347. By an email sent on 20 January 2015, Mr Creecy raised the issue that the waste might not then be representative. He wrote:

“While you are in the process of considering your approach to the quarterly input waste sampling, I thought I should put a marker down in terms of the results, this

composition set may generate. The Contract did not contemplate a situation whereby the quarterly composition sampling was occurring with limited Contract Waste inputs. Given the current inputs comprising Basildon WCA only, the sampling event is unlikely to generate a result that is representative of Contract Waste. We may therefore need to agree to exclude these results from the rolling quarterly average calculation.

I'm sure that all waste sources will be undergoing treatment at the Facility during the next sampling event. However, if this is not likely to be the case, please let us know and we can arrange for representative loads to be delivered for sampling purposes using the same method as the authority was employing during its period of composition sampling responsible prior to the Readiness Date."

348. Mr Creecy said in evidence that there had been no response from UBB. Mr Faraldo confirmed in cross-examination that he had not replied to Mr Creecy, that there was no further dialogue on the issue and that his own position had been that he wanted the Q1 2015 results to be used in the rolling-average calculation. Indeed, that emerges from an internal email to Gemma Saunders on 3 February 2015 in which Mr Faraldo indicated that he intended to respond to Mr Creecy and "prove that the results should be used."

349. In advance of the Q2 2015 results, Mr Creecy again pointed out that the contract had not contemplated that testing would take place with limited Contract Waste inputs and that the results were unlikely to generate a result that was representative of the Contract Waste. He therefore added:

"We may therefore need to agree to exclude these results from the rolling quarterly average calculation if a composition 'Band' issue arises in the short term."

350. Thus, Mr Creecy again went no further than suggesting that the parties might need to reach a subsequent agreement on this issue. On this occasion, he identified that such agreement might be necessary if a composition issue arose in the short term. It didn't and therefore there was presumably no need to take the matter forward. Again, there is no evidence that Mr Faraldo replied.

351. There is, in my judgment, no evidence of any concluded agreement that the results of the 2015 Composition Tests should be excluded from the rolling-average calculation.

Challenging the 2015 test results

352. UBB's secondary argument pleaded at paragraph 171(2)(b) of its Defence & Counterclaim is not pursued in appendix 10 of its closing submissions. It is, however, an argument by which UBB seeks to dispute the results of its own Composition Commissioning Tests. This is somewhat ironic:

352.1 First, for the reasons already explained, I accept UBB's own argument that any challenge to the results of a Composition Test must be made within a reasonable time.

352.2 Secondly, this challenge is not even within clause 21.9.4, which provides a mechanism by which UBB could dispute the results of the Authority Pre-Commissioning Composition Tests and the Authority could dispute UBB's Commissioning Composition Tests. The contract did not provide any process by which a party could

dispute its own test results. No doubt such turn of events was not contemplated by the parties.

353. I do not accept that it was contractually open to UBB to dispute its 2015 Commissioning Composition Tests. If I am wrong in that conclusion then, for the reasons argued by Mr Stewart, it was not open to UBB to challenge the 2015 test results without first having taken the point at the time. In any event, the fact that the waste delivered during this period was not representative of the anticipated contract waste is not of itself a ground for challenging the composition tests undertaken upon such waste.

THE AUTHORITY'S CHALLENGE TO THE 2016 TEST RESULTS

354. Equally, it is not open to the Authority to dispute the 2016 Composition Test results without having taken the point within a reasonable time of the reporting of such tests. The Authority relies on the fact that it immediately challenged UBB's assertion that the waste had fallen into Band B. That is true, but it did so by correctly arguing that the Composition Test results were to be reported on a rolling-average basis. It did not immediately challenge the underlying test data for Q1 2016.
355. As I shall demonstrate below, in view of my conclusions as to the proper application of the rolling average, the construction of clause 21.9A.2 and the inclusion of the 2015 results in the calculation of the rolling average, it is, however, unnecessary for me to consider further:
- 355.1 whether the Authority in fact challenged each disputed test result within a reasonable time; or
- 355.2 whether, if it did, the disputed test results can stand.

CONCLUSIONS

356. I therefore make the following findings:
- 356.1 The Contract Waste was in Band A throughout 2015 and for the first three quarters of 2016.
- 356.2 Subject to the Authority's challenge to the conduct of the testing in Q1 and Q2 2016, a Composition Issue arose in Q4 2016 when the rolling average fell into Band B.
- 356.3 The contractual machinery starting with an Impact & Remedy Report and leading potentially to an Options Review and Authority Change Notice was therefore not triggered until, at the earliest, January 2017 when the results for Q4 2016 were reported.

OPTIONS REVIEW

THE IMPACT & REMEDY REPORTS

The March report

357. On 10 March 2016, UBB submitted an Impact & Remedy Report, asserting that there was a High Level Composition Issue and formally proposing a remedy which, in broad terms,

called for the acceptance of the QSRF modifications. Such report was submitted on the basis of the test results in Q1 2016.

358. The Authority disputed that it was obliged to enter into an Options Review. UBB argues that the Authority was in breach of contract in refusing to participate in an Options Review. Such case is based on the premise, that I have already rejected, that the waste fell into Band B in Q1 2016. It follows that:

358.1 UBB was not entitled to lodge an Impact & Remedy Report on the basis of the Q1 2016 test results;

358.2 there was accordingly no obligation to enter into an Options Review at that time; and

358.3 the allegations of breach of contract pleaded at paragraphs 103 and 105 of the Defence & Counterclaim must be dismissed.

The June report

359. On 15 June 2016, UBB submitted a second Impact & Remedy Report following the issue of the Q2 2016 results. It again alleged that there was a High Level Composition Issue. The Authority again disputed that it was under any obligation to participate in an Options Review, although it proposed that the parties might proceed “as if clause 21.9B [applied].”

360. The June report was again premature since the waste remained in Band A in Q2 2016. Accordingly:

360.1 UBB was not entitled to lodge a further Impact & Remedy Report on the basis of the Q2 2016 test results;

360.2 the Authority was still not under any obligation to enter into an Options Review; and

360.3 the allegations of breach of contract pleaded at paragraphs 111 and 112 of the Defence and Counterclaim must be dismissed.

THE OPTIONS REVIEW

361. Mr Land was therefore wrong to find in a subsequent adjudication that the Authority was obliged to participate in an Options Review on the basis of the March and June 2016 reports. In compliance with Mr Land’s flawed decision, the Authority entered into an Options Review in late 2016 while reserving its right to argue that it was not required to do so. Given my findings above, it is not necessary to examine UBB’s criticisms of the Authority’s conduct of such review. To quote Mr Taverner, I do not need to travel into that particular parallel universe.

362. Nevertheless, it is appropriate to make brief mention of one matter. In April 2016, the Authority reacted to the decreasing putrescible content by insisting that UBB should accept source-segregated green waste. The incident led to an exchange of correspondence as to the lawfulness of delivering source-segregated waste to the facility. UBB rightly argues that deliberately mixing such waste with the residual waste stream is a breach of the waste hierarchy, although it might be justified by life-cycle thinking. In any event, it is now clear following the judgment of Lieven J in *UBB Waste (Essex) Ltd v. Essex County Council* [2019]

EWHC 1924 (Admin) that the introduction of source-segregated green waste was in breach of planning permission. Arguably, it was also a breach of the Environmental Permit and detrimental to the performance of the facility. Nothing, however, turns upon the point.

363. Upon my findings, the earliest that UBB might have been entitled to produce an Impact & Remedy Report was within twelve business days of the issue of the Q4 2016 results. Its case is, however, firmly rooted in the flawed premise that Essex was in breach of contract by failing to enter into an Options Review following the premature reports produced in March and June 2016. There is no doubt good reason why UBB focuses on Q1-Q2 2016 since the Q4 2016 composition test results were not issued until 13 January 2017; one day after the Acceptance Longstop Date. Thus, while the waste might have fallen below the Band A threshold in the last quarter before the longstop date, there could be no Compensation Event simply on that basis:

363.1 Clause 21.9B.5 makes clear that the mere fact that a Composition Issue arose is not of itself a breach of contract and that such an issue does not give rise to either an Authority Default or a Compensation Event.

363.2 For that reason, UBB relies on the Authority's alleged breach of contract in failing to participate in an Options Review as the Compensation Event.

A COMPENSATION EVENT

364. Since there was no obligation to enter into an Options Review on the basis of the March and June reports, there was no Compensation Event as alleged at paragraph 113 of the Defence and Counterclaim.

THE DIVERSION OF WASTE DUE TO THE 2017 ASBESTOS SCARE

THE ISSUE

365. In late January 2017, laboratory testing conducted by the Authority's contractor, SLR Consulting Limited, suggested that there might be airborne asbestos fibres at the facility. The asbestos scare led to all waste deliveries to the site being suspended between 2 and 24 February 2017. By its counterclaim, UBB alleges that Essex wilfully directed or allowed waste to be diverted from the facility during this three-week period. Accordingly, it argues that the diversion of the waste was a Compensation Event pursuant to clause 21.2.5 of the contract and seeks compensation.

366. The Authority sought Further Information as to how UBB put its case on this issue. UBB responded, at Response 18 to the Further Information provided on 11 October 2017:

“The Authority determines where waste was sent and elected in February 2017 to instruct the contractors who collect ... waste from household and collection centres to send all of the waste elsewhere. When it stopped delivering waste to the Facility in February 2017, it therefore did so wilfully, meaning intentionally and deliberately.”

367. Essex denies liability for the cessation of deliveries. It argues that it did no more than pass on its testing contractor's recommendation that FFP3 masks should be worn and that it gave

no express or implicit instruction that deliveries should cease. Rather, it argues, it was the contractors responsible for delivering waste who declined to continue to deliver waste. The Authority asserts that it had no power to compel the contractors to make deliveries.

368. Since the close of pleadings, UBB's case has evolved further:

368.1 By its written opening submissions, UBB criticised the Authority for its management of asbestos risk and for its instruction of the unaccredited SLR. At paragraph 328 of its written opening, UBB tentatively argued that the Authority might be liable pursuant to clause 1.6.1 on the basis of SLR's own default. Alternatively, it was said that the Authority should never have instructed SLR in the first place and that it could not take advantage of its own wrong in order to seek to justify a departure from its contractual obligations.

368.2 Nevertheless, at the outset of the trial, UBB conservatively identified the issue as that pleaded, namely whether the Authority had wilfully directed or allowed the diversion of waste.

368.3 By its closing submissions, it was again contended that the Authority was liable on the basis of SLR's acts and omissions. The reliance on clause 1.6.1 was, however, widened further. At paragraph 224 of the main submissions and at paragraph 65 of appendix 12, UBB argued that it was irrelevant whether it was the Authority or its contractors that diverted the waste since the Authority was, by clause 1.6.1, liable for their acts and omissions.

368.4 Further, at paragraph 220 of its closing and paragraph 64 of appendix 12 to those submissions, UBB seeks to argue its case on the basis of a breach of the alleged contractual duty of good faith.

369. While the complexity of the issues meant that it was not efficient to hear pleading points during the course of the trial, I made plain to all counsel that the statements of case would both define and confine the issues in this case. Evidence and argument were heard on the express basis that if on analysis they went beyond the limits of a party's pleaded case, their admission would not of itself entitle a party to run a new case without a formal amendment. I can therefore clear the decks before focusing on the evidence and submissions relevant to the pleaded case:

369.1 There is no pleaded case that a Compensation Event arose by reason of the acts or omissions of a contractor. Accordingly, clause 1.6.1 is not in play.

369.2 Equally, there is no pleaded case that the Authority's handling of the asbestos issue was a breach of the alleged contractual duty of good faith.

THE CONTRACTUAL POSITION

370. Clause 21.2.5 of the contract provides:

“Notwithstanding any other provision in this Clause 21.2, all Contract Waste leaving a Commissioning Waste Source (which is required to deliver Contract Waste to the Facility in accordance with the Commissioning Plan) will be delivered to the Contractor in accordance with the Commissioning Plan. In the event that the Authority wilfully directs or wilfully allows such Contract Waste to be delivered elsewhere, such wilful act shall be treated and assessed as a Compensation Event.”

371. The adverb “wilfully” can of course be used to connote acting with an intention of causing another harm. The adverb can, however, be used simply to mean that the act of default is intentional or deliberate. As Bowen LJ observed in *Re Young & Harston’s Contract* (1885) 31 Ch. D. 168, at pages 174-5:

“[Wilful] ... is a word of familiar use in every branch of law, and although in some branches of the law it may have a special meaning, it generally, as used in courts of law, implies nothing blameable, but merely that that person of whose action or default the expression is used, is a free agent, and that what has been done arises from the spontaneous action of his will. It amounts to nothing more than this, that he knows what he is doing, and intends to do what he is doing, and is a free agent.”

See also *Hutchinson v. Manchester, Bury & Rossendale Railway* (1846) 15 L.J. Ex. 293.

372. Accordingly, I construe clause 21.2.5 as simply requiring that the direction or permissive act of allowing the diversion of waste be intentional or deliberate. The clause is not otherwise qualified so as, for example, to excuse liability if the wilful act is taken for good reason. Thus, a wilful direction or permission to divert waste away from the facility remains a Compensation Event even if it is an entirely logical act in order to protect the health and safety of workmen. Properly construed, clause 21.2.5 is not concerned with blame but rather with the allocation of risk as between the contracting parties in the event of the deliberate diversion of waste. Indeed, such construction is consistent with the contractual definition of a Compensation Event which distinguishes between breaches of contract, as in limbs (a), (b) and (c) of the definition, and the occurrence of any of the events referred to as Compensation Events in (among others) clause 21.2.5 in limb (d).

ANALYSIS

373. Much of the evidence and argument focused on the reasonableness of the Authority’s actions in:

373.1 instructing an unaccredited contractor to carry out the asbestos testing;

373.2 communicating SLR’s findings and its advice that drivers should wear FFP3 masks;

373.3 leaking the findings to the local news media and then failing to respond more decisively;

373.4 reporting the findings to the Health & Safety Executive, the WCAs, UBB and its haulage contractors at the beginning of February 2017:

a) despite knowing by that time that SLR’s report might be inaccurate because of its inability properly to discriminate between asbestos and non-asbestos fibres; and

b) without waiting for the results of Scanning Electron Microscopy that could provide definitive advice as to the presence of asbestos fibres at the facility; and

373.5 failing to communicate effectively the findings of the IOM report on 7 February 2017 that there were no asbestos fibres in the facility and to withdraw the flawed SLR report.

374. It is unnecessary for me to consider such evidence in any detail because it does not ultimately go to the simple contractual question of whether the Authority wilfully directed or allowed the diversion of waste. It is, however, appropriate to observe that while the Authority made mistakes in its handling of this issue, principally by its instruction of an unaccredited contractor to undertake asbestos testing (SLR) and its failure to share its own internal assessment of the flaws and limitations in SLR's methodology, I am satisfied that its actions were driven by its understandable concern to prioritise the health and safety of those working at the facility.

Wilfully directed the diversion of waste

375. There is no evidence of any overt direction that waste should be diverted from the facility. The Authority's actions in relaying the results of the flawed SLR testing did not amount to a wilful direction that deliveries of waste should be diverted away from the facility. Its advice, echoing that misguidedly given by SLR, was that operatives should wear respiratory protective equipment, not that they should divert waste away from the facility.

376. When the WCAs refused to continue to make direct deliveries, Essex directed delivery to the waste transfer stations. This was, however, on the basis that such waste would in turn be delivered to the facility by the Authority's waste haulage contractor, Veolia. In my judgment, this was not a wilful direction to divert waste, but rather an attempt by the Authority to ensure the delivery of waste that would otherwise not have been delivered to the facility. Of course, there was a possibility that this less direct route might affect the composition of the waste. As considered extensively above, any deterioration in the biodegradability of the waste might have other contractual consequences, but such two-stage deliveries did not of themselves give rise to a Compensation Event pursuant to clause 21.2.5.

377. In my judgment, UBB has failed to prove that Essex wilfully directed the diversion of waste.

Wilfully allowed the diversion of waste

378. The Authority relies on the fact that Veolia, as an independent contractor, determined for itself that waste should not be delivered until satisfied that it was safe. It argues, at paragraph 926 of its closing submissions, that Veolia had an "absolute right" to refuse to deliver waste to the facility and that UBB had to convince Veolia that it was safe for deliveries to recommence.

379. A party "allows" another to do something both when it agrees and when it fails to prevent a course of action. Of course, the Authority might perfectly reasonably decide that it was inappropriate to require its contractors to continue to make deliveries and therefore either agree or take no action to prevent the diversion of deliveries. As I have already observed, clause 21.2.5 is not about blame but the allocation of risk. A deliberate agreement or failure to prevent the diversion of waste might be reasonable in such circumstances but it would still give rise to a Compensation Event. The conflicting expert opinion as to the reasonableness of the Authority's own risk-averse approach is not therefore relevant to the question of whether there was a Compensation Event.

380. There is no evidence in this case that the Authority expressly *agreed* that Veolia should cease deliveries of waste to the facility. The question of whether the Authority wilfully allowed the diversion of waste by failing to *prevent* Veolia from ceasing deliveries does, however, require further analysis. Of course, one party cannot ultimately force another to do something. There is no contractual obligation here to take reasonable or best endeavours to secure the continuation of deliveries. This may be because clause 21.2.5 does not impose contractual obligations on the Authority but rather gives UBB relief, by way of a Compensation Event, in the defined circumstances. The analogy with such clauses is, however, apposite. Simply sitting back and taking no action to cause its contractors to maintain deliveries to the facility would be a breach of such a contractual obligation and, more pertinently, would in my judgment amount to a wilful act of allowing the diversion of waste.
381. Thus, in order to avoid a Compensation Event, the Authority had to take some action to persuade its contractors to continue to make deliveries to the facility. Such efforts might not be successful, but no or inadequate action to attempt to keep deliveries on track would amount to having wilfully allowed the diversion of waste. Accordingly, I reject the Authority's argument that it was ultimately for UBB to convince Veolia that it was safe to continue to make deliveries. Of course, if UBB did not play its part then the Authority's efforts to keep deliveries on track might ultimately fail without any Compensation Event arising.
382. In this case, the Authority took no action to seek to prevent Veolia from ceasing deliveries of waste. Specifically, there is no evidence that it sought to press Veolia to deliver waste to the facility. Reasonable efforts to persuade Veolia to continue to make deliveries to site might have included the early sharing of the Authority's own reservations as to the reliability of the SLR report; the fact that SLR had not used Scanning Electron Microscopy and accordingly could not reliably discriminate between asbestos and non-asbestos fibres; and that IOM had been instructed to carry out such testing. Furthermore, reasonable efforts to ensure that deliveries restarted quickly might have included pressing Veolia and the WCAs to accept the findings of the IOM report on 7 February 2017 that there were no asbestos fibres in the facility and withdrawing the flawed SLR report.
383. I repeat that I do not criticise the Authority for taking a risk-averse approach to this issue, but in doing so it wilfully allowed the deliveries of waste to be diverted away from the facility. Accordingly, there was a Compensation Event.

CLAIMS FOR DECLARATORY RELIEF

384. Both parties seek declaratory relief. The court's discretion to grant such relief is derived from s.19 of the *Senior Courts Act 1981*. Rule 40.2 of the *Civil Procedure Rules 1998* provides that the court can make binding declarations whether or not any other remedy is sought, but the rules do not otherwise assist as to the circumstances in which the court can grant such relief. Demonstrating the breadth of the discretion, Neuberger J (as he then was) said in *Financial Services Authority v. Rourke* [2002] C.P. Rep. 14:

“As between the parties ..., it seems to me that the court can grant a declaration as to their rights, or as to the existence of facts, or as to a principle of law, where those rights, facts or principles have been established to the court's satisfaction. The court should not, however, grant any declarations merely because the rights, facts or

principles have been established and any one party asks for the declaration. The court has to consider whether, in all the circumstances, it is appropriate to make such an order.”

385. Declarations cannot be claimed as of right but rather lie within the discretion of the court. In *Messier-Donty v. Sabena* [2000] 1 W.L.R. 2040, the Court of Appeal held that the court should consider whether the declaration would “serve a useful purpose.” Such test, the court observed, is pragmatic and the question of whether to grant a declaration is one of discretion rather than jurisdiction. In *Rourke*, Neuberger J explained:

“... when considering whether to grant a declaration or not, the court should take into account justice to the claimant, justice to the defendant, whether the declaration would serve a useful purpose and whether there are any other special reasons why or why not the court should grant the declaration.”

386. In his dissenting judgment in *Rolls Royce plc v. Unite the Union* [2009] EWCA Civ 387, Aikens LJ usefully summarised the principles at [120]:

- “(1) The power of the court to grant discretionary relief is discretionary.
- (2) There must, in general, be a real and present dispute between the parties before the court as to the existence or extent of a legal right between them. However, the claimant does not need to have a present cause of action against the defendant.
- (3) Each party must, in general, be affected by the court’s determination of the issues concerning the legal right in question.
- (4) The fact that the claimant is not a party to the relevant contract in respect of which a declaration is sought is not fatal to an application for a declaration, provided that it is directly affected by the issue ...
- (5) The court will be prepared to give declaratory relief in respect of a ‘friendly action’ or where there is an ‘academic question’ if all parties so wish, even on ‘private law’ issues. This may particularly be so if it is a ‘test case’, or it may affect a significant number of other cases, and it is in the public interest to decide the issue considered.
- (6) However, the court must be satisfied that all sides of the argument will be fully and properly put. It must therefore ensure that all those affected are either before the court or will have their arguments put before the court.
- (7) In all cases, assuming that the other tests are satisfied, the court must ask: is this the most effective way of resolving the issues raised? In answering that question, it must consider the other options of resolving this issue.”

387. While Aikens LJ was in the minority, the Court of Appeal approved his statement of principle in *Milebush Properties Ltd v. Tameside Metropolitan Borough Council* [2011] EWCA Civ 270, [2012] 1 P. & C.R. 3. For completeness, I should, however, add that Moore-Bick LJ considered Aikens LJ’s formulation to be too narrow in that declaratory relief could also be granted where the dispute related to rights which might come into existence in the future.

THE AUTHORITY'S CLAIMS FOR DECLARATORY RELIEF

388. Essex seeks six declarations:

Declaration 1: UBB has failed, in breach of contract, to achieve Service Commencement by the Acceptance Longstop Date under the contract.

Declaration 2: UBB's design for the facility was at all material times and remains incapable of passing the Acceptance Tests.

Declaration 3: The facility was at all material times and remains incapable of passing the contractual Acceptance Tests with input Contract Waste in Band A.

Declaration 4: The facility is incapable of and has never been capable of passing the contractual Acceptance Tests with input Contract Waste in Band B with the performance requirements adjusted to reflect any impact of the actual input Contract Waste composition on the performance of the facility.

Declaration 5: UBB is not entitled to operate the modifications made to the facility for the production of QSRF.

Declaration 6: The Authority is entitled to terminate the contract under clause 67.

389. UBB resists such declaratory relief.

390. Applying the principles set out above, I consider that the court should in general terms be amenable to granting declaratory relief in this case where the asserted rights and facts have been established to my satisfaction:

390.1 There is self-evidently a real and present dispute between the parties as to, among other matters:

- a) whether UBB's failure (if so established) to achieve Service Commencement is a breach of contract [declaration 1];
- b) whether the design has been and remains incapable of passing the Acceptance Tests either with Band A waste or, if appropriate, Band B waste with modified performance standards [declarations 2, 3 & 4];
- c) whether UBB is entitled to operate the QSRF modifications [declaration 5]; and
- d) whether the Authority is entitled to terminate the contract under clause 67 [declaration 6].

390.2 Clearly both parties would be affected by the court's determination of such issues.

390.3 Both parties are before the court and have been able fully and properly to put their competing cases on these issues.

390.4 I am satisfied that declaratory relief is the most effective way of resolving these issues so far as past events are concerned.

390.5 I decline, however, to grant declaratory relief as to future events. As Lewison J (as he then was) observed in *FoodCo UK LLP (t/a Muffin Break) v. Henry Boot Developments Ltd* [2010] EWHC 358 (Ch), at [193]:

“Outside the realms of mythology and literature, no one can foretell the future. Even in those realms the prophecies of the Oracle of Delphi were always

ambiguous, Cassandra was never believed, and the prophecies of the witches in Macbeth were downright obscure.”

DECLARATIONS 1-5

391. Accordingly, I grant the following declaratory relief:

Declaration 1: UBB has failed, in breach of contract, to achieve Service Commencement by the Acceptance Longstop Date under the contract

Declaration 5: UBB is not entitled to operate the modifications made to the facility for the production of QSRF.

392. I decline to grant the relief sought by declarations 2-4:

392.1 Insofar as Essex seeks declarations that historically UBB’s design has been incapable of passing the Acceptance Tests generally (declaration 2) or with waste in Band A (declaration 3), it is otiose. UBB’s contractual obligation was not simply to build a facility that was capable of passing the tests but in fact to pass such tests by the Acceptance Longstop Date.

392.2 Insofar as the Authority seeks such declarations as to UBB’s future ability to pass the Acceptance Tests, such relief is inappropriate. While, on the evidence before me, it appears most unlikely that the facility will be able to pass the Acceptance Tests in the future even with waste in Band A without first making significant design modifications, I do not purport to be able to foretell the future.

392.3 Declaration 4 is again otiose. Again, UBB’s obligation was to pass the Acceptance Tests and not merely build a facility that might be capable of doing so. In any event, the waste remained in Band A until at least Q4 2016.

DECLARATION 6: THE RIGHT TO TERMINATE

The contractual right to terminate

393. The contract contained express provisions for termination upon default at clauses 65-68. Clause 67 provides:

“Subject to Clause 67.1 (Rectification) if a Contractor Default has occurred and the Authority wishes to terminate the Contract it must serve a termination notice on the Contractor.”

394. The term “Contractor Default” was defined to include, at ground (m) of the definition, the failure to obtain the Acceptance Test Certificate by the Acceptance Longstop Date. The rectification provisions do not apply to a termination upon this ground and clause 67.1.1(b)(iii) provides that a notice given upon failure to pass the Acceptance Tests by the longstop date must state that the Contract will terminate 20 business days after the contractor’s receipt of the notice.

395. UBB has not of course obtained the Acceptance Test Certificate whether by the Acceptance Longstop Date of 12 January 2017 or at all. Further, I have already rejected UBB’s case that it should be deemed to have achieved Service Commencement by reason of the performance

of the facility during the QATs (see paragraph 309). Nevertheless, UBB argues that the Authority is not entitled to exercise the contractual right of termination, or at any rate that it is not entitled to a declaration to that effect. It pleads the following particulars at paragraph 251A of its Defence and Counterclaim:

- “(1) No notice of termination has been served pursuant to clause 67 of the Contract (which is a pre-condition to termination). Further, any notice of termination must be served promptly and so a notice cannot now be served as it is too late;
- (2) The Authority has continued to perform the Contract since the Acceptance Longstop Date. In particular, since 12 January 2017, the Authority has (amongst other things):
- (a) Continued to deliver waste to the Facility and paid UBB for processing the waste (in accordance with the terms of the Contract);
 - (b) Continued to participate in adjudications which were commenced before 12 January 2017 (including, but not limited to the adjudication before Ms Franklin QC regarding the composition tests for Q3 2016);
 - (c) Commenced a number of additional adjudications on issues relating to the composition tests and the IRRs;
 - (d) Purported to participate in an ongoing options review and attended associated technical meetings;
 - (e) Rejected a proposal to change MS17 and engaged in correspondence regarding the composition tests;
 - (f) Instructed UBB to cease to operate the QSRF Line;
 - (g) Made representations to the EA regarding UBB’s application to amend the Environmental Permit;
 - (h) Issued the ACN;
 - (i) Attended a technical meeting regarding the ACN (on 20 June 2017).
 - (j) Gave notice pursuant to paragraph 2.2 of Part 1 of Schedule 21 that the ACN would not be withdrawn and would be referred to dispute resolution;
 - (k) Commenced three adjudications regarding the validity of the ACN.
 - (l) Attended a meeting to discuss UBB’s Estimate;
 - (m) Commenced two adjudications regarding the Estimate; and
 - (n) Issued a Confirmation Notice confirming the ACN.
- (3) The Authority’s conduct amounts to an unequivocal affirmation of the Contract and/or an election that it will not exercise any right to terminate that it may have had. Alternatively, the Authority has waived any right it may have had to terminate the Contract.
- (4) In any event, the Authority is not entitled to a hypothetical declaration regarding a right to terminate the Contract that has not been exercised as a matter of the discretion of the Court.”

396. It is unclear from the pleading itself whether the alleged requirement for promptness asserted at paragraph 251A(1) is put on the basis of the proper construction of the contract or the general law of affirmation, election or waiver, each of which are pleaded at paragraphs 251A(2)-(3). Certainly, it can be observed that the pleaders do not cite any express term in support of the contention and that they fail to plead any such implied term when setting out a number of other alleged implied terms at paragraphs 37 and 85 of the pleading. At paragraph 16(a) of appendix 15 to UBB’s written closing submissions, it asserts, in response to the suggestion that its waiver argument is defeated by clause 93 of the contract, that UBB’s case is in any event put on the basis of an implied term that the right to terminate must be

exercised within a reasonable time. While any such implied term should have been clearly pleaded from the outset, I am satisfied for the reasons explained more fully below that there is considerable overlap between the proposed implied term and the pleaded argument of waiver by election and further that the question of such term is one of law that can be determined upon the basis of the facts already pleaded and explored at trial without unfairly prejudicing the Authority. I am therefore content to construe the ambiguous plea at paragraph 251A(1) as implicitly including a plea that there is an implied term that notice of termination must be given promptly.

Express terms limiting the right to terminate

397. In its submissions, the Authority argues that clause 67.3 demonstrates an expectation that termination notices should only be served after due consideration has first been given to alternative options. Clause 67.3 provides:

“The Authority agrees that prior to determining whether to exercise any right of termination in respect of limb (a) of the definition of Contractor Default it shall, acting reasonably and in good faith by reference to the nature of the breach, give all due consideration to taking action other than termination of this Contract (including exercising its other contractual rights and remedies under this Contract (having regard to the nature of such rights and remedies) to deal with the breach or circumstances giving rise to the breach.”

398. Clause 67.3 is not, however, engaged and does not, in my judgment, assist in construing the right to terminate for Contractor Default:

398.1 Essex’s pleaded case is that it is entitled to give notice on the basis of the failure to pass the Acceptance Tests. Such termination would be for a Contractor Default under ground (m), and not under ground (a).

398.2 Ground (a) could not be engaged until after the passage of the Acceptance Tests since it involves a breach which “materially and adversely affects the performance of the Services.” By definition, Services do not commence under the contract until the Acceptance Tests are passed. Accordingly, on its true construction, clause 67.3 does not introduce some general requirement that termination notices should only be served after due consideration, but rather imposes such requirement in the particular case of termination after the Services Commencement Date in respect of a Contractor Default under ground (a) that is not also a default under any other ground.

399. There is accordingly no express term in this contract either requiring prompt notice to be served or indeed requiring the Authority to give due consideration to other options before exercising the right of termination under ground (m).

Implied terms limiting the right to terminate

400. I have already set out the general approach to the implication of terms (at paragraphs 92-95 above) and, more specifically, the question of implying a term that a contractual power or option is to be exercised within a reasonable time (at paragraphs 337-343).

401. Citing the observations of Lord Devlin in *Reardon Smith Line Ltd v. Ministry of Agriculture, Fisheries and Food* [1963] A.C. 691, at 731, Mr Stewart argues that there is a rule of law that contractual options must be exercised within a reasonable time of the circumstances giving rise to the option. He asserts, on the basis of Morgan J’s judgment in *Crosstown Music LLC v. Rive Droite Music Ltd* [2010] EWCA Civ 1222, [2011] 2 W.L.R. 779, that such rule applies to, among other options, a right to terminate a contract. Further, he argues that *CMA CGM SA v. Beteiligungs-KG MS “Northern Pioneer” Schiffahrtsgesellschaft mbH & Co.* [2002] EWCA Civ 1878, [2003] 1 W.L.R. 1015, establishes that business efficacy requires termination rights to be exercised promptly.

402. *Reardon Smith* was not principally concerned with the question of the time for exercise of a contractual option. Nevertheless, Lord Devlin considered such question in respect of a charterer’s option to change the cargo to be shipped. Of such an option, Lord Devlin observed, at page 731:

“The essence of what I have called a business option is that the character of the obligation is altered to suit the option holder. There must, therefore, be some provision, express or implied, for its exercise within a reasonable time and for the communication of the election to the other party. It would be wholly unreasonable for the principal obligation in a contract to be altered without the other party being informed.”

403. It is clear, however, from Lord Devlin’s discussion of the implied term at pages 731-733 that he came to such conclusion on the basis of an assessment of business efficacy and what must have been intended by the parties. The implied term might be uncontroversial in respect of an option to render alternative performance, but I do not take *Reardon Smith* as deciding that there is an absolute rule that the court must imply a term as to promptness in respect of the exercise of any contractual right of termination.

404. In *Crosstown*, the Court of Appeal rejected an argument that there was an implied term in agreements assigning copyright in songs that any notice of cure had to be served within a reasonable time of the songwriters’ becoming aware of material breaches of the agreements. In doing so, Morgan J observed, at [114]:

“The inspiration for *Crosstown*’s submission is that a term should be implied appears to come from cases where it was held that it was appropriate to imply a term requiring notice to be given within a reasonable time if a contracting party wished to exercise an option or certain contractual choices provided for in the contract. Thus, a term of this kind was implied in *Reardon Smith Line Ltd v. Ministry of Agriculture, Fisheries and Food* [1963] A.C. 691; *United Dominions Trust (Commercial) Ltd v. Eagle Aircraft Services Ltd* [1968] 1 W.L.R. and *Zeeland Navigation Co. Ltd v. Banque Worms (The Foresight Driller II)* [1995] 1 Lloyd’s Rep. 251. In my judgment, those cases are distinguishable, and their reasoning is not applicable to the right created by clause 18(a). That right is not an option of the kind considered in those cases. It does not involve a right to determine a contract and to avoid future performance. It does not involve one party, by service of a unilateral notice, in changing the obligations as to performance by the other party. A notice under clause 18 involves no change in the contractual performance required of the recipient of the notice.”

405. *Crosstown* is not authority for the proposition that the law will imply into any contract containing a right of termination a term that such right must be exercised within a reasonable period, rather it is a statement of how the contract in that case could be distinguished from those in *Reardon Smith*, *United Dominions Trust* and *Zeeland Navigation*. In any event, like *Reardon Smith*, I am satisfied that the terms implied by the Court of Appeal in *United Dominions Trust* (that a finance company's right to call on the sellers of aircraft to repurchase the planes should be exercised within a reasonable time) and by Rix J (as he then was) in *Zeeland Navigation* (that a bank should exercise its right to give notice requiring a ship to be sold in the event that it neither secured employment nor the reasonable prospect of employment within a reasonable time of a contractual deadline) were justified on the basis of a proper consideration of business efficacy and the parties' assumed intentions.
406. In *Kawasaki Kisen Kabushiki Kaisha v. Nippon Yusen Kaisha Ltd* (1939) 63 Ll L Rep 175, Branson J implied a term that an option to cancel a charterparty in the event that one of a number of specified countries became engaged in war had to be exercised within a reasonable time. He did so, not because there was some immutable rule of law, but on the basis of conventional principles of necessity.
407. Despite these authorities, there is, however, some doubt as to whether any temporal restriction on a contractual right of termination is to be found in an implied term. *Antaios Compania Naviera S.A. v. Salen Rederierna A.B. (The Antaios)* [1983] 1 W.L.R. 1362 (CA), [1985] 1 A.C. 191 (HL), concerned a purported exercise of a contractual right to cancel the charter of a ship by withdrawing the vessel. The owners sought to challenge the arbitrators' finding that there was an implied term that the right to withdraw would be exercised within a reasonable time and argued that such right would only have been lost by waiver. Staughton J (as he then was) held that the authorities clearly demonstrated that lapse of a reasonable time deprives the owner of the right to withdraw and that, for the purposes of the appeal to the Commercial Court, it did not matter whether such right was lost by reason of an implied term or through waiver.
408. In the House of Lords in the same case, Lord Diplock referred to the two schools of thought, at page 195C:
- “On the one hand there are dicta in such cases as *Mardorf Peach & Co. Ltd. v. Attica Sea Carriers Corporation of Liberia (The Laconia)* [1977] A.C. 850, 872, per Lord Wilberforce, which, if read out of context, might be taken to suggest that there is an implied term or rule of law that such a right be exercised within a reasonable time otherwise it is lost, regardless of whether any inference of election can be drawn from the passage of such time. On the other hand, there are decisions - conveniently summarised by Lloyd J in *Scandinavian Trading Tanker Co. A.B. v. Flota Petrolera Ecuatoriana (The Scaptrade)* [1981] 2 Lloyd's Rep. 425 which appear to make it clear that such a right will only be lost by election, whether expressed or inferred from the circumstances. In the appellants' submission the dicta which are relied upon as suggesting an implied term or rule of law regardless of an election were made in cases where this problem did not arise and do not support the proposition. In *The Scaptrade* ... Lloyd J analyses Lord Wilberforce's speech in *The Laconia* ... as laying down that it is a question of waiver or election not of an implied term. In this connection attention is drawn to the argument of Mr Hobhouse in *The Laconia* ... for it would appear that Lord Wilberforce adopted the proposition there put forward.”

409. In *CMA CGM SA v. Beteiligungs-KG MS "Northern Pioneer" Schiffahrtsgesellschaft mbH & Co.* [2002] EWCA Civ 1878, [2003] 1 W.L.R. 1015, Lord Phillips MR observed, at [40]:

“Cases dealing with the operation of war cancellation clauses are rare. More common are cases dealing with the right to withdraw a vessel from a charterparty for non-payment of hire. Those cases all agree that such a right has to be exercised within a reasonable time of the non-payment, but they do not agree on the juridical basis for such a requirement. As an alternative to an implied term, principles of election, waiver and estoppel have been advanced as the explanation. These principles can raise difficult theoretical questions as to the manner of their application (see ... *The Scaptrade* ...), although they do not appear to have done so in practice. We believe that there is a good reason for this, as we shall explain. Having regard to the different theories to which we have referred above, it is at least arguable that there is a serious doubt as to whether the juridical basis of the requirement to exercise a right to withdraw from a charter within a reasonable time is an implied term. For the reasons which follow we do not need to express a final view on this matter.”

410. I tread warily given the reticence of such eminent judges clearly to identify the juridical basis for the proposition that a right of termination must be exercised within a reasonable time. I reject, however, the argument that there is an immutable rule of law that all rights of termination must be exercised within a reasonable time after such right first arises. Rather the shipping cases demonstrate a number of circumstances where business efficacy and fairness as between the contracting parties call for promptness. Clearly any right to load an alternative cargo is time sensitive and must be lost (whether by an implied term or waiver) if unreasonably delayed. Equally, the right to cancel a charterparty will be lost through unreasonable delay at some point where the party entitled to cancel stands by as the ship is loaded and sets sail. In my judgment, the proposed term in this case that the contractual right of termination of this PFI contract must be exercised promptly should be tested upon the usual principles.

411. Before testing the term, there is a difference between two potential formulations of an implied term as to promptness:

411.1 UBB argues that once the right to terminate arises upon failure to pass the Acceptance Tests by the Acceptance Longstop Date, it must be exercised promptly such that the right can be lost by delay even if the facility never subsequently passes the tests.

411.2 One could formulate a less ambitious term which requires the prompt exercise of the right after any period of delay in passing the Acceptance Tests.

412. Applying conventional principles, I reject the proposed wider term that the Authority should exercise its right of termination under ground (m) promptly. In my judgment, such term is neither necessary in order to ensure that the contract has commercial or practical coherence nor is it obvious:

412.1 If the right to terminate upon failure to pass the Acceptance Tests is lost upon the Authority's failure to exercise its termination rights promptly even though the facility remains unable to pass, the parties would find themselves in a contractual stalemate in which the contract could never enter the Services Period.

412.2 There is nothing commercial, practical or obvious about an outcome in which:

- a) the Authority would have to exercise its right of termination quickly rather than allowing the contractor an opportunity to see whether this long-term infrastructure project might be salvaged by allowing more time to pass the Acceptance Tests;
- b) Essex would be bound, by reason of its delay, to perform the contract for 25 years despite the continuing inability of the facility to pass the Acceptance Tests and, potentially, thereby process the required throughput and achieve the required environmental milestones (reduction of biogas potential, reduction in mass, recovery of recyclates and production of SRF meeting the contractual specification); and
- c) the parties might be stuck for the life of the contract in the Commissioning Period during which UBB would only be paid at the modest rates payable during that phase.

412.3 In any event, such implied term is not necessary since the common law doctrine of waiver by election might arguably bar the right to terminate if the Authority so conducts itself as to waive its right to rely on the termination clause.

412.4 In rejecting the proposed implied term in *Crosstown Music LLC v. Rive Droite Music Ltd* [2010] EWCA Civ 1222, [2011] 2 W.L.R. 779, Morgan J observed at [113]:

“The contracts in this case all work perfectly well if there is no such implied term. Indeed, the contracts would work less well if such a term were to be implied.”

While noting the different context in *Crosstown*, I reach the same conclusion on the facts of this case.

412.5 For the same reasons, the proposed term is neither reasonable nor equitable.

413. For completeness, I would also reject the narrower formulation on the basis that it is neither necessary nor obvious since delay in the exercise of the right of termination beyond the point when the facility passes the Acceptance Test is, in my judgment, best dealt with by the doctrine of waiver by election.

Affirmation and waiver by election

414. UBB argues that even if, on the proper construction of the contract, the contract does not require the right of termination to be exercised promptly, such right was lost in this case by affirmation and waiver by election. The concepts of affirmation and waiver by election are similar and have sometimes been used interchangeably. Conventionally, they have, however, been used in different contexts: affirmation to describe the innocent party’s loss of a common-law right to accept the other party’s repudiatory breach of contract and treat the contract at an end; and waiver by election (at least in this context) to describe the loss of the right to exercise a contractual right of termination. This case concerns the latter concept, namely the question of whether the Authority has lost the right to terminate under ground (m).

415. Lord Goff's classic analysis (in *Motor Oil Hellas (Corinth) Refineries S.A. v. Shipping Corporation of India (The Kanchenjunga)* [1990] 1 Lloyd's Rep. 391) was helpfully summarised by Aikens LJ in *Tele2 International Card Co. Ltd v. Post Office* [2009] EWCA Civ 9, at [53]:

- “(1) [I]f a contract gives a party a right to terminate upon the occurrence of defined actions or inactions of the other party and those actions or inactions occur, the innocent party is entitled to exercise that right. The innocent party has to decide whether to or not to do so. Its decision is, in law, an election.
- (2) It is a prerequisite to the exercise of the election that the party concerned is aware of the facts giving rise to its right and the right itself.
- (3) The innocent party has to make a decision, because if it does not do so then ‘the time may come when the law takes the decision out of [its] hands, either by holding [it] to have elected not to exercise the right which has become available to [it], or sometimes by holding [it] to have elected to exercise it.’
- (4) Where, with knowledge of the relevant facts, the party that has the right to terminate the contract acts in a manner which is consistent only with it having chosen one or other of two alternative and inconsistent courses of action open to it (i.e. to terminate or affirm the contract), then it will be held to have made its election accordingly.
- (5) An election can be communicated to the other party by words or conduct. However, in cases where it is alleged that a party has elected not to exercise a right, such as a right to terminate a contract on the happening of defined events, it will only be held to have elected not to exercise that right if the party ‘has so communicated [its] election to the other party in clear and unequivocal terms.’”

416. Aikens LJ added, at [54]:

“It is clear from Lord Goff's analysis that when a party to a contract is put in a position where it has to decide whether or not to exercise a right to terminate that it is given by the terms of a contract and it is disputed whether that party has terminated or has elected to abandon the right to terminate, then a court has to make a finding one way or the other. Whether a party has elected to terminate or to affirm the contract is a question of fact: either a party has affirmed the contract or it has not. If the innocent party has not affirmed the contract, then the right to terminate will be exercisable still.”

417. Mr Stewart relies on the decision of the House of Lords in *China National Foreign Transportation Corp. v. Evlogia Shipping Co. SA of Panama (The Mibalios Xilas)* [1979] 1 W.L.R. 1018 as authority for the proposition that a right to terminate a contract is lost upon a failure to exercise it within a reasonable period. Mr Stewart's reliance on *The Mibalios Xilas* is not promising in view of Lord Diplock's observations, at page 1020, that it was “a good example of the kind of case which, since it will cast no new light upon the law, is best left unreported”, and, at page 1024, that it was not a suitable case for a general examination of the doctrine of election. It is, in my judgment, simply an illustration of the principle that delay can amount to a waiver by election of any right to rely on a termination clause. The delay necessary in order to amount to a waiver will depend upon the terms of the contract in question and all the circumstances of the case: *Mardorf Peach & Co. Ltd v. Attica Sea Carriers Corp. of Liberia (The Laconia)* [1977] A.C. 850, at page 872 (per Lord Wilberforce).

418. Here, the contractual right to terminate the contract first arose on 12 January 2017. It was not then exercised or at any point in the period of almost 2½ years between the Acceptance Longstop Date and the close of evidence in this trial. Notwithstanding its repeated express reservations of rights, Essex has continued to perform the contract during the intervening period. Taking its words and conduct as a whole, it may well be that it has waived its right to terminate on the basis of the initial failure to achieve Service Commencement on 12 January 2017. Accordingly, if – for example - the facility had in fact passed the Acceptance Tests a year later in January 2018, Essex might well have lost the right to terminate the contract for failure to meet the contractual Acceptance Longstop Date.

419. That, however, is not the end of the matter. There was no delayed pass and, for the reasons explained above, I have found that the facility remained incapable of passing the Acceptance Tests at the time of last year’s trial. I reject the submission that Essex has, in those circumstances, waived its right to terminate the contract by reason of that continuing Contractor Default.

Conclusions

420. Despite the complexity of the evidence and the subtlety of the erudite arguments in this case, the Authority’s case is very straightforward. UBB did not achieve Service Commencement by the Acceptance Longstop Date. UBB was therefore not only in continuing breach of clause 13.1.2 but its failure to achieve the issue of the Acceptance Test Certificate by the Longstop Date was a Contractor Default as defined. Accordingly, Essex was entitled to terminate the contract for Contractor Default pursuant to clause 67.

421. There is no express or implied term requiring the Authority to exercise its right to terminate the contract within a reasonable time, albeit such right might be lost through election. On the evidence before me, the right had not been lost by 13 June 2019 in circumstances where the facility had still not passed the Acceptance Tests.

422. There is no reason of principle that would prevent the court from granting a declaration as to the Authority’s entitlement to terminate the agreement as at that date. While academic in the sense that the Authority did not in fact purport to terminate the contract on or before 13 June 2019, the matter has been thoroughly argued and it would assist the parties to establish whether or not the right to terminate had already been lost by that date. If granted, it would mean that any future dispute as to a later exercise of the right to terminate the contract could focus upon subsequent events.

423. For these reasons, I declare that the Authority was entitled to terminate the contract as at 13 June 2019 by giving notice pursuant to clause 67. I do not grant wider declaratory relief (as sought in the pleaded formulation of declaration 6) that the Authority remains entitled to terminate the contract.

UBB'S CLAIMS FOR DECLARATORY RELIEF

424. After the abandonment of the case pleaded at paragraph 254(3A) of the Defence and Counterclaim, UBB seeks twelve declarations.

DECLARATIONS AS TO THE QSRF LINE

425. UBB seeks three declarations as to the QSRF Line:

Declaration 1: The QSRF Line and its operation were expressly approved by the Authority, alternatively the Authority is barred by waiver or estoppel from contending otherwise.

Declaration 2: The Authority was in breach of contract in refusing to consent to the changes to the Method Statements to deal with the QSRF Line.

Declaration 3: The Authority was in breach of contract in refusing to consent to the application to vary the Environmental Permit.

426. In view of my findings, UBB is plainly not entitled to these declarations as drafted. I have, however, found that the Authority approved modifications 1-5, albeit the lack of planning permission meant that UBB could only operate modifications 3, 4 and 5. (See paragraphs 228-264 above.) The approval of modifications 1-5 has not been disputed and accordingly there is no purpose in a more limited variant of declaration 1.

DECLARATIONS IN RESPECT OF COMPOSITION ISSUES

427. UBB seeks eight declarations in respect of composition issues:

Declaration 4: The Composition Tests for Q1 2016 – Q2 2017 are valid and show that the Contract Waste is in Band B.

Declaration 5: A High Level Composition Issue arose in March 2016 or such other date as the court sees fit.

Declaration 6: The Authority was under an obligation to carry out an Options Review.

Declaration 7: In breach of contract, the Authority has not carried out an Options Review.

Declaration 8: The Authority Change Notice dated 4 May 2017 is invalid.

Declaration 9: The Authority has not issued a valid Authority Change Notice.

Declaration 10: UBB is not obliged to implement the changes set out in the Authority Change Notice.

Declaration 10A: If the Authority Change Notice is valid, UBB is entitled to recover its consequential costs and the consequential costs incurred by its subcontractors.

428. I have not found it necessary to determine the merits of the Authority's challenge to the composition tests conducted in the first two quarters of 2016. Upon my findings, nothing turns on the validity of these tests and I therefore decline to consider declaration 4 further.

429. In any event, there was no Composition Issue in March 2016 and the Authority was under no obligation to participate in an Options Review following the Impact & Remedy Reports issued in March and June 2016. Accordingly, the claims for declaratory relief therefore inevitably fail.

DECLARATION IN RESPECT OF THE INTERRUPTION IN DELIVERIES

430. Finally, UBB seeks a single declaration in respect of the asbestos scare:

Declaration 11: In breach of contract, the Authority failed to deliver waste to the facility between 2 and 24 February 2017.

431. I have dealt with the asbestos issue. There was a Compensation Event and UBB is entitled to compensation. It is otiose to consider whether the Authority was also in breach of contract.

FINANCIAL CLAIMS

THE AUTHORITY'S CLAIM FOR DAMAGES

The pleading issue

432. The Authority's claim for damages is pleaded at paragraph 31 of its Particulars of Claim as follows:

“By reason of UBB's breach(es) of contract and/or negligence as set out at paragraphs 29 and 30 above, the Authority has suffered and continues to suffer loss and damage:

PARTICULARS OF LOSS

31.1 From or around July 2015, UBB diverted all RCHW/HWRC/bulky waste and the trommel overflow fraction of WCA residual waste away from the biohalls, mixing these waste streams to form the new output called QSRF.

31.2 QSRF operation was not approved by the Authority, is not permitted by the Environmental Permit and has given rise to environment, health and safety issues. It was unilaterally implemented by UBB in an attempt to improve performance of the Facility as a result of its breaches of contract and/or negligence.

31.3 QSRF operation by UBB has resulted in additional Treatment Outputs from the Facility and an increased tonnage of material for disposal, leading to the following additional costs:

31.3.1 Increased disposal costs; and

31.3.2 Increased transport costs.”

433. The claim is pleaded as particulars of loss and damage caused by the alleged breaches of contract and negligence pleaded at paragraphs 29 and 30 of the pleading:

433.1 Paragraph 29 pleads the following breaches of contract:

- a) Paragraphs 29.1-29.2: UBB's failure to achieve Service Commencement by either the Planned Services Commencement Date or the Acceptance Longstop Date.
- b) Paragraph 29.3: That the facility is incapable and has never been capable of passing the Acceptance Tests with Band A waste.
- c) Paragraph 29.4: UBB's failure to design and build (or procure that its sub-contractors designed and built) a facility that fully met all the requirements of the contract and was capable of passing the Acceptance Tests.

433.2 Paragraph 30 pleaded further breaches of contract and of UBB's failure to carry out its design with reasonable skill and care and/or good industry practice:

- a) Paragraph 30.1: UBB's failure to manage the design process to ensure that the bulk density of waste produced by the pre-processing modules corresponded with the assumed density of 0.55t/m³ in the biohalls.
- b) Paragraph 30.2: UBB's failure to design the biohalls to be of sufficient size to process input waste of 416,995 tonnes per annum for a seven-week composting period.
- c) Paragraphs 30.3, 30.4 & 30.6: UBB's failure to design the biohalls with:
 - i sufficient water irrigation to prevent the waste from drying out during the composting process;
 - ii sufficient aeration and irrigation capacity to prevent temperatures from exceeding 60°C; and
 - iii sufficient aeration capacity in the last zone to enable the waste to be dried adequately in week 7,thereby inhibiting the rate of microbial decomposition.
- d) Paragraph 30.5: UBB's failure to design or implement a nutrient control system to achieve optimal composting conditions.

434. Mr Stewart submits that there is, however, a fundamental flaw in the Authority's claim for damages. Contrary to the assertion at paragraph 31 of the Particulars of Claim, none of the pleaded losses flow from the alleged breaches of contract and duty at paragraphs 29 and 30. Indeed, the matter is formulated rather differently at paragraph 1032 of the Authority's closing submissions:

“ECC's monetary claim arises out of the financial consequences for ECC of UBB operating the QSRF Line in breach of contract. The basis for this claim is that (PoC §31):

- (1) In the commissioning period, ECC is obliged to deliver the waste that UBB calls for. With the QSRF Line in operation, the Facility is able to process more waste than it would have done if the QSRF Line had not been operating. This results in increased costs being payable by ECC, since the cost of processing waste at the Facility is levied on a 'per tonne' basis.

- (2) Without the QSRF Line, the Facility does not have capacity to process that additional waste and UBB would not have called for the delivery of that additional waste.
- (3) ECC is also obliged to dispose of the Treatment Outputs from the Facility, at its own cost. It therefore incurs a disposal cost in respect of each tonne of QSRF output from the Facility.
- (4) The cost of treating waste through the QSRF Line (comprising the cost of delivering waste to the Facility, and the cost of disposing of the relevant outputs) is greater than the equivalent cost would have been if the same waste had been disposed of to landfill.
- (5) The operation of the QSRF Line, in breach of contract, has therefore increased directly ECC's costs."

435. I am satisfied that the claim for damages does not arise from the breaches pleaded at paragraphs 29 and 30 of the Particulars of Claim. As I have already observed, statements of case both define and confine the issues. If, however, the QSRF breach is properly pleaded and the only mistake was in the cross-reference to paragraphs 29 and 30 then I should be inclined to regard UBB's objection to be of no merit. It is therefore necessary to consider the Authority's Particulars of Claim more broadly in order to see whether it contains a plea that UBB operated the QSRF Line in breach of contract.

435.1 Essex complains that the QSRF modifications were not approved: paragraphs 22-23, 26.2 & 27.2.

435.2 It pleads that the operation of the QSRF Line was not permitted by the terms of the Environmental Permit: paragraphs 23 & 27.2.

435.3 The Authority rejects the Quasi Acceptance Tests in part because they tested the facility with the QSRF Line despite the fact that it had not been approved: paragraph 26.2.

435.4 Further, it seeks declarations that UBB is not entitled to operate the QSRF Line: paragraphs 9.6, 32.5 & 58.6.

436. The Authority's Reply is more forthcoming:

"92 However, the QSRF line was ultimately unsuccessful in remedying the underperformance of the Facility. Further, it has since become clear that the QSRF line has been installed in breach of the Planning Permission. Despite the Authority's rejection of part of the August QSRF Equipment and despite its written requests for UBB to cease its operation, the entire QSRF line has continued to be operated by UBB without the Authority's approval and in breach of contract.

93 The continued operation of the QSRF line by UBB means that a significant proportion of the waste sent to the Facility bypasses the biohalls and refining hall entirely and is not subject to any biological treatment. By improperly operating in this manner, UBB is frustrating the primary purpose of the Facility,

namely to mechanically and biologically treat waste in order to reduce its mass, biodegradable content and to remove recyclable materials including aggregates ...

124 UBB, wrongly and in breach of contract, continues to operate the QSRF line despite requests from the Authority not to do so and despite being in breach of relevant consents for the Facility.

124A ... the operation of the QSRF Line has been found to be in breach of the existing planning consent and the Planning Authority asked UBB to apply for a variation to the existing planning consent. Although the Planning Authority has subsequently determined not to take enforcement action in relation to the operation of the QSRF Line, pursuant to clause 13.1.3 of the Contract UBB is required to procure that the Facility complies fully with all Consents, including the planning consent. The QSRF Line does not comply fully with the existing planning consent and an alteration to that consent was therefore required in order for the QSRF Line to be operated in accordance with the terms of the C Contract.

124D ... it is denied for the reasons set out herein at paragraphs 88 to 114 that the Authority approved the operation of the QSRF Line, whether expressly or otherwise. Further, given that (as set out at paragraph 124A) the operation of the QSRF Line is in breach of the Consents, the operation of the QSRF Line is not permitted under the terms of the Contract whether or not it was approved by the Authority.”

437. While a purist would want to see the allegation of breach more clearly pleaded in the Particulars of Claim, I am satisfied that the overall position was clear from the Authority’s two statements of case. Indeed, UBB’s own formulation of the list of issues at the start of the trial included, at issues 6 and 7:

“6. Is the Defendant in breach of contract by:

(1) Proceeding with the August 2015 modifications in the absence of consent from the Claimant?

(2) Operating the QSRF line?

7. Is the Defendant in breach of Planning Permission by operating the QSRF line?

438. Accordingly, the claim falls to be determined on its merits.

No loss

439. UBB argues that but for its breaches in failing to design a facility that could pass the Acceptance Tests and in failing to pass such tests by the Planned Services Commencement Date, the facility would now be in the Services Period and the Authority would be paying some £12 million a year more by way of increased gate fees. Not only would the Authority be liable for the gate fees at the higher services rate, but it would be paying for more waste since UBB would, on that hypothesis, be able to process more waste. Thus, UBB argues, the Authority has suffered no loss.

440. The Authority responds at paragraphs 1034-1035 of its closing:

“1034. That submission conflates two different breaches of contract. UBB’s failure to design and operate the Facility adequately so that it could pass the Acceptance Tests is not the breach upon which this claim is founded. Had UBB fulfilled its obligations and passed the Acceptance Tests such that Services had commenced, ECC would have received its full benefit under the contract including properly biodegraded waste with reduced Treatment Output tonnages...

1035. In fact, ECC’s claim is founded on the basis of a separate breach of contract, namely UBB’s operation of the QSRF Line. If UBB had not breached the Contract in this way, the QSRF Line would not be in operation and ECC would have incurred less costs: in other words, but for that breach of contract by UBB, ECC would not have incurred those additional costs and is entitled to compensation.”

441. There is no merit in UBB’s argument. As I have already rehearsed, properly understood the damages claim is not put on the basis of the design breaches and the failure to pass the Acceptance Tests, but rather on the basis of UBB’s unauthorised operation of the QSRF Line.

Quantum

442. The quantum experts, Alastair Farr and Angela Austin, agree the headline figures of £9,038,428 to the end of February 2019 and continuing losses at £99,563 per month. The only caveat to such agreement is that Ms Austin has also calculated the reduced losses that might be awarded in the event that the court takes into account the additional waste that, but for the operation of the QSRF Line, would in any event have been processed through the facility.

443. There is, however, a fundamental problem with Ms Austin’s suggested reduced calculations. The QSRF Line was necessary precisely because UBB was unable to process this additional waste through the biohalls. Accordingly, I award the Authority damages in the agreed sums of £9,038,428 to the end of February 2019 and continuing losses thereafter at £99,563 per month.

UBB’S COMPOSITION CLAIM

444. UBB’s significant monetary counterclaim and its claim for an extension of time rest on the premise that UBB was prevented from achieving Service Commencement as a result of the Authority’s alleged failure to carry out an Options Review in March 2016. For the reasons already explained, such claim fails:

444.1 Any Composition Issue did not arise until at least Q4 2016.

444.2 The Authority was not therefore in breach of contract in failing to participate in an Options Review following the premature Impact & Remedy Reports issued in March and June 2016.

444.3 Thus, the pleaded Compensation Event is not made out.

445. There is a further problem with the claim. Clause 39.1.2 of the contract provides:

“If as a direct result of the occurrence of a Compensation Event: ...

39.1.2 the Contractor is unable to achieve Service Commencement on or before the Planned Service Commencement Date or, following the Planned Service Commencement Date, before the Acceptance Longstop Date ...

then the Contractor is entitled to apply for relief from its obligations and/or claim compensation under this Contract.”

446. Thus the claim would in any event have failed given my findings that the facility was incapable of passing the Acceptance Tests, even if the waste had remained in Band A. Accordingly, UBB has failed to prove the essential direct causative link between the alleged Compensation Event and its inability to achieve Service Commencement.

UBB’S ASBESTOS CLAIM

The monetary claim

447. This more limited claim succeeds. The quantum experts, Alastair Farr and Angela Austin, agree the following heads of claim in the total sum of £745,234:

447.1 Loss of income: £699,224

447.2 Cost of removing leachate: £33,611

447.3 Loss of profit on recyclates: £10,000

447.4 Professional fees incurred with Alcumus: £2,400

448. UBB also seeks additional professional fees of £79,960 incurred with its solicitors, Norton Rose Fulbright. Mr Farr (the expert instructed by the Authority) accepts that UBB incurred such fees, but queries how professional fees can be included in a claim relating to the operational costs of the facility. In any event, he considers the supporting information to be inadequate to prove that these fees were incurred in respect of work done in relation to the cessation of waste deliveries.

449. There is no proper evidence before me to prove that the disputed professional fees were incurred by reason of the cessation of deliveries:

449.1 By the Further Information provided by UBB, the claim is for a proportion of two Norton Rose invoices; one dated 27 February 2017 for £84,283.72 plus VAT and a second dated 16 March 2017 in the sum of £131,806.04 plus VAT.

449.2 In fact, the invoice referred to as having been raised on 16 March was dated 31 January 2017. The March date was that of a date stamp showing its receipt by UBB. This invoice might well have been excluded from the claim had its true date been identified since the narrative shows that it was raised in respect of services provided between 4 November 2016 and 30 January 2017 and accordingly predated the cessation of deliveries between 2 and 24 February 2017.

449.3 The narrative to both invoices simply states:

“Essex waste – advice on testing and handover regime”

449.4 At paragraph 11.14 of her first report, Angela Austin (UBB’s quantum expert) confirmed that while she had seen the Norton Rose invoices, she did not know how the amounts claimed had been assessed by reference to the invoices.

449.5 In cross-examination about UBB’s far more substantial claim for professional fees, Ms Austin accepted that she did not have any additional information as to the Norton Rose fees.

450. Accordingly, UBB is entitled to compensation pursuant to clause 39 of the contract in the sum of £745,234.

Other relief

451. By its closing submissions, UBB seeks an extension of 22 days to the contractual Acceptance Longstop Date. Such relief was not pleaded in the Defence and Counterclaim in respect of the cessation of deliveries and will not, accordingly, be granted. In any event:

451.1 UBB has failed to prove any direct causal link between the Compensation Event and delay in passing the Acceptance Tests; and

451.2 the issue is academic in view of my conclusions on the principal issues in this case.

CONCLUSIONS

452. Standing back from the trees, the shape of the wood can be clearly seen:

452.1 The fundamental problem with this project was that UBB made a number of serious design errors:

- a) Its density assumptions were based on little more than calculations on the back of the proverbial fag pack such that the biohalls were seriously undersized and incapable of processing the guaranteed tonnage of waste.
- b) Its bid in respect of BMW reduction was inadequately researched, ambitious and set with a view to scoring well in the procurement exercise. It has not been achievable.
- c) Its confidence that it could accept the composition risk and meet the performance guarantees notwithstanding significant variations in the waste proved to be misplaced.

452.2 UBB therefore designed and built a facility that simply could not pass the Acceptance Tests.

452.3 The QSRF Line was not introduced to add additional functionality but in an attempt to get around the density problem.

452.4 It is true to say that the facility produces good quality SRF and that it has succeeded in diverting very significant tonnages of waste away from landfill. That said:

- a) It does not process the guaranteed tonnage of waste.
- b) It produces rather more SRF and QSRF than it would if it met the performance guarantees for Recovery and Recyclates.

- c) It fails to meet the key environmental standard for BMW reduction such that, if the facility were ever switched to Bio-Stabilisation Mode, the SOM produced would not meet the contractual standard.

452.5 Once UBB's failings became clear in late 2015, it is hopeless to suggest that the Authority was under a contractual obligation to agree fundamental changes to the contract and the Acceptance Tests in order to keep the project on track.

452.6 The Authority explored radical proposals including the mass diversion of waste and the acceptance of QSRF as an alternative output, substitution of BMC for an alternative method of testing and even the complete removal of the BMW reduction requirement. Ultimately, however, the Authority's hands were tied by DEFRA's stance in respect of WIC funding and a perfectly reasonable political direction that officers should not compromise on environmental standards.

452.7 Whatever the changes in the financial and political landscape since the Authority initially procured the facility, it is nonsense to suggest that termination on the basis of UBB's failure to pass the Acceptance Tests would be termination for convenience dressed up as termination for Contractor Default. The allegations that the Authority failed to act in good faith in its attempts to negotiate a solution and in its approach to termination are without foundation.

452.8 The dispute became complicated when UBB seized on the lower levels of BMW putrescible waste recorded in the first two quarters of 2016. Any Composition Issue did not, however, arise until at least Q4 2016 and there was no contractual basis for the Impact & Remedy Reports issued in March and June 2016. Therefore, the Authority was not in breach of contract in failing to participate in an Options Review in 2016, there was no Compensation Event in respect of such failure or the Authority's conduct of the Options Review and, in any event, there was no direct causal link between any alleged Compensation Event and UBB's failure to achieve Service Commencement.

452.9 The Authority accepted the contractual risk of interruption to the supply of waste to the facility. There was therefore a Compensation Event in early 2017 when waste deliveries were suspended during the asbestos scare.

453. Finally, I should like to thank all counsel and their instructing solicitors for the enormous assistance that they provided to me throughout this technical case. I apologise to them and to their clients for the delay in providing this judgment but hope that they will appreciate both the enormity of the material provided to me and the other demands on the time of a presiding judge during the current pandemic.