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Case No: IP-2015-000112

**IN THE HIGH COURT OF JUSTICE**  
**CHANCERY DIVISION**  
**INTELLECTUAL PROPERTY ENTERPRISE COURT**

Royal Courts of Justice, Rolls Building  
Fetter Lane, London, EC4A 1NL

Date: 06/02/2017

**Before :**

**HIS HONOUR JUDGE HACON**

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**Between :**

**JUSHI GROUP CO., LTD**  
(a company registered in the People's Republic of China)

**Claimant**

**- and -**

**OCV INTELLECTUAL CAPITAL, LLC**  
(a company registered in the United States of America)

**Defendant**

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**Hugo Cuddigan QC** (instructed by **Beck Greener**) for the **Claimant**  
**Tom Alkin** (instructed by **Mewburn Ellis LLP**) for the **Defendant**

Hearing dates: 5-6 December 2016  
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**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.

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**HIS HONOUR JUDGE HACON**

## **Judge Hacon :**

### **Introduction**

1. The claimant (“Jushi”) plans to import two different compositions of fibre glass products into the United Kingdom (“Product 1” and “Product 2”). It has brought this action for revocation of the UK designation of European Patent 1 831 118 B1 (“the Patent”) in order to clear away potential objection to such importation. It also seeks declarations of non-infringement of the Patent. The Patent is owned by the defendant (“OCV”) and is for an invention entitled ‘Glass yarns for reinforcing organic and/or inorganic materials’. OCV has counterclaimed for threatened infringement.
2. Jushi has admitted that its threatened importation of Product 2 would infringe if the Patent is valid. OCV admitted in its pleadings that Product 1 fell outside the claims of the Patent. This was on the basis of Jushi’s confirmation that the amount of CaO in Product 1 was always less than 11.5%. The trial was therefore concerned solely with the validity of the Patent. The priority date is 16 December 2004. The Patent is in French but there was no difficulty in working from a translation.
3. Hugo Cuddigan QC appeared for Jushi and Tom Alkin for OCV.

### **A short summary of the technical background**

4. The invention concerns glass fibres of the sort used to reinforce other materials such as those used in the manufacture of glass fibre boats.
5. The mechanical properties of glass vary according to type and glass is categorised by reference to its properties. The categories with broadest recognition are those set out in the ‘ASTM’ standards, specified by ASTM (American Society for Testing Materials) International, a body based in Pennsylvania. For each category, the relevant standard specifies the ranges of constituents that go to make up that type of glass. In 2004 by far the most widely used category was ‘E-glass’. ‘E’ is short for electrical grade. Fibres made from ASTM standard E-glass were at the centre of the present dispute. Two other ASTM categories were mentioned in evidence: R-glass (the R is for reinforcement) was of some significance and there was also S-glass (strength).
6. Two properties of any glass are its Young’s modulus and its specific Young’s modulus. The Young’s modulus of a material is a measure of its stiffness, i.e. resistance to deformation. It is the force per unit area applied to the material divided by the amount of deformation caused by that force. This is sometimes called stress/strain. The specific Young’s modulus is the Young’s modulus divided by the mass density of the material, i.e. a measure of stiffness per unit mass.
7. The process for making glass fibres begins with constituents which are heated until they form a molten glass. The molten glass passes, by gravity, through a furnace or ‘bushings’ containing a pattern of holes like a sieve, to emerge as fibres which are subsequently cooled and treated further. For the passage through the bushings to work in a satisfactory manner, there are two prime considerations.

8. The first is to avoid the formation of solid crystals within the molten glass, a process known as ‘devitrification’. The presence of crystals will adversely affect the strength of the glass. The ‘liquidus’ temperature of the glass is the lowest temperature at which the glass is wholly free of crystals.
9. The second consideration is that the glass should be of the correct viscosity when passing through the bushings – something like liquid honey. The temperature at which the glass will achieve the desired viscosity is known as the ‘log 3 forming temperature’ or the ‘fibre forming temperature’.
10. One of the significant costs of glass production is that expended on heating. So using a process with a low fibre forming temperature offers an important cost advantage. On the other hand, to ensure that the production of fibres occurs without devitrification, the fibre forming temperature should be at least about 50<sup>0</sup>C above the liquidus temperature. The American prior art speaks of maintaining a temperature difference of 100<sup>0</sup>F, or 55.5<sup>0</sup>C, but the evidence at trial was that, as a rule of thumb, a differential of around 50<sup>0</sup>C will serve. This differential was referred to sometimes as the ‘forming range’, in the Patent as the ‘fiberizing range’, but mostly in evidence and argument as the ‘Delta-T’.
11. The Delta-T can of course be higher than 50<sup>0</sup>C and if it is, this provides for a greater margin of error in production. In any event, the lower the liquidus temperature, the lower the fibre forming temperature can safely be while still accommodating an adequate Delta-T, and this will mean lower production costs.

### **The claimed invention**

12. The invention claimed is a glass strand comprising 12 listed constituents, each being present in prescribed percentages by weight, with the further feature that three of those constituents taken in combination must constitute at least 23% of the total by weight. Claim 1 reads:

“1. A glass reinforcement strand whose composition comprises the following constituents in the limits defined below, expressed as percentages by weight:

SiO <sub>2</sub>	58-63%
Al <sub>2</sub> O <sub>3</sub>	12-20%
CaO	12-17%
MgO	6-12%
CaO/MgO	≤ 2, preferably ≥1.3
Li <sub>2</sub> O	0.1-0.8%, preferably ≤ 0.6%
BaO + SrO	0-3%
B <sub>2</sub> O <sub>3</sub>	0-3%
TiO <sub>2</sub>	0-3%
Na <sub>2</sub> O + K <sub>2</sub> O	□ 2%
F <sub>2</sub>	0-1%
Fe <sub>2</sub> O <sub>3</sub>	□ 1%

wherein the composition has an Al<sub>2</sub>O<sub>3</sub> + MgO + Li<sub>2</sub>O content equal to 23% or higher.”

13. The specification identifies the advantage of glass having a composition within the claimed range:

“The object of the present invention is to provide such glass reinforcement strands that combine the mechanical properties of R-glass, in particular its specific Young’s modulus, with improved melting and fiberizing properties, approaching those of E-glass.”
14. The Patent gives a number of examples within this range, set out in Table 1 with corresponding figures for the fibre forming temperature, the liquidus temperature, the difference between them, i.e. the Delta-T, and the figure for the Specific Young’s modulus. Although examples 1 to 5 in Table 1 are of the invention claimed, the table shows that in only one instance, example 1, were the fibre forming temperature, the liquidus temperature and the Specific Young’s modulus experimentally measured. The figures for examples 2 to 5 were all calculated. The table also contains four comparative examples: one with measured figures for a glass containing no lithium oxide (example 6) and one reproducing figures from the prior art (example 7). Figures are also given for E-glass and R-glass, by way of two further comparative examples.
15. Thus, the invention claimed in the Patent is supported by only one experimental example. This was a matter regarded as significant by Jushi and I will return to it below.
16. Aside from claim 1, three dependent claims were in issue. Claims 4 and 5 are each characterised by a specified weight ratio for  $Al_2O_3 / (Al_2O_3 + CaO + MgO)$ . Claim 6 is in similar form to claim 1 but with most of the ranges for the constituents being narrower. (I will use the term ‘constituent’ loosely to include combined constituents, such as  $BaO + SrO$ , or a stated ratio of constituents, in particular  $CaO/MgO$ ).

### **The issues in summary**

17. The alleged grounds of invalidity were that the claims lacked novelty and inventive step. By the time of the trial only one item of prior art was relied on, namely US Patent No. 4,199,364 (“Neely”).

### **The prior art**

18. Neely disclosed a boron-free and fluorine-free glass composition for producing glass fibres. The specification notes that the cost of sources of boron oxide had risen significantly and that use of both boron and fluorine compounds in the manufacture of glass pose a threat to the environment. Compounds containing fluorine also contribute to the corrosion of furnace refractories. According to Neely there was thus a need for glass compositions which excluded those two elements and which retained favourable fiberizing properties. These are the properties that allow the glass composition to be melted and refined into fibres at high rates and relatively low temperatures.
19. The glass composition disclosed in Neely provided fibres with the mechanical properties of both E-glass and ‘621’ glass, a type of glass from an alternative categorisation with properties similar to E-glass.

20. The general composition of Neely's glass is set out in Table IV of the specification:

“TABLE IV

<b>Ingredients</b>	<b>Percent</b>
SiO <sub>2</sub>	55-61
Al <sub>2</sub> O <sub>3</sub>	12-18
MgO	4-10
CaO	14-18
Na <sub>2</sub> O	0.1-1.5
Li <sub>2</sub> O	0.1-1.5
BaO	0.0-1.0”

21. Neely goes on to say this (at col.4, lines 7-14):

“In the glass composition of Table IV other substituents may also be present in small amounts typically below 1 percent each. In general, Fe<sub>2</sub>O<sub>3</sub> is present in quantities of 0.1 to 0.5 percent, TiO<sub>2</sub> between 0.2 to 0.8 percent, K<sub>2</sub>O between 0.1 and 0.5 percent and also if the glass composition desired is only a boron-free composition, then a small amount of fluorine up to 1 weight percent can be used in the composition.”

22. The 12 constituents in claim 1 of the Patent are either listed in Table IV of Neely or in the passage quoted above. Alternatively their % content as disclosed by Neely can be calculated from figures given. Likewise, Neely's (Al<sub>2</sub>O<sub>3</sub> + MgO + Li<sub>2</sub>O) content can be calculated, as can the weight ratio of Al<sub>2</sub>O<sub>3</sub> / (Al<sub>2</sub>O<sub>3</sub> + CaO + MgO), relevant to claims 4 and 5 of the Patent.
23. It was common ground that the range of each of the constituents in Table IV of Neely either fell within or overlapped the corresponding ranges of claims 1, 4, 5 and 6 of the Patent.
24. Neely also disclosed preferred embodiments with narrower ranges. One preferred embodiment is set out in Table VI.
25. Neely disclosed six specific examples of glass, i.e. six glass fibres having constituents present in precisely stated percentages, as opposed to ranges, and one comparative example. None of the six examples had constituents with ranges that all fell within the corresponding range specified in claim 1 of the Patent. Examples 1 and 5 came closest and featured in Jushi's attacks on the validity of the Patent.

### **Jushi's pleaded arguments on invalidity**

#### *Claim 1 lacked novelty*

26. The alleged lack of novelty of claim 1 was pleaded in different ways.

#### Neely example 5

27. The constituents of Neely's example 5 had ranges which fell within the corresponding ranges of claim 1, save for two. The figure for CaO/MgO in example 5 was 2.15%,

whereas claim 1 requires a range of  $\leq 2$ , preferably  $\geq 1.3$ . The total content by weight of  $(\text{Al}_2\text{O}_3 + \text{MgO} + \text{Li}_2\text{O})$  in example 5 was 22.88%, while claim 1 requires a minimum of 23%.

28. Jushi relied on the ruling of the Court of Appeal in *Smith & Nephew plc v Convatec Technologies Inc* [2015] EWCA Civ 607; [2015] R.P.C. 32. It argued that on a correct application of the law as set out in *Smith & Nephew*, the range for CaO/MgO in claim 1 of the Patent should be construed to be 0-2.5. The minimum content of  $(\text{Al}_2\text{O}_3 + \text{MgO} + \text{Li}_2\text{O})$  on a proper construction was 22.5%. On that basis example 5 of Neely fell within claim 1 of the Patent and deprived it of novelty.

#### Neely Table IV

29. As I have mentioned, the ranges for the constituents of glass fibre set out in Table IV of Neely either overlapped or fell within the corresponding ranges in the relevant claims of the Patent. Jushi argued that the skilled person reading Neely would have seriously contemplated applying the teaching of Table IV across the entirety of the ranges set out. Therefore claim 1 was anticipated by Table IV.
30. The criterion that the skilled person would ‘seriously contemplate’ applying the teaching of a piece of prior art sufficiently widely across its specified range comes from decisions of the Technical Board of Appeal (“TBA”) of the European Patent Office (“EPO”). I return to this below.

#### Neely Table VI

31. Jushi advanced a similar argument in relation to Table VI in Neely.

#### *Claim 1 lacked inventive step*

#### Neely examples 1 and 5

32. Jushi argued that the skilled person would be aware that the amount of each of the constituents of a glass composition could be varied without having any real effect on the performance of the glass. Jushi put a figure on this: it was obvious to make changes of up to  $\pm 6\%$  to the stated proportion of each constituent of a fibre glass without being concerned about a significant change in its properties. Such changes could be thought of as creating ‘workshop modifications’ of examples 1 and 5 of Neely.
33. Alternatively it was obvious to the person skilled in the art to try varying examples 1 and 5 or to make other fibres covered by Table IV, thus creating fibres which fell within claim 1, with a reasonable expectation of success.

#### *Claims 4 and 5*

34. The range of  $\text{Al}_2\text{O}_3 / (\text{Al}_2\text{O}_3 + \text{CaO} + \text{MgO})$  specified in example 5 of Neely fell within the ranges of both claims 4 and 5 of the Patent. Therefore neither claim could be independently valid over claim 1.

#### *Claim 6*

35. The narrower ranges of claim 6 of the Patent also overlapped those of Table IV of Neely. The skilled person would seriously contemplate applying the teaching of Table IV sufficiently widely to include all areas of overlap. Therefore claim 6 lacked novelty over Table IV.
36. Jushi also argued that  $\pm 6\%$  workshop variations to the ranges of examples 1 and 5 of Neely brought them within the ambit of claim 6 of the Patent on a proper construction of that claim. It therefore lacked inventive step over examples 1 and 5.
37. There was a further pleaded argument relating to the range of titanium oxide required by claim 6. It was that conventional raw materials used in the makeup of constituents of fibre glass included ‘tramp’ impurities, i.e. impurities that were tolerated. The skilled person would recognise that the titanium oxide content in example 5 of Neely was a tramp impurity and therefore interpret the 0.64% figure to mean between 0% and around 0.6%. This then overlapped the 0 – 0.5% range of claim 6.

### **The skilled person**

38. There was no dispute of significance regarding the characteristics of the skilled person. OCV submitted that he (hereafter to be taken to be she, alternatively) was an engineer with experience in manufacture of glass fibre, with a degree in chemistry, materials science or chemical engineering. Jushi favoured a team led by such a person accompanied by production engineers with experience in the commercial manufacture of glass fibre. I doubt that there is a need for a team since, during the course of his practical experience, the lead engineer would acquire any necessary practical knowledge.

### **Common general knowledge**

39. The parties were agreed that the skilled person’s common general knowledge (“CGK”) would include the contents of three standard texts: (1) *The Manufacturing Technology of Continuous Glass Fibres* by K. L. Loewenstein (“Loewenstein”), first published in 1973 with further editions (also part of the CGK) in 1983 and 1993, (2) an article entitled *Glass Fibers* by Frederick T. Wallenberger *et al* (“Wallenberger”) published in 2001 in *ASM Handbook*, Vol. 21 and (3) the 2000 ASTM standard for E-glass.
40. Table IV of Neely is reproduced in Loewenstein. Mr Cuddigan contended in argument that therefore insofar as Jushi’s case relied on Table IV, it was an allegation of lack of novelty or inventive step over the CGK. I am not clear how this makes a difference since Neely has become the single cited item of prior art. Also, lack of novelty and inventive step over the CGK was not pleaded.

### **Further arguments**

41. Two further arguments emerged during counsel’s oral submissions, neither of which shone out from the pleadings or skeleton arguments, though both were consistent with the relevant party’s contentions. No objection was taken in either case to the argument being advanced.

### *The breadth of claims of the Patent*

42. Mr Cuddigan pointed out that OCV had carried out just one experiment and found just one example of fibre glass with the advantages claimed - the mechanical properties of R-glass, in particular its specific Young's modulus, combined with the melting and fiberizing properties approaching those of E-glass. From this one example OCV had extrapolated a large range of theoretical variants contained within the broad scope of claim 1 and the slightly less broad claim 6. Mr Cuddigan compared this with what the Neely prior art had done. Neely disclosed six specific experimental examples. Mr Cuddigan produced charts intended to show that for each constituent of the glass, the range claimed by Neely more or less accorded with the range disclosed across Neely's six examples. Mr Cuddigan said that whereas Neely had drafted claims approximately co-extensive with the range of his experimental examples, OCV had conducted just one experiment and then drafted extravagant claims with limits based on nothing but speculation. There was a price to pay.
43. Mr Cuddigan submitted that the skilled person must approach the Patent and Neely in the same way. Reading the Patent, the skilled person would understand that it was possible liberally to vary the proportions of the constituents of one experimental example and still make fibre glass of the desired characteristics. The skilled person must be taken to adopt the same liberal approach when reading Neely. In other words, the skilled person would expect that the constituents of Table IV could be significantly varied without jeopardising the possibility of obtaining glass fibre of the properties disclosed in Neely.
44. Mr Alkin submitted that this was in truth an attempt to smuggle into the case a squeeze between obviousness and insufficiency. Insufficiency had not been pleaded so it was not an attack available to Jushi.
45. I agree. Certainly, the single skilled person must be taken to approach the Patent and the prior art with the same mind set, having in his mind the same CGK. The nature of the CGK was a matter for evidence and was liable to affect Jushi's case on novelty and lack of inventive step.
46. Had insufficiency been pleaded, it is of course possible that the evidence then filed would have led to the conclusion that the invention was not sufficiently disclosed for it to be performed by the skilled person across the breadth of the invention as claimed (see, for example, *Biogen Inc v Medeva plc* [1997] R.P.C. 1, at 53-54). Questions of plausibility may have been raised (see, for example, *Regeneron Pharmaceuticals Inc v Genentech Inc* [2013] EWCA Civ 93; [2013] R.P.C. 28, at [100]-[101]). But insufficiency was not pleaded and therefore I cannot consider any of this. It would not be fair on OCV for me to do so. Preparing evidence to meet a pleaded squeeze is one thing. Preparing evidence without any need to worry about an attack of insufficiency is another. I must assume that in the former case OCV's evidence would have been consistent with the evidence actually filed, but it would no doubt have gone a good deal further.
47. Mr Cuddigan was right to this extent: any patentee runs a risk in drafting wide claims in that he is more likely to cover, or get too close to, the prior art. Broadly, I have to decide whether that is what OCV has done.

*Selection invention*



48. Mr Alkin defended the validity of the Patent in two overall ways. The first was to challenge Jushi's case head on. He argued that Mr Cuddigan was wrong in law regarding novelty and that the skilled person would not contemplate the 'workshop modifications' on the Neely examples as proposed by Jushi.
49. Then in argument there emerged a second, back-up submission. It was that the invention claimed in the Patent was properly characterised as a selection invention. The glass fibres falling within claim 1 and its dependent claims included a sub-set of the glass fibres disclosed in Table IV of Neely. It was not put in dispute that the glass fibres claimed in the Patent – or at least those of the single example in the Patent – did indeed have the superior technical qualities claimed for them: the specific Young's modulus of R-glass combined with melting and fiberizing properties close to those of E-glass. Mr Alkin argued that OCV was entitled to claim this technically superior subset of the glass disclosed in Table IV as a selection invention.
50. I will take the two defences in turn, calling them for convenience the 'conventional case' and the 'selection invention case.'

### **The Conventional Case - Novelty**

#### *Numerical ranges*

51. Jushi alleged that example 5 of Neely fell within and thus anticipated claim 1 of the Patent, on a correct construction of claim 1 according to the law on numerical ranges.

#### The law

52. In *Smith & Nephew Kitchin LJ* (with whom Briggs and Christopher Clarke LJJ agreed) emphasised that the approach to construction of a claim containing one or more numerical ranges is at root no different that approach appropriate for any other claim (see *Kirin-Amgen Inc v Hoechst Marion Roussel Ltd* [2004] UKHL 46; [2005] R.P.C. 9 and *Virgin Atlantic Airways Ltd v Premium Aircraft Interiors UK Ltd* [2009] EWCA Civ 1092; [2010] R.P.C. 8):

“[18] It seems to me that all of these principles are just as applicable to a claim containing a numerical range as they are to a claim containing descriptive words or phrases. In both cases the critical question is what the skilled person would understand the author to have been using the words or numerals appearing in the claim to mean.”

53. Kitchin LJ considered two conventions. The first was the 'whole number' convention. According to this a stated number includes all figures which, if rounded up or down to the nearest whole number, would be expressed as that stated number. For example, 1% would include 0.5% to 1.4% (or 1.49%, or 1.499% for that matter) since all of these, if rounded to the nearest whole number, would result in a figure of 1%. Likewise 25% would embrace all values  $\geq 24.5\%$  and  $\square 25.5\%$ .
54. The other was the 'significant figures' convention (see the judgment at [54]) which I need say nothing more about since neither side proposed that it should apply in this case.

The numerical ranges in this case

55. As indicated above, the numbers in claim 1 that mattered were firstly, the upper limit of CaO/MgO:  $\leq 2\%$  (example 5 of Neely had a figure of 2.15%) and secondly, the upper limit of  $(Al_2O_3 + MgO + Li_2O)$ : 23% (example 5 of Neely had a figure of 22.88%).

The parties' contentions

56. OCV initially adopted the whole number convention but abandoned it upon taking advice from Dr Paul Bingham, OCV's expert. He said in his report that the two relevant figures in claim 1 of the Patent would be understood by the skilled person to be exact values. He stated that the skilled person would have known, as part of his CGK, that changes in glass composition, even small ones, could lead to sometimes strongly non-linear changes in key properties of the glass. Therefore values specified for a glass composition, such as those in an ASTM standard, were understood to be exact values. The skilled person would apply the same approach to the values in claim 1.
57. In addition, Mr Alkin pointed out that example 5 of Neely was identified in the Patent as a comparative example (at [0045]). This would be taken by the reader as an express indication that example 5 of Neely falls outside the scope of the claims. Mr Alkin referred to *Beloit Technologies Inc v Valmet Paper Machinery Inc* [1995] R.P.C. 705 (upheld on appeal: [1997] R.P.C. 489), at 720:

“There is normally no reason to suppose the patentee when he set the limits of his monopoly knew of a particular piece of prior art which is therefore irrelevant in deciding what those limits are. Of course the position is different if the prior art is specifically acknowledged in the patent. The purposive construction would lead to a construction of a claim which did not cover that acknowledged prior art: it can hardly have been the inventor's purpose to cover that which he expressly recognises was old.”

58. Jushi favoured the whole number convention, relying on *Smith & Nephew*. The figure of ' $\leq 2$ ' for CaO/MgO, would be taken to include anything from  $\geq 1.5$  to  $\square 2.5$ . The figure of 23% for  $(Al_2O_3 + MgO + Li_2O)$  would embrace anything from  $\geq 22.5\%$  to  $\square 23.5\%$ .
59. As to example 5 of Neely being categorised as a comparative example in the Patent, Mr Cuddigan had two responses. The first was that the skilled person would assume that the patentee had not done the arithmetic for example 5 of Neely and had failed to realise that it was not a comparative example. The second was that it was irrelevant how the patentee had characterised example 5 of Neely. Claim 1 had been drafted broadly, it covered the prior art, and there was an end of it.

Discussion

60. In my view the short point is that the skilled person would not just dismiss the statement in the Patent that example 5 of Neely is a comparative example. Whatever else the skilled person might conclude about claim 1, he would be clear that it was not intended by the patentee to cover example 5 of Neely. This might influence the

skilled person's view of how numbered ranges stated in the Patent are to be interpreted. I do not, anyway, accept that a Patent can lack novelty over an example expressly stated in the specification to be a comparative example where it is possible to construe the claims such that they are not anticipated by the comparative example. The allegation of lack of novelty of claim 1 over example 5 of Neely fails.

### *Overlapping ranges*

61. Jushi argued that since the range of fibres falling within claim 1 of the Patent overlapped the range falling within Table VI of Neely, claim 1 lacked novelty.

### The law

62. Jushi relied on the approach to overlapping ranges taken in T 26/85 *TOSHIBA/Thickness of Magnetic Layers* [1990] E.P.O.R. 267. Toshiba claimed a magnetic recording medium having a thickness between a stated range. The prior art disclosed a medium having the same elements of Toshiba's claim, with an overlapping range of thickness. The TBA said (at p.272):

“[9] It appears to the Board, therefore, that a realistic approach in assessing the novelty of the invention under examination over the prior art in a case where overlapping ranges of a certain parameter exist, would be to consider whether the person skilled in the art would in the light of the technical facts seriously contemplate applying the teachings of the prior art document in the range of overlap. If it can be fairly assumed that he would do so it must be concluded that no novelty exists.”

63. This criterion for novelty – whether the skilled person would seriously contemplate applying the teaching of the prior art document in the range of overlap – has been applied in subsequent decisions of the TBA including T 666/89 *UNILEVER/Washing Composition* [1992] E.P.O.R. 501, in which the Board said this (at p.507):

“[7] Clearly, the decision on this issue will depend on the facts of each case. Nevertheless, the Boards' jurisprudence has generated certain general principles and broadly applicable concepts, sometimes (erroneously) referred to as 'tests'. Thus it is clear, (cf. G 02/88 cited above), that matter that is hidden, not in the sense of being deliberately concealed but rather in the sense of being reconditely submerged in a document, will not have been 'made available' in the above sense. In the case of overlapping ranges of physical parameters between a claim and a prior art disclosure, what will often help to determine what is 'hidden' as opposed to what has been made available, is whether or not a skilled person would find it difficult to carry out the prior art teaching in the range of overlap (T 124/87, OJ EPO 1989, 495, para.3.4). A similar approach adopted by a Board of Appeal (cf. T 26/85 OJ EPO 1990, 22) for assessing the novelty of a claim in a case where overlapping numerical ranges of certain parameters exist between a claim and a prior art document, is to consider whether a person skilled in the art would, in the light of all the technical facts at his disposal, seriously contemplate applying the technical teaching of the prior art document in the range of overlap. Provided the information in the prior art document, in combination with the skilled person's common general knowledge, is sufficient to enable him to practise the

technical teaching, and if it can reasonably be assumed that he would do so, then the claim in question will lack novelty.

[8] In the Board's view, there is no fundamental difference between examining novelty in situations of so-called 'overlap' or 'selection', and in doing so in other situations, although it may be helpful, in order to verify a preliminary conclusion of a novelty examination in cases of overlap, to investigate whether or not a particular technical effect is associated with the narrow range in question. It needs to be stressed, however that such a particular effect is neither a prerequisite for novelty nor can it as such confer novelty: its existence can merely serve to confirm a finding of novelty already achieved (following T 198/ 84, OJ EPO 1985, 209, para.7)."

64. The Board was apparently aware that the question whether the skilled person would seriously contemplate applying the teaching of the prior art in the range of overlap sounds a lot like a question appropriate for assessing inventive step than novelty. Novelty depends on the court's assessment of the prior art: either the invention is disclosed in the prior art (albeit seen through the eyes of the skilled person) or it is not. Whether the skilled person would contemplate doing anything with the information in the prior art, or part of it, would seem to encroach on the question of obviousness. The TBA said (at p.507-8):

"[8] ... The above concept of 'seriously contemplating' moving from a broad to a narrow (overlapping) range, while seemingly akin to one of the concepts used by the Boards for assessing inventive step, namely, whether the notional addressee 'would have tried, with reasonable expectation of success' to bridge the technical gap between a particular piece of prior art and a claim whose inventiveness is in question, is fundamentally different from this 'inventive-step concept' because in order to establish anticipation, there cannot be a gap of the above kind.

In summary, and in dealing with the respondent's submission outlined previously, under the EPC novelty must be decided by reference to the total information content of a cited prior document, and in assessing the content for the purpose of deciding whether or not a claim is novel, the Board may employ legal concepts that are similar to those used by them in deciding issues of obviousness, without, however, thereby confusing or blurring the distinction between these two separate statutory grounds of objection."

65. T 666/89 *UNILEVER* was cited to Floyd J in *H. Lundbeck A/S v Norpharma SpA* [2011] EWHC 907 (Pat); [2011] R.P.C. 23. Floyd J was unable to accept the criterion proposed by the TBA:

"[88] I derive the following guidance from this passage of relevance to this case:

- (a) The term 'available' goes beyond the strict literal meaning and includes what is implicit as well;
- (b) On the other hand, matter may be contained in a document but so submerged in it as not to be available (compare *Dr Reddy's*

*Laboratories (UK) Ltd v Eli Lilly and Co Ltd* [2009] EWCA Civ 1362, [2010] R.P.C. 9);

(c) Novelty in the case of overlapping ranges is no different from novelty in other circumstances.

[89] What I find, with great respect, more difficult to follow is the notion that it may be legitimate to find lack of novelty because the skilled person would ‘seriously contemplate’ moving from a broad range to a narrow range. Merely by stating the proposition in that way one can see that it is inconsistent with the approach approved by the House of Lords in *Smithkline Beecham plc’s (Paroxetine Methane Sulfonate) Patent*. There is no disclosure of the narrower range. Moreover, assuming no specific individual value is disclosed, there are no clear directions to use a value within the narrower range. A person carrying out the disclosure of the prior range will not inevitably fall within the claim of the later patent. If the ‘serious contemplation’ approach is indeed the correct approach in the case of overlapping ranges, then overlapping ranges are a special case in the law of novelty, a proposition which is inconsistent with the third proposition derived from T666/89 itself.

[90] As will appear, however, I have not found it necessary to reach a concluded view on whether the cited EPO decision is correct.”

66. Floyd J had earlier quoted the following passage from Lord Hoffmann’s judgment in *Smithkline Beecham plc’s (Paroxetine Methane Sulfonate) Patent* [2005] UKHL 59; [2006] R.P.C. 10:

“[22] If I may summarise the effect of these two well-known statements, the matter relied upon as prior art must disclose subject-matter which, if performed, would necessarily result in an infringement of the patent. That may be because the prior art discloses the same invention. In that case there will be no question that performance of the earlier invention would infringe and usually it will be apparent to someone who is aware of both the prior art and the patent that it will do so. But patent infringement does not require that one should be aware that one is infringing: “whether or not a person is working [an] ... invention is an objective fact independent of what he knows or thinks about what he is doing”: *Merrell Dow Pharmaceuticals Inc v H N Norton & Co Ltd* [1996] R.P.C. 76, 90. It follows that, whether or not it would be apparent to anyone at the time, whenever subject-matter described in the prior disclosure is capable of being performed and is such that, if performed, it must result in the patent being infringed, the disclosure condition is satisfied. The flag has been planted, even though the author or maker of the prior art was not aware that he was doing so.”

67. If I interpret Floyd J’s reasoning correctly, he took the view that in the case of overlapping ranges, absent the teaching of a specific example in the area of overlap with the patent in suit, it cannot be said that the performance of the prior art invention *must* result in its performance in the area of overlap. It could only ever be a possibility. Therefore, applying the law as explained by the House of Lords in *Smithkline Beecham*, an invention will not lack novelty over prior art which goes no further than disclosing an overlapping range.

68. Looking at cases of overlapping ranges more generally, it is possible to envisage a spectrum of possibilities. At one extreme, the range claimed in a patent in suit could overlap that claimed in the prior art document almost entirely. At the other extreme there may be only a very small area of overlap. With very great respect for the reasoning of Floyd J (as he then was), for my part, I am not confident that where there is, say, 99% overlap, the invention of the patent in suit still lacks novelty over the prior art because it cannot be said with certainty that the skilled person would perform the prior art in conformity with 99% of the range disclosed – he might go for the other 1%. I think it could be said that in such a case there *is* disclosure of embodiments of the invention, i.e. those which are performed using any part of 99% of the prior art range. If any of those embodiments were performed, it must result in the patent being infringed (to echo the language of Lord Hoffmann).
69. Where the overlap is more modest, one might well imagine that there comes a point at which the prior art does not deprive the invention of novelty. Take the example of only 1% overlap. It is still true that if the embodiment or embodiments in the 1% area of overlap are reproduced, the invention of the later patent will inevitably be performed. However, the smaller the overlap, the more likely it is that this part of the prior art disclosure is “so submerged in it as not to be available” (see *Lundbeck* at [88](b) and T 666/89). There will come a point at which the prior art does not anticipate the patent.
70. If so, there must be a criterion to distinguish those circumstances in which an overlap deprives an invention of novelty from those circumstances in which it does not. Apparently with this in mind, the TBA devised the criterion of whether the skilled person would seriously contemplate applying the teaching of the prior art document in the range of overlap.
71. T 26/85, T 666/89 and other decisions of the TBA in which this has been applied are cited in the most recent edition of *Case Law of the Boards of Appeal of the European Patent Office*, 8<sup>th</sup> ed. 2016, at 131-2, indicating that this requirement for novelty in the context overlapping ranges still remains good law for the TBA. Although Floyd J did not approve the TBA’s criterion, he recorded the respect which must in general be accorded to decisions of the TBA (at [94]), a view which has been expressed at the highest level (see, for example, *Merrell Dow Pharmaceuticals Inc v H. N. Norton & Co Ltd* [1996] R.P.C. 76, at 82 and *Conor Medsystems Inc v Angiotech Pharmaceuticals Inc* [2008] UKHL 49, at [3]).
72. Since Floyd J’s observations were expressly *obiter*, I am obliged to come to my own view. For the reasons given above, in the present case I will adopt the TBA’s ‘serious contemplation’ criterion.

#### Claim 1 and Table IV

73. Unlike the examples of overlap discussed above where, for simplicity, I refer to a single range, claim 1 of the Patent has 13 ranges. This complicates matters. In relation to 7 of them, the corresponding Neely Table IV range is either the same as, or falls squarely within the claim 1 range. Figures produced by Mr Alkin showed that the overlap in the remaining 6 ranges varied between 33.7% and 87.5%. These were very similar, though not quite identical to figures produced by Professor Arthur Gibson, who gave expert evidence on behalf of Jushi.

74. Mr Alkin submitted, rightly, that the total area of overlap had to take into account the probability of the Table IV disclosure being performed within all 6 overlap ranges. He therefore multiplied the percentages of overlap and came to a figure of 3.9%. His point, in effect, was that given the Neely IV table, there was a 3.9% probability of making a glass fibre falling within claim 1 of the Patent.
75. Mr Cuddigan responded, also rightly, that Mr Alkin's logic with regard to his multiplication was flawed because it presumed that the 6 ranges of constituents with partial overlap were entirely independent. Mr Cuddigan submitted that this was not so because the percentage figure of one constituent affected that of another. Even at the simplest level, an increase in one constituent could exert a downward pressure on the percentage of another, because the total must always come to 100%. Mr Cuddigan accepted and indeed emphasised in argument that this was a very complicated statistical problem.
76. I agree. Even the constituents having a range in respect of which there is complete overlap potentially come into play. Once one changes the content of one of the 6 constituents in respect of which there is only partial overlap, this could lead to a change in content of any of the other 12 constituents. The true area of overlap, insofar as it makes any sense to express it in percentage terms, could be less than 3.9%.
77. A further difficulty was that this complication was argued out in closing submissions. I was in the end left with no useful idea, not even a vague one, as how likely it was that the skilled person would seriously contemplate juggling all 13 ranges such a way as to arrive at something within claim 1 of the Patent.
78. If a party wishes to argue that a patent lacks novelty pursuant to the application of the 'serious contemplation' criterion, it must provide evidence of the relevant overall area of overlap, not in terms of the nearest percentage necessarily, but enough to give the court a sufficiently accurate impression of where it is and how large it is. This may best be done in the Grounds of Invalidity. Then in the normal course expert evidence will be directed to whether the skilled person would seriously contemplate using the information disclosed in the prior art to perform the invention in that identified area of overlap. The party alleging invalidity bears both the legal and evidential burden of proof.
79. Professor Gibson said in his report that the skilled person would seriously contemplate working in the areas of overlap between Table IV and claim 1 for each of the constituents and that he or she would have no reason to avoid those areas. As I have explained, looking at each of the areas of overlap separately is not to the point. Professor Gibson did not address whether and indeed why the skilled person would seriously contemplate making glass fibre having constituents *all* of which were of an amount which fell within the relevant specified range of claim 1 of the Patent. The complex compositional juggling required was not addressed.
80. The evidence of Dr Bingham was that the skilled person would only stray outside the specific examples given in Neely with caution because of his or her fear that varying the composition would cause production problems. There was support for this in Loewenstein. The following is taken from the 1993 edition (at p.29), the contents of which were agreed to be CGK:

“Slight fluctuations of the glass composition from day to day would not interfere with the production process as such but would cause variations in the physical properties of the fibre and the production rates of given fibre-forming furnaces (bushings). Therefore, for consistency of products being manufactured, all factors which contribute to this objective must be controlled. Such factors include the glass composition, the temperature of the furnace, the melting rate, and the temperature/time schedule to which the glass will be subjected between melting and fibre forming.”

81. There was also this at p.35:

“To consider a change in glass composition is a very serious undertaking since it involves changes to a large number of parameters all of which have been, up to then, considered as an established part of a production process. Many problems are likely to surface downstream in the production line and all unexplained faults will tend to make the suitability of the new glass composition suspect. Despite these problems, economic pressures and pollution regulations, the high cost of some materials and a better understanding of the factors interlinking glass composition with process engineering and the properties of glass fibres has given some manufacturers sufficient courage to experiment with and undertake changes in the composition of E glass.”

82. Mr Cuddigan submitted that in cross-examination Dr Bingham had accepted that the skilled person reading Neely would expect that if he made glass of a composition according to the teaching of any part of Table IV he would obtain glass fibre having the performance characteristics of E-glass. I am not sure he did and I will return to this in the context of the argument on inventive step. But even if that were right, it would not answer the question whether the skilled person would seriously contemplate making glass across the whole of the range disclosed in Table IV and in particular in the overlap area. Why go to that part of Table IV if this part is good enough? As one might expect, Dr Bingham did not say that the skilled person would seriously contemplate making rigorously sure that he made glass according to each and every alternative in Table IV.

83. I am reluctant to decide this aspect of the case according to the burden of proof, but feel obliged to do so. Applying the TBA’s criterion, which I have accepted as a principle of law, I am not satisfied that I know the extent of the overlap between Table IV and claim 1. Nor, more importantly, am I satisfied that it has been shown that the skilled person would seriously contemplate making fibre glass according to the teaching of Table IV within that area of overlap, and thus within claim 1.

84. Claim 1 does not lack novelty over Table IV.

#### Claim 1 and Table VI

85. Jushi faced the same difficulty with regard to Table VI. The area of overlap was insufficiently identified and the evidence was not directed to that identified overlap. Claim 1 does not lack novelty over Table VI.

#### Claim 6 and Table IV



86. For similar reasons claim 6 is not anticipated by Table IV.

### **The Conventional Case – Inventive Step**

#### *Obviousness over examples 1 and 5 of Neely*

87. Jushi's case on lack of inventive step rested largely on a simple point. Jushi argued that the skilled person would not regard the figures for the constituents of fibre glass given in examples 1 and 5 of Neely as set in stone. Variations would be contemplated.

88. Jushi's Amended Grounds of Invalidity put a figure on it: the skilled person would believe that each of the constituents of examples 1 and 5 of Neely could be varied by  $\pm 6\%$ . Among such obvious variants would be compositions that fell within claims 1 and 6.

89. Mr Cuddigan put his case in this regard in two ways. First he relied on what Laddie J said in *Hoechst Celanese Corporation v BP Chemicals Limited* [1997] F.S.R. 547, at 573-4:

“Before a step from the prior art can be held to be obvious there must be some reason why the man skilled in the art would wish to take it. If he has a problem and the step would occur to him as a solution to it, then he has a reason. But there is no requirement that it be demonstrated that the step would have been expected to produce significant commercial advantages. The problem might be very small. The courts will assume that he may just want an alternative way of achieving essentially the same result as in the prior art. Thus were workshop modifications, none of which would be expected to produce significant technical or commercial benefits are still obvious. To adopt an example sometimes given by Jacob J., if it is known to make a 5-inch plate, it is obvious to make a 5¼-inch plate. Technicians and businessmen frequently want to make trivial variations in established or known products. Similarly, if the prior art discloses two wooden parts held together by screws it would be obvious to glue them, even if so doing would not be expected to advance the industry. The notional addressee is likely to want to use materials readily at hand to make essentially the same thing as is disclosed in the prior art. That is sufficient motivation and the use of those materials is, accordingly, obvious.”

90. Mr Cuddigan argued that varying the constituents of the Neely examples by  $\pm 6\%$  was equivalent to changing the diameter of a plate from 5 inches to 5¼ inches.

91. I would add a note of caution here. The example of the 5 and 5¼ inch plates makes particular sense because instinctively one can tell that a person skilled in the manufacture of plates would consider the creation of a new 5¼ inch size of plate. Making such a plate without any difficulty would be something well within his unimaginative contemplation. In other areas of technology, what looks like a minor change to the prior art may or may not be something the skilled person would treat as an obvious alternative embodiment – a workshop modification. It will depend on the evidence.

92. By way of a further argument, Mr Cuddigan said that it would be obvious to try varying each constituent by different amounts within  $\pm 6\%$ , with a reasonable expectation of success. This seems to me to be a less attractive way of putting the argument from Jushi's point of view. Increasing constituent A by, say,  $+1\%$ , then  $+2\%$  etc., then reducing that constituent by similar degrees, then progressing to constituent B to repeat the same process and so on, looks very much like a research programme. It is more complicated than at first appears because if constituent A is to go up by, say,  $6\%$ , the skilled reader would potentially have a kaleidoscope of possibilities in deciding which constituent or constituents should be reduced in amount. No doubt there would be short cuts and the agreed CGK suggested some of them. But these had to be brought together to suggest a way forward that would have been both obvious to the skilled person and that would have led from example 1 or 5 of Neely to claim 1 or claim 6 of the Patent.
93. I accept OCV's argument that the skilled person would be cautious about varying the constituents of an example shown to work for the reasons given in Loewenstein. However, unsurprisingly, neither Loewenstein nor other descriptions of the CGK I was shown put a percentage figure on how much variation the skilled person would contemplate. It was also clear to me from the evidence as a whole that the appropriate figure would alter between one constituent and another.
94. The source of the  $\pm 6\%$  figure and the evidence in support of it came from Professor Gibson in his report. He was asked how he arrived at  $\pm 6\%$ :
- Q. I see. So, you have come up with this figure looking at the patent?
- A. I have come up with this figure, really, looking at the variations on side of -- obviously it does relate to the patent.
- Q. You looked at the examples in the patent and thought how far can I vary those?
- A. Exactly. In other words, if you were a fibre glass manufacturer operating according to one of the examples in the patent, it would be expected that you might be able to deviate each of these compositions by something of the order of approximately  $6\%$ , and I apologise for being vague on this, but I think it is necessary to be vague, because there is some variability in that.
- Q. Your evidence is that the person skilled in the art would look at any particular fibre glass composition and say it will not [make] any material difference if I vary of these values by plus or minus  $6\%$ ?
- A. Once again, I am going to qualify that with a woolly answer and say probably not.
95. It seems that Professor Gibson arrived at the figure of  $\pm 6\%$  with an eye on the Patent and how much change to examples 1 and 5 of Neely would be required to bring those examples within the scope of the claims of the Patent. Later Professor Gibson

qualified his position by saying that the skilled person would not have contemplated changing all the constituents shown in Table IV by  $\pm 6\%$ .

96. In my view it was not shown on the evidence that the skilled person would regard changes in either example 1 or 5 of Neely – changes sufficient to bring the composition within the scope of claim 1 or claim 6 of the Patent – as workshop modifications. Research, with no pre-conceived expectation of success, would have been required to test whether such variations provided satisfactory glass fibre.
97. I find that neither claim 1 nor claim 6 is obvious over example 1 or example 5 of Neely on the conventional case.

*Obviousness over Table IV of Neely*

98. Mr Cuddigan relied on his cross-examination of Dr Bingham to suggest that claim 1 of the Patent was obvious over Table IV. As I have mentioned, Table IV of Neely was part of the CGK, being reproduced in Lowenstein. In the exchange reproduced below the composition or recipe in column 5 of Lowenstein is Table IV:

Q. The skilled person reading this would expect to be able to make boron and fluorine-free glass fibres if he uses the compositions described in column 5.

A. I am sorry, could you repeat the question, please, sir?

Q. Yes. We have established the context of this disclosure now, and the skilled person reading Loewenstein would expect, if he follows the recipe in column 5, that anything within those ranges will produce boron and fluorine-free glass fibres with E-glass performance characteristics.

A. I think the skilled addressee would expect that there was a reasonable chance of forming fibres within that range with the specific characteristics required of E-glass, for example, the electrical properties.

Q. Perhaps we can agree on a fair expectation of success?

A. I think there will be a reasonable expectation to be able to fiberise.

99. Contrary to what Mr Cuddigan argued, I do not understand Dr Bingham to have said that skilled person would have an expectation that every composition disclosed Table IV would have the characteristics of E-glass or that there was a reasonable expectation that all of them would fiberize successfully. His point was that such compositions would be expected to be found in Table IV.
100. For reasons I have indicated, the percentage content of all the constituents mattered. But particular attention was understandably paid to those in relation to which the range in Neely's Table IV fell outside the range in claim 1 of the Patent. They were (i) the ratio of calcium oxide to magnesium oxide, (ii) lithium oxide, (iii) titanium oxide and (iv) the ratio of aluminium oxide to (aluminium oxide + calcium oxide + magnesium oxide).

101. Professor Gibson was taken to Loewenstein and Wallenberger. He accepted that the presence of more than 0.6% of either magnesium oxide or titanium oxide could change the phase diagram of the composition from a ternary to a quaternary one, a change which Professor Gibson described as very significant. He also agreed that the replacement of 0.5% calcium oxide with 0.5% magnesium oxide could have a definite effect on the melt properties of the glass fibre.
102. In closing Mr Cuddigan argued that Professor Gibson had not been given the opportunity in cross-examination sufficiently to take on board what Loewenstein and Wallenberger had said and that his concessions were unreliable. That may or may not be right. There was no re-examination on this point.
103. Finally, Mr Cuddigan prepared diagrams to show that for each of the ranges in Table IV and Table VI of Neely, Neely's examples provided a scatter of figures for the % content of the relevant constituent right across the range. He submitted that the skilled person would take from this that he or she could use any part of any range and produce a satisfactory E-glass. That does not follow. One example of Neely will suggest the need for a high content of constituent A provided the content of B is at the low end of its range, the content of constituent C is towards the middle of its range, and so on. Thus the skilled person is taught that using the upper end of the range for constituent A must have consequences with regard to the content of other constituents if one is to obtain a satisfactory result. The same goes for constituent B, and so on. The skilled person could not assume from the examples that selecting indiscriminately from any part of any range would provide a satisfactory E-glass.
104. Neither Professor Gibson nor Dr Bingham addressed one or more specific compositions of fibres contained within Table IV of Neely which unequivocally fell within claim 1 of the Patent and then gave evidence that the skilled person would have attempted to make those specifically identified fibres, with a reasonable expectation of success, giving sufficient reasons.
105. In my view it was not established that either claim 1 or claim 6 of the Patent was obvious over Table IV of Neely.

### **The selection invention case**

106. OCV did not plead that the invention claimed in the Patent was a selection invention. In response to Jushi's argument that it would be obvious to make any and all compositions within Table IV of Neely and therefore it would be obvious to make glass fibre within the scope of claim 1, in his skeleton Mr Alkin argued that such an argument must fail because the underlying logic would make selection inventions impossible.
107. This was perceived to be a new argument: that the invention claimed in the Patent was a selection invention. I am not sure that this was Mr Alkin's intention, but the upshot was that there was argument about selection inventions, whether that claimed in the Patent could be characterised as one and if so, whether it was a valid selection invention. I must therefore consider the matter. I will do so briefly.
108. The law on selection inventions was considered by the Court of Appeal in *Dr Reddy's Laboratories (UK) Ltd v Eli Lilly and Co Ltd* [2009] EWCA Civ 1362; [2010] R.P.C.

9, in particular by reference to the extensive case law of the TBA on this topic, which was followed.

109. In very short summary, the disclosure in the prior art of a large class of products does not necessarily constitute disclosure of each and every member of that class. To establish that a sub-class lacks novelty over the larger class, it is necessary to show that there was an ‘individualised description’ of the sub-class in the prior art. Jacob LJ (with whom Lord Neuberger MR and Richards LJ agreed) said:
- “[31] It is not necessary here to go into what is sufficient to amount to an ‘individualised description.’ Obviously the question may partly be one of degree, but other considerations may come in too, for instance the specificity of any indicated purpose for making the compounds. A mere woolly indication of the possible use of the prior class may require less specificity than a precise one.”
110. With regard to obviousness, if the sub-class claimed in the patent in suit makes a real technical advance over what has been disclosed in relation to the larger class and this advance was not obvious at the priority date, there is an inventive step. By extension, the sub-class will be taken to be obvious if it is no more than a random selection from the earlier class. (See *Dr Reddy* at [44] to [52])
111. Turning to the invention claimed in the present Patent, if it is a selection invention at all, it is not a selection invention of the conventional kind. Generally the sub-class claimed falls entirely within the class disclosed in the prior art. Here there is only an overlap. Only part of the invention claimed in the Patent could be the selection invention – the part which overlaps the contents of Table IV. The rest of the invention is new over Neely in the conventional sense.
112. I see no objection in principle to OCV’s case that, to the extent that its claimed invention would otherwise lack novelty because it overlaps the disclosure in Neely’s Table IV, that part is a selection invention.
113. For reasons I have discussed above, I do not believe that Neely’s Table IV contained an ‘individualised description’ of any fibre glass falling within claims of the Patent. Nothing in Neely directs the attention of the skilled person to the area of overlap with claim 1.
114. Jushi did not dispute that the glass fibres of the Patent offered a technical advantage over Neely’s fibres, or argue that this was obvious.
115. It seems to me that the invention claimed in the Patent can be characterised as a selection invention in part and that this part is both novel and embodies an inventive step over Neely.
116. As for the remaining part of the invention, I refer back to the conventional case argued in relation to novelty and inventive step. In the end this is what mattered. If Jushi’s conventional case had succeeded, the Patent would have been invalid.

## **Conclusion**

117. The Patent is valid and infringement has been threatened in relation to Product 2.