

**IN THE COURT OF APPEAL (CIVIL DIVISION)**  
**ON APPEAL FROM THE HIGH COURT OF JUSTICE, CHANCERY DIVISION**  
**INTELLECTUAL PROPERTY ENTERPRISE COURT**  
**HIS HONOUR JUDGE HACON**  
**(Sitting as a Deputy High Court Judge)**  
**IP-2015-000039**

Royal Courts of Justice  
Strand, London, WC2A 2LL

Date: 21<sup>st</sup> June 2018

**Before:**

**LORD JUSTICE LEWISON**  
**LORD JUSTICE LINDBLOM**  
and  
**LORD JUSTICE FLAUX**

-----  
**Between:**

<b>A P RACING LIMITED</b>	<b><u>Appellant</u></b>
<b>- and -</b>	
<b>ALCON COMPONENTS LIMITED</b>	<b><u>Respondent</u></b>

-----  
-----  
**MR HUGO CUDDIGAN QC** (instructed by **Kempner & Partners LLP**) for the **Appellant**  
**MR DOUGLAS CAMPBELL QC** (instructed by **Gowling WLG (UK) LLP**) for the  
**Respondent**

Hearing date: 13 June 2018  
-----

**Judgment Approved**

**Lord Justice Lewison:**

1. The issue on this appeal is whether two disc brake calipers manufactured by Alcon Components Ltd infringe patent GB 2,451,690. The two calipers in issue are designated CAR 1249 and CAR 37. HHJ Hacon, sitting in the Intellectual Property Enterprise Court held that they did not. His judgment is at [2017] EWHC 248 (IPEC). In fact the judge considered seven calipers. He held that one infringed, but the remaining six did not. As noted, this appeal concerns only two of the calipers that the judge held not to have infringed. This is in fact the second time that a dispute between these parties over the patent in suit has reached this court. First time round the points in issue related principally to the validity of the patent. The decision of this court, on that appeal from HHJ Birss QC, is at [2014] EWCA Civ 40, [2014] RPC 27.

2. Giving the leading judgment Floyd LJ (with whom Longmore LJ and I agreed) explained the general background to the patent, which I need not repeat. The invention is a means of overcoming perceived defects in prior art calipers, which the patent describes as follows:

“There is a need, therefore, for an improved disc brake caliper body which has increased structural rigidity or which can provide equivalent structural rigidity to that of conventional caliper bodies but using less material.” (3 6-8)

3. The patent overcomes this defect by the incorporation of peripheral stiffening bands. They are designed to resist dynamic or torque loads caused when braking. The patent explains:

“In this regard, the peripheral stiffening bands 45, 55 are configured to resist the bending moment generated during braking. In tests, it has been found that the caliper body 30 exhibits increased stiffness when the body is subject to a bending moment under dynamic braking loads than when subject to static brake loads.

Due to the presence of the stiffening bands, less material is required elsewhere in the caliper body 30 so that the overall weight of the caliper is reduced when compared with a conventional caliper body having an equivalent stiffness.” (12 4-12)

4. The fact that a caliper with peripheral stiffening bands is lighter than a conventional caliper increases the performance of the car, which is especially important for racing cars. The patent goes on to explain that the removal of material from the caliper itself affects its shape. It does so by reference to numerals on a drawing of one of the embodiments:

“Because conventional caliper bodies are designed [to] cope with static braking forces they tend to have a generally symmetrical outer profile when viewed in plan. Of course conventional caliper bodies are not perfectly symmetrical because of the need to provide mountings and fluid connections

but generally they have a largely symmetrical profile when viewed in plan. It will be noted that use of peripheral stiffening bands 45, 55 in the caliper body 30 and the removal of material elsewhere gives the body 30 a distinctly asymmetrical appearance when viewed in plan.” (12<sub>26</sub> - 13<sub>5</sub>)

5. It is to be noted that the asymmetry described in this part of the specification is asymmetry in the body of the caliper, not in the peripheral stiffening bands.
6. In the first action HHJ Birss QC summarised the invention at [50] as follows:

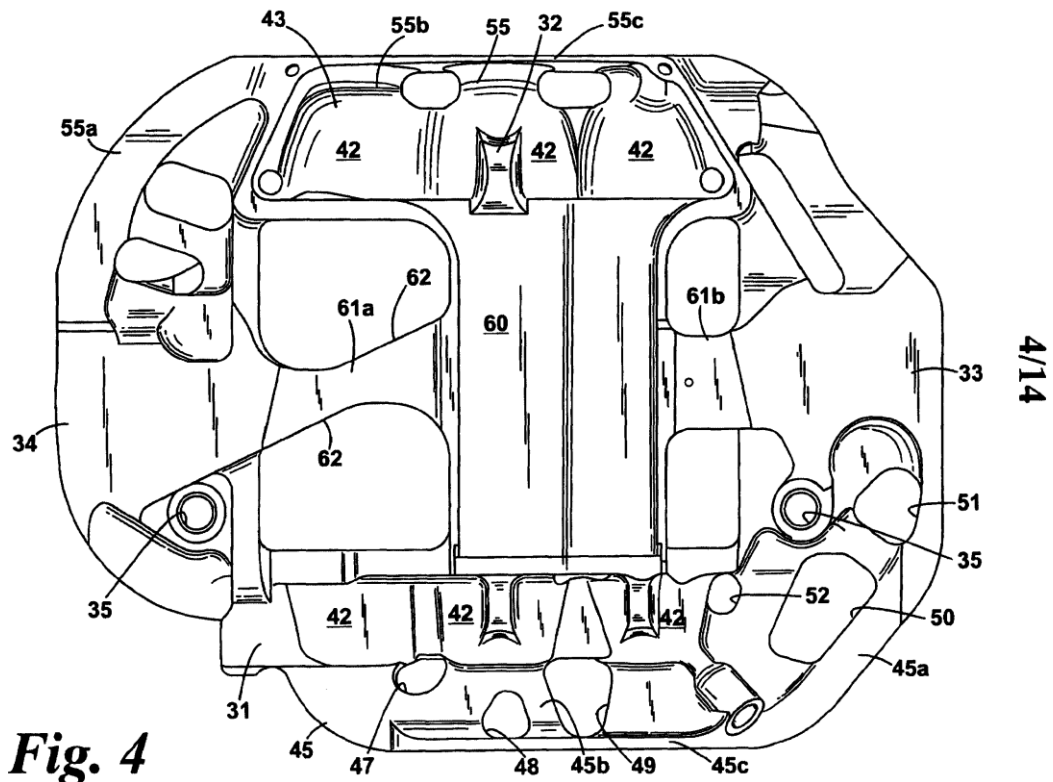
“From the perspective of a skilled person reading the patent, the invention is really quite simple. The distinctive asymmetrical appearance of the calipers is ultimately a consequence of the asymmetrical torque load they are designed to resist. The reason stiffness can be improved relative to weight is because these calipers extend over a larger area than a conventional caliper. The stiffening bands are on the periphery where they can do more good. As a result of material being moved to the outer periphery of the caliper, material from the interior can be taken away without compromising stiffness. So there are numerous openings in the structure. Also, instead of the cylinders simply looking like holes bored in a block, the material around the cylinders has been removed, making the shape of the cylinders visible from the outside and contributing to an organic, rather skeletal appearance.”

7. Claim 1 of the patent, which is alleged to have been infringed by the two calipers (broken down into integers) is as follows:

- “1. A body for a fixed type disc brake caliper,
2. the body comprising a mounting side limb and a non-mounting side limb,
3. each limb having two or more hydraulic brake cylinders suitable for receiving corresponding hydraulic brake pistons,
4. the limbs being rigidly inter-connected at either end by spaced bridging members and profiled to define a shaped housing portion about each cylinder,
5. each of the limbs having a peripheral stiffening band extending in a longitudinal direction about and interconnecting outer lateral end regions of the housing portions,
6. in which each of the stiffening bands has a profile that is asymmetric about a lateral axis of the body when viewed in plan.”

8. The essential issue is whether the impugned calipers contain peripheral stiffening bands with a profile that is asymmetric about a lateral axis of the body. If they do they

will infringe integer 6. The patent in suit does not define what it means by “peripheral stiffening band” (a “PSB”). Nor does the patent state whether the plan view referred to in the claim is from above or from below or either or both. The specification does, however, refer to PSBs in various places. Because some of the references incorporate comments on one of the illustrated embodiments, it is convenient to reproduce Figure 4 at this stage.



9. As indicated by the part of the specification quoted in [3] and [4] above, the primary identification of the mounting side PSB is by reference to the numeral 45. It is common ground that this also includes those parts of Figure 4 designated as 45a, 45b and 45c. The patent further describes PSBs in various extracts (which I have numbered for the sake of convenience):

“(1) ... each of the limbs having a [PSB] extending in a longitudinal direction about and interconnecting outer lateral end regions of the housing portions, in which each of the stiffening bands has a profile that is asymmetric about a lateral axis of the body when viewed in plan.” (4 6-10)

“(2) At least a portion of each band may have a thickness which is less than the maximum diameter of the cylinder housing portions. For at least part of its length, at least one [PSB] may comprise a laterally outer region connected with a cylinder housing portion by means of a web, the web having a reduced thickness when compared with the laterally outer region of the band.

The [PSB] on the mounting side limb may increase in width from a trailing end of the limb towards a leading end of the limb.” (4<sub>17-24</sub>)

“(3) The [PSB] on the mounting side limb may extend around the leading end of the limb and be connected with a leading one of the bridging members.

The [PSB] on the non-mounting side limb which may extend around the trailing end of the limb and be connected with a trailing one of the bridging members.

At least one [PSB] may have at least one opening therethrough in a radial direction.” (5<sub>4-10</sub>)

“(4) The body has a first [PSB] 45 which extends about the outer lateral surface of the mounting side limb 31... The first band includes a web portion 45b which is connected with the lateral outer end regions 43 of the housing portions 42. ... Over part of its length, the first band has a region, 45c of increased thickness at the laterally outer end of the web 45b.... Several openings 47, 48, 49, 50, 51, 52 are formed through the band to reduce the weight of the material without compromising the structural rigidity of the body 30.” (9<sub>12-101</sub>)

10. The patent gives a similar description of a second PSB on the non-mounting limb:

“(5) A second [PSB] 55 is provided about the lateral outer surface of the non-mounting limb 32. The second band 55 has a portion 55a that extends around the trailing end of the non-mounting limb to connect with the trailing bridging member 34. The second stiffening band 55 has a web region 55b connected to the lateral outer regions 43 of the housing portions 42 of the non-mounting limb and which has a radial thickness which is less than the maximum diameter of the housing portion 42 surrounding the largest of the cylinders 39. As with the first band, the web region of the second band, has a radial thickness that is smaller than the diameter of the largest of the cylinders 39 in the limb 32. A region of 55c of increased thickness extends along the laterally outer edge of the second band 55. The region of increased thickness 55c provides structural rigidity but also forms part of a mounting for the air cooling system. The openings 57, 58 are formed through the web region 55b of the second band 55 at positions between adjacent pairs of cylinders.” (10<sub>3-16</sub>)

11. So the nub of the issue is how to identify the PSBs in each of the impugned calipers.
12. The judge said at [37]:

“Two points of construction arise. They are related but it is convenient to consider them separately. First, it is necessary to identify the characterising features of a PSB which enable the skilled person to recognise whether a caliper has one or not. Secondly, assuming that the skilled person would recognise the presence of a PSB, identifying its limits – where it starts and where it ends.”

13. This point was touched on last time the case came to this court. In the judgment under appeal HHJ Birss QC had described a PSB at [58] as follows:

“A skilled person would understand ‘peripheral stiffening band’ in the patent in the following way. A peripheral stiffening band is plainly supposed to stiffen the caliper. It is a band of material and it is meant to be appreciably beyond and distinct from the limb material at the ends of cylinders. That is what the word ‘peripheral’ is getting at. I do not think a skilled person would understand the patent to be trying to include within this expression some relatively arbitrary outer portion of the thickness of the limb material on the ends of the cylinders simply because it contributes to stiffening.”

14. In this court Floyd LJ said at [47]:

“I was not persuaded by Mr Campbell's argument that the judge's approach to the meaning of ‘PSB’ was incorrect. According to the specification, Figure 1 is representative of the prior art. The patentee is proposing the addition of a peripheral stiffening band to the known construction. The judge was correct that the skilled person would not expect the patentee to be using the term to cover just the material at the margin of the ends of the pistons. The arguments as to the precise scope of what the judge meant by appreciably beyond do not seem to me to be material to the outcome of the appeal.”

15. The judge was plainly troubled by the imprecision of the patent, as he recorded:

“[52] It follows from Judge Birss's test that there must be some sort of perceptible distinction between PSB and limb. It was common ground before me that the limb and the PSB must be mutually exclusive parts of a caliper. Yet while this distinction is easy to state, it not easy to apply.

[53] I pressed Mr Cuddigan for a test to resolve the difficulty in distinguishing PSB from limb. Eventually he said it was a matter for judgment, not really much help.”

16. The judge pointed to part of the extract from the patent which I have labelled (4) that suggested that openings are formed through the PSB, from which he deduced that the immediately surrounding material would also be part of the PSB. That, of course, leaves open the question: what does “immediately” mean in this context? He went on

to consider the extracts I have labelled (2) and (4), noting that while extract (2) suggested that the web was attached to but distinct from the PSB with whose thickness it was compared, extract (4) suggested that the web was part of the PSB. These two descriptions were not wholly consistent. The judge went on to say at [57]:

“What I take from this is that a PSB might, but need not necessarily, extend round a corner towards the leading or trailing end of a caliper. One way of telling is whether there are openings of the type to which Mr Cuddigan drew my attention, surrounding which there is likely to be PSB material. Alternatively, there may be a web which forms part of the PSB. By contrast and absent any other indication, what looks like limb material is likely to be so if it contains no holes or web.”

17. In other words there were no hard and fast rules for determining the physical characteristics of a PSB; but there were factors that pointed in different directions. Again, I do not understand Mr Cuddigan to criticise the judge’s overall approach. The problem is, of course, compounded by the fact that the impugned calipers do not bear labels identifying which parts of them are PSBs and which are not. Mr Cuddigan says that the error which the judge made was in identifying where the PSBs in the impugned calipers began and where they ended. The judge concluded at [61]:

“The lack of any equivalently clear formulation in the present case might, on one view, push the present claim forward as a candidate for an unfringeable claim.... However, I think there are just about enough visual clues for the skilled person to reach a conclusion. Although these are far too imprecise to be satisfactory, I believe that the task of deciding where the PSBs are to be found on a caliper is just about workable.”

18. Again Mr Cuddigan did not criticise this self-direction.

19. The judge summarised his interpretation of integers 5 and 6 at [62]:

“A PSB which satisfies integers 5 and 6 of claim 1 must be a single band of material appreciably beyond and distinct from material at the outer ends of the cylinders, which serves to stiffen the caliper and which is clearly asymmetric to the eye in plan view about any lateral axis of the caliper.”

20. Again Mr Cuddigan did not criticise this self-direction.

21. Thus the salient features of the judge’s approach were that:

- i) The distinction between a PSB and the limb was a matter of judgment. The PSB must be “appreciably” beyond and distinct from material at the outer ends of the cylinders and “clearly” asymmetric to the eye.
- ii) There were no hard and fast rules for deciding what was comprised in a PSB and what was not.

- iii) The visual clues in the patent were far too imprecise to be satisfactory, but the task was just about workable.
22. That left the question: where does the PSB in the impugned calipers begin and end?
23. At this point it is pertinent to recall the legislative instructions about the interpretation of a patent. Section 125 (1) of the Patents Act 1977 provides:
- “For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.”
24. This is supplemented by article 69 of the European Patent Convention and the accompanying protocol. The Protocol states:
- “Article 69 should not be interpreted as meaning that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Nor should it be taken to mean that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patent proprietor has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patent proprietor with a reasonable degree of legal certainty for third parties.”
25. In relation to CAR 1249 the judge noted a number of changes in AP Racing’s case. He noted in particular that their expert, Mr Cantoni, spoke to a drawing in which the PSB covered “the entirety of the periphery of the caliper, meeting at the leading and almost meeting at the trailing end.” Alcon, on the other hand, maintained that either there was no PSB on the non-mounting side; or, if there was one, it was symmetrical. The judge concluded at [99]:
- “In my view the position and structure of the PSB on the non-mounting side are closer to those contended for by Alcon than that shown in AP Racing’s Reply. They are even more removed from Mr Cantoni’s revised and extravagant contention. It is a strip, as shown by Alcon, which may extend a little further at each end, but if so, in a broadly symmetrical fashion.”
26. Mr Cuddigan argues that the judge did not explicitly consider the existence of what he says is a webbed portion of the impugned caliper which is indicative of its being part of a PSB. It is true that there is no explicit reference to the webbed portion in this part



of the judgment. However, the judge refers to the “structure” of the PSB, which would encompass the web. Moreover, he had correctly directed himself about the significance of the web only six pages earlier in his judgment, and I find it impossible to accept that he had forgotten that self-direction; especially because on the very same page of his judgment preceding his discussion of CAR 1249 the presence or absence of a web led him to conclude that of two other impugned calipers, one infringed and the other did not. The mere fact that something was not explicitly mentioned does not entitle an appeal court to infer that the trial judge overlooked it: see *Henderson v Foxworth Investments Ltd* [2014] UKSC 41, [2014] 1 W.L.R. 2600 at [48]

27. In relation to CAR 37 the judge again remarked at [80] that AP Racing’s case as pleaded in the Reply entailed that:

“... the PSBs have practically taken over the periphery of the caliper, leaving bridging members but apparently no side limbs. In my view this pushes the extent of PSBs beyond what is sanctioned in the Patent.”

28. He concluded at [81]:

“The visible openings might suggest that the PSB on the non-mounting (lower) side extends further than shown in either AP Racing's initial drawing or Alcon's drawing (no point was taken with regard to the annotated angles). But there are openings on both sides, so the extension at the leading end is liable to be about the same as the extension towards the trailing end. On balance I think that the PSB on the non-mounting side not sufficiently asymmetrical to satisfy integer 6.”

29. The difficulty in identifying which parts of the impugned calipers were a PSB is illustrated by the many and different attempts made by AP Racing themselves to identify which parts they said were the PSBs. The judge recorded the plethora of marked up drawings in which alternatives were advanced. The drawings annexed to the Particulars of Infringement (apart from one caliper which is not in issue on this appeal) were superseded by the drawings annexed to the Reply; and they in turn were in part superseded by the drawings to which Mr Cantoni, spoke. In each iteration of these drawings different parts of the impugned calipers were said to amount to PSBs. It is difficult to see that this provides a reasonable degree of certainty for third parties. I do not accept Mr Cuddigan’s argument that this is no more than a gradual refinement of the case. These changes demonstrate the fundamental difficulty in defining the extent of a PSB, upon which HHJ Birss QC, Floyd LJ and the judge all remarked.

30. In *Scanvaegt International A/s v Pelcombe Ltd* [1998] FSR 786, 797 Aldous LJ said:

“... despite the fact that lack of clarity is no longer a matter that results in a patent being invalid, it can result in the patentee being unable to establish infringement. If you cannot define the invention claimed, you cannot conclude that it is being used.”

31. The judge undoubtedly did his best to apply the clues given by the patent to the impugned calipers. Mr Cuddigan insisted that his criticisms of the judge were all questions of construction of the patent; and that in construing a patent (as with any other written instrument) the court was not constrained either by the pleadings or the parties' submissions. However, I do not consider that Mr Cuddigan is correct on this point. First, he has accepted as correct the whole of that section of the judge's judgment that deals with the construction of the patent. There is, therefore, no live issue of construction. Second, although the marked up drawing identifying the alleged PSB in the impugned calipers have changed repeatedly, AP Racing's pleaded case on construction has not. Third, the judge's construction leaves much to the evaluation of the tribunal (e.g. whether a PSB was "clearly" asymmetric, or whether it was "appreciably" distinct from other material). Thus the application of that construction to a given impugned caliper is an evaluative judgment. Fourth, the burden was on AP Racing to prove infringement. Once the judge had rejected its "extravagant" case, he was entitled to find that infringement had not been proved. He was under no obligation to consider for himself an alternative route to infringement. Fifth, Alcon might well have wanted to adduce expert evidence in relation to the case that Mr Cuddigan presented on this appeal to demonstrate, for example, that there were technical reasons why the areas now said to amount to the PSBs could not be so described. That kind of evidence was indeed adduced at trial to refute one of the drawings on which Mr Cantoni relied.
32. That the judge exercised a value judgment is demonstrated by his statement at [81] that "on balance" the PSB in the non-mounting side of CAR 37 was not "sufficiently" asymmetrical to infringe; as well as his statement at [99] that the PSB on the non-mounting side of CAR 1249 might extend a little further than that for which Alcon contended; but, if it did, it did so in a "broadly" symmetrical fashion.
33. In my judgment, therefore, Mr Campbell QC is right to say that AP Racing does little more than disagree with the value judgment which the judge was expressly invited to make and did make. An appeal court must be especially cautious about interfering with value judgments of this kind: *Fine & Country Ltd v Okotoks Ltd* [2013] EWCA Civ 672, [2014] FSR 11 at [50]. Put another way, which parts of the impugned calipers amounted to a PSB was a question of fact, and an appeal court should not overturn a trial judge's findings of fact unless compelled to do so. As Lord Reed explained in *Henderson v Foxworth Investments Ltd* at [62]:

"Given that the Extra Division correctly identified that an appellate court can interfere where it is satisfied that the trial judge has gone "plainly wrong," and considered that that criterion was met in the present case, there may be some value in considering the meaning of that phrase. There is a risk that it may be misunderstood. The adverb "plainly" does not refer to the degree of confidence felt by the appellate court that it would not have reached the same conclusion as the trial judge. It does not matter, with whatever degree of certainty, that the appellate court considers that it would have reached a different conclusion. What matters is whether the decision under appeal is one that no reasonable judge could have reached."

34. There is also, in my judgment, a point of procedural fairness. As I have said, AP Racing produced a large number of drawings all differently coloured to show what it alleged was the extent of the PSB in the impugned calipers. The drawings served with the Particulars of Claim differed from those served with the Reply; and some of the drawings relied on by AP Racing's expert witness differed yet again. The drawings upon which Mr Cuddigan now relies are contained in his skeleton argument for this appeal. They appear to me to differ yet again, as I think Mr Cuddigan accepted. In other words, the appeal is proceeding upon drawings and allegations which were not relied on as part of AP Racing's pleaded case, and about which no evidence has been given. For good measure, the drawings in Mr Cuddigan's skeleton argument present multiple variants, none of which was canvassed before the judge. As I have said before, the trial is not a dress rehearsal: it is the first and last night of the show: *Fage UK Ltd v Chobani UK Ltd* [2014] EWCA Civ 5, [2014] F.S.R. 29 at [114].
35. In my view, Mr Campbell also has good grounds for complaint about the twists and turns that the allegations of infringement have taken. This is particularly relevant to proceedings in the Intellectual Property Enterprise Court. CPR Part 63.20 (1) not only requires a statement of case to set out the facts but also "the arguments on which the party serving it relies". As the IPEC Court Guide states at para 2.5 (a):
- "These statements of case need to be full, in that they need to identify *all* arguments to be advanced, but not unnecessarily lengthy." (Emphasis added)
36. It goes on to say at para 2.5 (c):
- "... a particular feature of statements of case in the IPEC is that they must comply with r 63.20 (1). They must set out concisely all the facts and arguments relied on. A key purpose of this requirement is to facilitate the conduct of the case management conference which will be conducted on an issue by issue basis. The court and the parties need to know what the issues are going to be in sufficient detail for that process to take place. Therefore the facts and arguments that all parties intend to present at the trial should have been finalised by the time of the CMC and set out in the statements of case."
37. There is a further point arising out of that. The function of the appeal court is not to try the case again, but to review the decision of the trial judge. To present an appeal court with a new case subverts that function. Where parties have agreed a list of issues (or are required by the rules to have done so) that is, in itself, a powerful reason for not permitting new arguments to be run for the first time on appeal. For a recent example see the decision of this court in *Scicluna v Zippy Stitch Ltd* [2018] EWCA Civ 1320.
38. I would dismiss the appeal.
- Lord Justice Lindblom:**
39. I agree.

**Lord Justice Flaux:**

40. I also agree.