

Federal Court



Cour fédérale

**Date: 20190809**

**Dockets: T-1549-18  
T-1550-18**

**Citation: 2019 FC 1065**

**Ottawa, Ontario, August 9, 2019**

**PRESENT: The Honourable Madam Justice McVeigh**

**BETWEEN:**

**CORNING CABLE SYSTEMS LLC**

**Appellant**

**and**

**THE ATTORNEY GENERAL OF CANADA**

**Respondent**

**JUDGMENT AND REASONS**

**I. Nature of the Matter**

[1] Corning Cable Systems LLC [Corning] brings appeals under section 41 of the *Patent Act*, RSC 1985, c P-4 [Act] of two decisions rendered by the Commissioner of Patents [Commissioner], each dismissing a patent application on the ground of obviousness. The Commissioner dismissed the two patent applications under section 40 of the Act, on

recommendations of a three member panel of the Patent Appeal Board [Board]. These decisions are jointly on appeal before this Court.

[2] The Commissioner's decisions concern the validity of two patent applications respectively designated by the application numbers 2,679,996 [996 Application, file T-1549-18] and 2,754,149 [149 Application, file T-1550-18]. The Commissioner dismissed both applications under section 28.3 of the Act, finding in each case that the subject-matter defined by the claims would have been obvious to a person skilled in the art or science to which the patent pertained.

[3] The parties' oral submissions argued the two appeals together and agreed to one decision for both. Corning seeks an order setting aside the Commissioner's decisions declaring that the subject matter of the claims is not obvious, that the 996 and 149 Applications be allowed, or in the alternative, an order that the Commissioner continue prosecuting the 996 and 149 Applications.

[4] I am dismissing both appeals for the following reasons.

## II. The Patent Applications and Claims

[5] The patent applications at issue relate to the use of Local Convergence Points [LCPs] which are adapted to distribute a signal supplied by a network service provider to units with multiple dwellings [MDUs]. A LCP is a housing or "box" containing a splitter module and optical fibers. The LCP receives a cable supplied by an internet service provider as an input and splits and distributes that cable to several units in a condominium, office building, hotel (and any

other collection of subscriber locations that are in relatively close proximity to one another) to provide each dwelling with internet access.

[6] Both proposed inventions employ “bend performance optical fibers,” which can be bent to a smaller radius than traditional fibers without incurring a marked loss in signal quality. Use of bend performance optical fibers, which are smaller in size, enables use of a smaller splitter module and allows the LCP to distribute a greater number of fibers and thus reach more subscribers.

[7] The invention claimed in the 996 Application is entitled “Fiber Optic LCPs for MDUs.” Essentially, the 996 Application concerns a smaller housing containing the optical splitter module than the prior art. Because bend performance optical fibers have a smaller radius, the 996 Application employs that technology with a smaller housing for the optical splitter module.

[8] The 996 Application initially comprised 19 claims. However, Corning made several amendments to the 996 Application between May 2011 and December 2014 in response to requisitions by the Patent Examiner [Examiner] under subsection 30(2) of the *Patent Rules*, SOR/96-423 [Rules]. The 996 Application ultimately comprised 22 claims – of which claims 20 to 22 were, at the time of the Commissioner’s decision, considered “proposed claims”.

[9] At the time of the Commissioner’s decision, independent claim 1 of the 996 Application was notably described as follows:

1. An optical splitter module comprising:

a housing having a volume, wherein the housing has exterior dimensions of less than about 3.07 inches x 4.85 inches x 0.92 inches; and

an optical splitter mounted in the housing, wherein the optical splitter is configured to optically connect at least one input bend performance optical fiber with a plurality of output bend performance optical fibers, and wherein an optical signal carried by the [sic] at least one input bend performance optical fiber is split and carried by the plurality of output bend performance optical fibers.

[Emphasis added]

[10] All other claims in the 996 Application were dependent on claim 1 or other claims dependent on claim 1. Of note, claims 15-19 set forth performance parameters for signal quality (i.e. losses of between 0.01 dB/turn to 1dB/turn).

[11] The invention claimed in the 149 Application is entitled “Optical Splitter Module for Fiber Optic LCPs, with Improved Splice Density.” This proposed invention refers to an optical splitter module that has a “higher split density than known in the art.” Higher split density refers to an increase of the number of fibers in a given space, which in turn allows a greater number of them to be distributed to subscribers. From the outset, the 149 Application comprised 12 claims. This Application was twice amended but comprised 12 claims when brought before the Commissioner.

[12] At the time of the Commissioner’s decision, independent claim 1 of the 149 Application notably read as follows:

1. An optical splitter module adapted to be mounted in a fiber optic [LCP], the splitter module, comprising:

a housing having a volume and an opening; and

an optical splitter mounted in the housing, wherein the optical splitter is configured to receive at least one input bend performance optical fiber carrying an optical signal and split the optical signal into a plurality of optical signals, each of the plurality of optical signals carried by a respective output bend performance optical fiber,

wherein the housing supports an optical signal split density of between about 4 splits per cubic inch and about 10 splits per cubic inch of volume.

[Emphasis added]

[13] All other claims in the 149 Application were dependent on claim 1 or other claims dependent on claim 1.

[14] In the patent applications, Corning stated [at para 0030] that prior art splitter modules have general dimensions of 3.07 inches in width, 4.85 inches in length and 0.92 inches in depth, while providing 32 output fiber splits. The density of optical fiber splits per unit volume becomes about 2.34 splits per cubic inch.

[15] Of particular importance in this appeal, the background of both patent applications set forth the following problems that the proposed inventions sought to resolve, under the headings “BACKGROUND OF THE INVENTION: Description of Related Art”:

[0004] Conventional LCPs for such MDUs are generally sized according to the number of subscribers to be serviced through the LCP, and many of the high density MDUs require large, expensive LCPs that may be difficult to install and/or transport. In addition, conventional LCPs often require skilled technicians to install the LCP and route the associated subscriber cables. Furthermore, highly skilled technicians are required to optically connect, often by splicing, the distribution cable to the LCP and to optically

connect and route the subscriber cables to the LCP. Therefore, a need exists for LCPs that are cost-effective, are relatively small in size, and may be installed and maintained by relatively unskilled technicians.

[Emphasis added]

### III. Procedural History

[16] On March 10, 2008, Corning filed the 996 Application with the Canadian Intellectual Property Office, and the 149 Application as a divisional application relating to the parent 996 Application. The 996 and 149 Applications were laid open to the public on September 18, 2008. Patent applications concerning each of these proposed inventions had been previously filed in the United States on March 12, 2007.

[17] For the purposes of this appeal, March 12, 2007 is the claim date of each application, under section 28.1 of the Act. There is no dispute that the relevant date to assess the obviousness of the proposed inventions is March 12, 2007.

[18] After a series of requisitions by the Examiner, and Corning's responses and amendments to the patent applications, on June 7, 2013 the Examiner issued an Office Action in which it raised an obviousness objection to the validity of both patent applications, relying on the prior art document D2: CN 1300607 C CHENG [D2], which is a Chinese patent entitled "Bending insensitive optical fiber and preparing method thereof" dated February 14, 2007. On September 9, 2013, Corning submitted documents and amendments in response to this objection in respect of both the 996 and 149 Applications.

[19] On November 15, 2013, the Examiner prepared a Final Action rejecting the 149 Application under subsection 30(4) of the Rules. The Final Action applied the test set forth by the Supreme Court of Canada in *Apotex Inc. v Sanofi-Synthelabo Canada Inc.*, 2008 SCC 61 [*Sanofi*] and stated that the Application is defective because the pending claims were obvious under section 28.3 of the Act. The Final Action further stated that the claims were not fully supported by the description under section 84 of the Rules. On June 9, 2014, the Examiner prepared a Final Action rejecting the 996 Application for the same reasons.

[20] On May 14, 2014, Corning responded to the Final Action rejecting the 149 Application, submitted final amended claims (increasing the number of claims from 11 to 12), and argued that the proposed 149 Patent is not obvious. On December 4, 2014, Corning provided a response to the Final Action concerning the 996 Application, submitted final amended claims (increasing the number of claims from 19 to 22) and further argued that the proposed 996 Patent is not obvious. In both responses, Corning submitted that the Examiner issued the Final Action prematurely.

[21] Since the Final Action concerning the 149 Application was rendered prior to amendments to subsection 30(6) of the Rules, the Commissioner remarked that the amendments to the claims in the 149 Application in that response are considered to have been made. Conversely, the Examiner submitted the Final Action concerning the 996 Application after amendments to subsection 30(6) of the Act; as such, Corning's amendments in the response, notably adding claims 20-22, are not considered to have been made, and are "proposed claims," to be considered if claims 1 through 19 are found to be defective.

[22] In May and June 2015, the Examiner respectively forwarded the patent applications to the Board, under paragraph 30(6)(c) of the Rules, as it found that they were non-compliant. In each case, the Examiner prepared a Summary of Reasons to explain each refusal decision. In a letter dated July 27, 2015, the Board forwarded a copy of each Summary of Reasons to Corning and provided an opportunity to make further submissions and attend an oral hearing. On October 27, 2015, Corning requested that an oral hearing be held with respect to both applications.

[23] On December 9, 2016, the Board sent Corning a Preliminary Review Letter [PRL], stating that the claims were likely supported by the description for both patent applications but that the claims were likely obvious. On February 16, 2017, Corning provided written submissions in response for both patent applications. At that time, Corning had argued that the Final Actions were improper because it did not have an adequate opportunity to respond to some of the Examiner's observations. Corning further made a number of submissions with respect to the issue of obviousness.

[24] Since the 996 and 149 Applications were closely related, the Board chose to hold a joint oral hearing on April 27, 2017. On the Board's recommendation, the Commissioner dismissed both patent applications under section 40 of the Act in decisions with substantially similar reasons, dated February 16, 2018. Corning received these decisions on February 21, 2018 and appealed both decisions to this Court on August 21, 2018.

#### IV. Issues

[25] The following three issues are to be dealt with on appeal:

- A. What is the appropriate standard for review of the Commissioner’s decisions dismissing the 996 and 149 Applications on the ground of obviousness?
- B. Is the Commissioner’s decision reasonable?
- C. If this Court’s intervention is warranted, what is the appropriate remedy?

V. The Law

[26] The relevant test for obviousness set forth by the Supreme Court of Canada in *Sanofi* is as follows:

- 1) (a) Identify the notional “person skilled in the art”;
- (b) Identify the relevant common general knowledge of that person;
- 2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- 3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
- 4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

[27] Moreover, section 28.3 of the Act sets forth the requirement that the subject-matter defined by a claim not be obvious:

**28.3** The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been

**28.3** L’objet que définit la revendication d’une demande de brevet ne doit pas, à la date de la revendication, être évident pour une personne

obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to	versée dans l’art ou la science dont relève l’objet, eu égard à toute communication:
(a) information disclosed more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and	a) qui a été faite, plus d’un an avant la date de dépôt de la demande, par le demandeur ou un tiers ayant obtenu de lui l’information à cet égard de façon directe ou autrement, de manière telle qu’elle est devenue accessible au public au Canada ou ailleurs;
(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.	b) qui a été faite par toute autre personne avant la date de la revendication de manière telle qu’elle est devenue accessible au public au Canada ou ailleurs.

[28] If a claimed invention is obvious within the meaning of section 28.3 of the Act, then it is not patentable because it would not meet the definition of “invention” set forth in section 2 of the Act (“any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter”). (See *Allergan Inc. v Apotex Inc.*, 2016 FC 344 at para 17 [*Allergan*]).

[29] Each application concerns a single independent claim and a series of dependent claims. It is of importance to remark that “[t]he obviousness inquiry should be undertaken on a claim-by-claim basis. If an independent claim is found to not be obvious, then dependent claims therefrom cannot be obvious. In contrast, if an independent claim is held to be obvious, the Court must go on to consider each dependent claim for obviousness” (*Tensar Technologies Ltd v Enviro-Pro*

*Geosynthetics Ltd*, 2019 FC 277 at para 129 [citations omitted]). But that is when it is an infringement action and not an appeal of decisions of the Commissioner. In this appeal, only the independent claim is at issue.

VI. Analysis

[30] The submissions of Corning and the Respondent are substantially similar for the appeals of both the decisions on the 996 Application [T-1549-18] and the 149 Application [T-1550-18].

Unless otherwise specified, the arguments below are raised in both appeals.

A. *What is the appropriate standard for review of the Commissioner's decisions dismissing the 996 and 149 Applications on the ground of obviousness?*

[31] The standard of review will be reasonableness as determined by the Federal Court of Appeal in *Newco* for the reasons set out below.

[32] Corning argues that the appeals must be reviewed on a correctness standard because the Commissioner incorrectly applied steps 1(b) and 4 of the *Sanofi* test, which raises an extricable legal issue (citing *Canada (Director of Investigation and Research) v Southam Inc.*, [1997] 1 SCR 748 at 768-769, 144 DLR (4th) 1). Corning describes that the question as to whether paragraph [0004] (see paragraph 15 above) of the patent applications amounts to an “admission of common general knowledge” is a question of patent construction reviewable on a correctness standard (*Mylan Pharmaceuticals ULC v AstraZeneca Canada Inc.*, 2012 FCA 109 at para 20). Corning's position is that the Commissioner is in no better position than this Court to determine

if a statement in the specification is an admission and should be afforded no deference in this regard.

[33] Corning's reliance on paragraph 20 of *Mylan* is not helpful to it as that paragraph actually was discussing the standard of review that the Federal Court of Appeal (FCA) was applying to the Judge's decision and not the standard of review that the Judge at first instance applied on a Notice of Compliance application (*Patented Medicines (Notice of Compliance) Regulations*, SOR/93-133). For that reason, the decision is unhelpful on our facts.

[34] The Respondent submitted that the Commissioner's finding of obviousness must be reviewed on a reasonableness standard as they do not raise questions of law or patent construction (citing *Newco Tank Corp. v Canada (Attorney General)*, 2015 FCA 47 at para 12 [*Newco FCA*]; *Dunsmuir v New Brunswick*, 2008 SCC 9 at para 47). Rather, the assessment of obviousness is a mixed question of fact and law.

[35] I recognize that whether or not the Commissioner identified the correct legal test is a question of law reviewable on a correctness standard (*Stukanov v Canada (Attorney General)*, 2018 FC 1264 at para 8 [*Stukanov*]; *Blair v Canada (Attorney General)*, 2010 FC 227 at paras 48-51 [*Blair 2010*]). In this regard, if the Commissioner mischaracterizes one or more steps in the *Sanofi* test for obviousness, this Court must review that issue on a correctness standard (*Ciba Specialty Chemicals Water Treatments Limited's v SNF Inc.*, 2017 FCA 225 at paras 45-47, 69 [*Ciba*]; incorrectly comparing the inventive concept to common general knowledge [CGK] at the

third step instead of comparing the inventive concept to prior art was an issue reviewable on a correctness standard).

[36] Moreover, where an error can be attributed to the application of an incorrect legal standard, a failure to consider a required element of a legal test, or an error in principle, an error of law subject to a correctness standard arises (*Wenzel Downhole Tools Ltd. v National-Oilwell Canada Ltd.*, 2012 FCA 333 at para 114).

[37] But that is not what occurred in this case.

[38] Corning takes issue with the Commissioner's determination of the CGK of the person skilled in the art and, in particular, the Commissioner's use of information in the 996 and 149 Applications to make that determination. Corning also attempted to distinguish *Newco* by saying that the Commissioner ascertained the skilled person's CGK by relying on information in the patent specification in addition to multiple prior art references. For that reason the Applicant says *Newco* is unlike the case at hand, in which the Commissioner primarily relied on information contained in the specifications of the patent applications. In this regard, Corning essentially submits that the Commissioner committed an error of law by conflating the notion of prior art with CGK.

[39] Corning said it is significant that the Commissioner in our case took the impugned passage in paragraph [0004] of the Patent and said it was an admission, unlike *Newco* when it was a statement of analysis, therefore distinguishable from *Newco*.

[40] In *Newco*, the appellant had argued that relying on a problem in the specifications of a patent application to ascertain CGK is an issue of patent construction reviewable on a correctness standard (*Newco* at paras 6-9). The FCA dismissed these submissions. **It concluded that the Commissioner’s finding as to what was included in the CGK of the skilled person, by relying on information in the patent specification, was a factual finding reviewable on a reasonableness standard and was not an exercise of patent construction** (*Newco* at paras 10-13).

[41] Nor did the FCA in *Newco* agree with the characterization that the board construing a specification of the Patent as an admission that a skilled person would know what the problem was and that including that in the common general knowledge of a “Person Skilled in the Art” that the board was doing patent construction. **The FCA found that determination was a factual finding and that the FC reviewing the decision on a reasonableness standard was correct** (*Newco FCA* at para 12).

[42] Further, Corning argued that *Newco FCA* referred to an inherent problem, so something that was already known, making it different than in this case. Corning’s position was that in *Newco* at the FCA level, the applicant had recast it as a question of law whereas in our case they have always said it is a question of law.

[43] While it is true that in *Newco FCA*, the applicant repackaged it at the FCA, the FCA did not find it affected the standard of review as Justice Ryder remarked:

[8] Before the Federal Court, the appellant argued that this finding was an unreasonable factual finding. Before this Court, the

appellant has repackaged the argument as one of faulty patent construction giving rise to an error of law that is reviewable on a standard of correctness.

[...]

[10] We are of the view that these assertions are without merit. We do not agree that by making its finding as to what was included in the common general knowledge of the skilled person, the Board was engaged in an exercise of patent construction.

[Emphasis added]

[44] Given that the assessment of obviousness is a highly factual inquiry and the Commissioner has particular expertise in this area, this Court recognizes that the decision is owed deference, notwithstanding the fact that this is a statutory appeal and not an application for judicial review (*Blair 2010* at para 51, citing *Scott Paper Limited v Smart & Biggar*, 2008 FCA 129 at para 11).

[45] Ultimately, I agree with the Respondent that this is essentially a factual finding based on the evidence before the Commissioner and shall be reviewed on a reasonableness standard (*Bell Helicopter Textron Canada Limitée v Eurocopter, société par actions simplifiée*, 2013 FCA 219 at para 104).

[46] Likewise, the remaining issues raised by Corning relate to the Commissioner's application of the legal test for obviousness to the facts before it and shall be reviewed on a reasonableness standard (*Stukanov* at para 8; *Blair v Canada (Attorney General)*, 2014 FC 861 at paras 71-72).

B. *Is the Commissioner's decision reasonable?*

A. Common General Knowledge of a Person Skilled in the Art (Sanofi test: step 1(b))

[47] For the following reasons, I find that it was reasonable for the Commissioner to conclude that the problems identified by Corning in the specifications of the 996 and 149 Applications are CGK of the person skilled in the art.

[48] Corning's written submissions put forward that the Commissioner erred by confounding the notion of the relevant skilled person's CGK and the notion of prior art. In doing this, Corning argued that the Commissioner committed a number of reviewable errors in assessing if differences between the prior art and the claimed inventions would be obvious steps to the skilled person.

[49] In its oral arguments, Corning characterized the error committed by the Commissioner as being that they attributed what Corning themselves had said was a problem as being CGK when it was not, nor was it found in the prior art. Corning agrees that CGK can come from the patent but that the problem to be solved cannot come from the patent. Corning identified that the problem came from paragraph [0004]:

[0004] Conventional LCPs for such MDUs are generally sized according to the number of subscribers to be serviced through the LCP, and many of the high density MDUs require large, expensive LCPs that may be difficult to install and /or transport. In addition, conventional LCPs often require skilled technicians to install the LCP and route the associated subscriber cables. Furthermore, highly skilled technicians are required to optically connect, often by splicing, the distribution cable to the LCP and to optically

connect and route the subscriber cables to the LCP. Therefore, a need exists for LCPs that are cost-effective<sup>4</sup>, are relatively small in size, and may be installed and maintained by relatively unskilled technicians. [Emphasis added]

[50] Corning indicates that the Commissioner characterized the information in paragraph [0004] of the patent as an admission and as CGK, which is patent construction and is a reviewable error.

[51] Specifically, Corning tendered that the Commissioner erred by adopting information provided in the background of the patent applications – regarding existing problems with LCPs that the inventors had identified– as CGK, and thereby incorrectly applied step 1(b) of the *Sanofi* test. Corning presented that this background section does not state that a person skilled in the art may have had similar knowledge or motivation as the inventors. Rather, the background section stated only Corning’s understanding of the art and not the skilled person’s CGK (paragraph 80(1)(c) of the Rules). In other words, Corning argues that the Commissioner’s reasoning was influenced by hindsight, as it presupposed that the problems identified in the patent applications were CGK.

[52] In Corning’s view, the Commissioner incorrectly concluded that the CGK included information drawn from the background in the patent applications (regarding difficulties with conventional LCPs and the identified need for smaller, more cost-effective LCPs that are easier to install and maintain). Corning acknowledges that statements of prior art may be binding, but identification of a problem in the background is not prior art or a binding admission of CGK.

[53] Corning argued that the Commissioner had to produce some evidence, beyond information in the patent applications themselves, to support its position that the proposed invention was part of the CGK. Corning states that the Commissioner did not have the support of any prior art references to suggest that the problems identified by the inventors in the patent applications were part of the skilled person's CGK. As such, the Commissioner needed something more than the inventors' statement of the problem in the background before adopting the problem as CGK. Without the support of such objective references, the Commissioner would be relying on subjective information or inferences. Since CGK was at the heart of the dispute, the Commissioner had to adduce evidence of CGK outside of the background of the patent applications.

[54] Corning put forward that the Commissioner committed a further reviewable error by stating that Corning did not dispute its characterization of a person skilled in the art or that person's CGK. The Commissioner then relied on that conclusion to find that the statement of existing problems in the patent applications was part of the CGK. Corning states that it actually disputed this characterization of the background information as CGK in its response to the PRL.

[55] I find that the Commissioner did not confound the CGK of a "person skilled in the art" with prior art or use the terms interchangeably. Rather, I agree with the Respondent that prior art is a "broad category encompassing all previously disclosed information in the field...discoverable upon a reasonable and diligent search" (citing *Mylan Pharmaceuticals ULC v Eli Lilly Canada Inc.*, 2016 FCA 119 at paras 23-24 [*Mylan*]). CGK is a subset of the prior art, it must be discerned through a common sense approach, and is not always found in print form.

[56] Since the background of a patent application may bind an applicant as prior art, it is reasonable for the Commissioner to consider general or broadly worded assertions of conventional practice to be binding as CGK (*Newco Tank Corp v Canada (Attorney General)*), 2014 FC 287 at para 40 [*Newco FC*], affirmed on appeal *Newco*).

[57] This is exactly what the Commissioner did. While Corning may disagree with the Commissioner's findings regarding CGK, it provided reasons and justification for its definition of the CGK and its conclusions were in the end reasonable.

[58] The Commissioner defined the "person skilled in the art" as "an optical/telecommunications engineer or team involved with the design of network components including fiber optic modules" and noted that Corning did not dispute this definition.

[59] With respect to the relevant CGK of that skilled person, the Commissioner adopted the following statement from the Final Action:

[the skilled person] would be familiar with and understand, optical module and component designs and performance specifically with the technologies available with regard to the type of optical fibers utilized. More specifically, one skilled in the art would be versed with optical splitters employing a housing having a volume to house the fibers. One skilled in the art would understand the nature of optical splitters to split fibers into a plurality of fibers. Furthermore, one skilled in the art would be well versed in fiber technologies such as "bend performance optical fibers" and the advantages of use therein.

[60] The Commissioner also adopted the Panel's statement that it "notes the following points of prior CGK as set out in the Background section of the application" and the Panel's following observations from the patent applications:

- conventional [LCPs] were large, expensive and difficult to install and transport; and
- there was a recognized need for LCPs that are cost-effective and relatively small in size and that can be installed and maintained by relatively unskilled technicians.

[61] Finally, the Commissioner adopted the Panel's following additional remarks regarding the construction of the term "bend performance optical fibers":

we take the term to denote a fiber which possesses bend resistance properties such that it is suitable for use in an optical splitter module as claimed, with properties, such as split density, specified in some dependent claims, imposing further practical limitations on the type of fiber used.

[62] Corning relies on *Newco* for the proposition that a problem identified in a patent application cannot be construed as CGK because, contrary to this case, other external prior art evidence was considered in the context of that underlying patent re-examination proceeding. However, in *Newco*, the Federal Court noted that "the Board did not cite any evidence other than the patent for the proposition that there was a known problem" and nevertheless found it reasonable for the Board to find that the skilled person would have known of this problem and that it was both part of the prior art and CGK (*Newco FC* at paras 13, 39-40). On appeal, the FCA upheld the Federal Court's decision and concluded that it was "open to the Board to conclude that the skilled person's CGK was reasonably described by reference to the language presented as background information in the Patent" (*Newco* at para 13).

[63] This Court has since generally remarked that “[c]ommon general knowledge may include the information presented as background knowledge in the patent itself” (*Valeant Canada LP/Valeant Canada S.E.C. v Generic Partners Canada Inc.*, 2019 FC 253 at para 47 [*Valeant*], citing *Newco FCA*; see also *Allergan* at para 22).

[64] This is not to say that it is always appropriate for the Commissioner to find that information presented in the specifications of a patent application is the CGK of a person skilled in the art. While I disagree with Corning that concluding that such information is CGK – without further evidence – necessarily amounts to a reviewable error, there may certainly be cases in which such a finding is unreasonable.

[65] At the end of the day, one must recall that CGK essentially includes the knowledge possessed by the skilled person at the relevant time including what one would reasonably expect that person to know and be able to find out, and must be established with facts and evidence on a balance of probabilities and cannot be assumed (*Whirlpool Corp. v Camco Inc.*, 2000 SCC 67 at para 74; *Valeant* at para 47; *Uponor AB v Heatlink Group Inc.*, 2016 FC 320 at paras 46-47). A patent specification that sets forth a relatively unknown or obscure problem affecting existing devices would likely not be CGK of the skilled person at the relevant time.

[66] However, in this case, I do not agree with Corning’s submission that the Commissioner essentially adopted statements contained in the patent applications to make unfounded assumptions about the CGK of the skilled person, or that the Commissioner conducted an assessment of the skilled person’s CGK by relying on hindsight.

[67] Rather, the Commissioner accepted Corning's own statement in the 996 and 149 Applications that the conventional LCPs are large, expensive, difficult to install, difficult to transport and had to be installed and maintained by skilled technicians. It was not unreasonable to conclude from this evidence that, on a balance of probabilities, these issues were CGK from the skilled person's perspective at the relevant date.

[68] I would further remark that, apart from the stated problems set forth in the patent specification, the Commissioner also held that the skilled person's CGK included familiarity with optical modules and component designs, fiber technologies, including bend performance optical fibers. These aspects of the skilled person's CGK do not appear to be in dispute.

[69] While there is no doubt that CGK and prior art (or state of the art) are not one and the same, I do not believe that the Commissioner confounded these notions. While not interchangeable or mutually inclusive, information in the prior art can become part of the CGK if the skilled person would be aware of it and accept it as a good basis for further action (*Mylan* at paras 23-25; *Les Laboratoires Servier v Apotex Inc.*, 2019 FC 616 at para 249). In other words, CGK is a narrower subset of the prior art, but the two are evidently not mutually exclusive categories (*Ciba* at paras 47, 50). It is true that Corning discussed these "conventional LCPs" in a background section discussing prior art inventions generally.

[70] However, given the broad manner with which it characterized those inventions, it was open to the Commissioner to conclude that these statements bound Corning as prior art (*Shire Biochem Inc. v Canada (Health)*, 2008 FC 538 at para 25; *AstraZeneca Canada Inc. v Apotex*

*Inc.*, 2010 FC 714 at para 40) and that they demonstrate the skilled person's CGK at the relevant date (*Newco FCA; Valeant*).

- B. If the differences between the prior art and the alleged invention would be obvious steps to the person skilled in the art (*Sanofi* test: step 4)

[71] Finally, as will be discussed below, it appears that the Commissioner properly identified the test for obviousness and did not commit an error of principle. After finding that the problems identified by the patent applications would be CGK to the skilled person, the Commissioner undertook the fourth step of the *Sanofi* test by asking itself if the differences between the prior art and the inventive concept would have been obvious to the skilled person (having previously determined the CGK).

[72] This case will therefore turn on whether or not the Commissioner applied the *Sanofi* test for obviousness to the facts before it in a reasonable manner.

[73] Corning submits that since the Commissioner improperly defined the CGK, it could not properly perform the fourth step of the *Sanofi* test, as it would be unable to determine the gap between the prior art and the inventive concept without first determining the CGK. Without assuming that the problem set forth in the patent applications was part of the CGK, the Commissioner would not have been able to "bridge the gap" between the prior art documents regarding fiber optic cables and the inventions as claimed.

[74] Corning disagrees with the Commissioner's statement that "[t]he properties of the prior art bend performance fibers are precisely what provides for the ability to use them in smaller spaces, as suggested by, for example, D2, which refers to the miniaturization of optical devices". Corning submits that while D2 mentions that fiber could be used in an integrated miniaturized optical device, it does not discuss *how* an optical splitter module would be adapted to accommodate such fibers. Since D2 did not come close to the solution of an optical splitter module with a housing as claimed in the Patent Applications, this suggests that the proposed inventions were not obvious. Corning remarks that the Commissioner did not cite a single prior art reference describing how a skilled person would design a fiber splitter module and therefore erred in the fourth step of the *Sanofi* test.

[75] Corning's position is that, as part of its analysis of the fourth step of the *Sanofi* test, the Commissioner erred by finding that there was motivation to create the invention. If there was motivation to obtain the invention, then one would expect skilled people to come to this invention directly and without difficulty in a short period of time. However, the Commissioner acknowledged that over two years had elapsed between the availability of prior art high-performance fiber (January 2005) and the relevant date to assess obviousness (March 2007). Corning pointed out that the Commissioner did not point to a single document within that period demonstrating motivation to obtain the invention.

[76] As a final point, Corning tendered that the Commissioner erred by failing to consider the optimization factors raised before it. Namely, in developing the splitter module, unexpected difficulties and hurdles had to be overcome to arrive at the claimed invention which required

testing and experimentation. In Corning's view, the Commissioner erred by failing to appreciate that the design of an optical splitter module and housing typically requires the optimization of many factors presented during the hearing and during the requisition process. Corning says it was an error for the Commissioner to refer to these issues as "general design considerations" applicable to any module, without citing prior art references describing how a skilled person would design a fiber splitter module, or indicating that these are obvious issues.

[77] Corning stated that, at the hearing, the Examiner admitted that it would be unusual for a designer to make an acceptable working system on the first attempt, and would first have to build prototypes and conduct tests. Corning submits that the patent applications teach the skilled person how to avoid that work.

[78] In Corning's view, a Patent Application is not required to state how problems are overcome, and need only state what the invention is and how to put it into practice. Since the Commissioner found that the claims are supported by the description under subsection 27(3) of the Act, there was no basis to dismiss the optimization factors. This, Corning says, was an error when the Commissioner dismissed the optimization factors by finding that they were not included in the specification, as this finding was contrary to section 27 of the Act.

[79] Again I cannot agree with Corning's submissions. Recall that the fourth step entails an assessment of whether the differences between the prior art and the inventive concept of the claims constitute steps that would have been obvious to the skilled person, based on that person's CGK, supplemented by those pieces of prior art which could be discovered by a reasonably

diligent search (*Ciba* at paras 62, 68; *Bristol-Myers Squibb Canada Co. v Teva Canada Limited*, 2017 FCA 76 at para 65). The prior art against which the proposed invention is compared at the third and fourth steps of the *Sanofi* test refers to “the prior art relied upon by the person alleging obviousness” and not “the prior art at large” (*Ciba* at para 60).

[80] Therefore, the question is – was it reasonable for the Commissioner to conclude that the differences between the prior art references it relied on and the inventive concept of the claims would have been obvious to the skilled person?

[81] I already found that the Commissioner did not commit a reviewable error by concluding that the problems identified in the background specifications of the patent application were part of the skilled person’s CGK. For the following reasons, I also find that the Commissioner’s assessment of this fourth step is reasonable and that this Court’s intervention is therefore not warranted.

[82] Essentially, the Commissioner concluded that the skilled person would have come directly and without difficulty to the solution set forth in the claims of the patent applications principally for the following reasons:

- the skilled person would know that conventional LCPs were subject to certain difficulties (size, cost, difficulty of installation and maintenance, need for high skilled technicians), drawn from the specifications of Corning’s patent applications;

- the advantages of bend performance optical fiber were known at the relevant time (relying on D2 which discusses the manufacturing of bend performance optical fibers, and the Corning Document);
- the 149 Application did not specify any signal performance parameters while the 996 Application specified performance parameters in line with the prior art (D2 and the Corning Document);
- there was motivation to find a way to reduce the unit size, drawn from the stated problem in Corning's patent applications and some comments in D2.

[83] Of further importance in this appeal, the primary prior art reference that the Commissioner relied on (D2) is a foreign patent description which discusses the manufacture of "bend insensitive optical fibers." In addition to setting forth the method of preparing the fibers, the following statement (translated to English) was of particular interest to the Commissioner, with my emphasis:

In recent years, miniaturization of an integrated optical device and the rise of optical fiber manufacturing techniques, requires relatively small additional losses in the optical fiber at a small radius of curvature. Therefore, a large mode field diameter, bend loss less, low attenuation and high flexural strength of the optical fiber can well meet this demand. [Emphasis added]

[84] From this passage, D2 does contemplate the use of bend performance optical fibers with a smaller integrated optical device. From this, and the apparent existing difficulties with conventional LCP devices, the Commissioner stated that the solution set forth in the claims would be obvious to the skilled person.

[85] Corning's primary objection to these findings is that while the prior art appears to contemplate the use of bend performance optical fiber technology with a miniaturized integrated optical device, it does not contemplate *how* to achieve a smaller optical splitter housing module and so the Commissioner was unreasonable in finding the proposed claims to be obvious.

[86] In this respect, I cannot agree with Corning's submission.

[87] A finding of obviousness would not necessarily require the Commissioner to raise prior art references explicitly setting forth *how* one would make use of the bend performance optical fiber technology in a smaller housing or in a module with increased split density (i.e. how the optical splitter module would be adapted to accommodate the fibers). This is exactly what the 996 and 149 Applications are claiming as proposed inventions. If the prior art disclosed the process as to how one could achieve the outcome ultimately attained by the claims, the proposed claims at issue would be dismissed by reasons of anticipation (lack of novelty) and not obviousness. In other words, for a finding of obviousness, it is not necessary for the prior art to set forth the process reached by the proposed claims; it is sufficient that the gap between the disclosed prior art and the proposed inventive concept would be obvious to the skilled person.

[88] As the Commissioner remarked, the prior art and the proposed inventions had equivalent performance parameters (pointing specifically to claims 15-19 of the 996 Applications). In other words, the bend performance fibers disclosed in the prior art were essentially equivalent to those used in the proposed inventions, neither of which improved signal quality, and both resulted in modest attenuation of signal quality to a similar degree. In other words, the proposed inventions

essentially appear to relate to the attained outcome that had already been contemplated by the prior art: the very purpose for developing bend performance optical fibers appeared to be “miniaturization” of the optical splitter device, enhancement of splitter density, all with a relatively minimal reduction in signal quality. While at the relevant date, the prior art had not yet achieved that outcome, or set forth instructions for reaching that outcome, I do not believe it was unreasonable for the Commissioner to find that these were obvious steps.

[89] I believe the Commissioner’s finding that the skilled person would have bridged this gap was justified, transparent and intelligible. It was supported by evidence in the record (D2) suggesting that the bend performance optical fiber technology could be relied on for the “miniaturization of an integrated optical device” (*Jean Pierre v Canada (Immigration and Refugee Board)*, 2018 FCA 97 at paras 51-53).

[90] This finding is sufficient to dispose of the appeals; however, I would make further remarks to address the balance of Corning’s submissions, which essentially concern “secondary indicia” raised in addressing the issue of obviousness. Typically, such secondary factors may be relevant to an assessment of obviousness: they are rarely determinative when taken in isolation, though one can look to their cumulative effect (*Eli Lilly Canada Inc. v Apotex Inc.*, 2007 FC 455 at para 352).

[91] Essentially, the Commissioner relied on the presumptive skilled person’s “motivation” to produce the proposed inventions to supplement its finding of obviousness. Conversely, Corning relied on the passage of time between the alleged prior art (Corning Document, January 2005)

and the claim date (March 2007), the commercial success of the proposed inventions, and the unexpected difficulties and hurdles encountered during its development to support its contention of non-obviousness.

[92] Corning takes issue with the Commissioner's finding that motivation supported its finding of obviousness, and further submits that the passage of time and unexpected difficulties support the inventiveness of the proposed claims. In other words, Corning submits that, in light of these secondary indicia, it was unreasonable to find that the proposed inventions are obvious.

[93] I disagree with Corning's submissions.

[94] Dealing first with the issue of motivation, I would observe that it is one factor, among others, which may assist in assessing the obviousness of the claims (*Novopharm Limited v Janssen-Ortho Inc.*, 2007 FCA 217 at paras 23-28 [*Novopharm*]; *ABB Technology AG v Hyundai Heavy Industries Co., Ltd.*, 2013 FC 947 at para 50). Ultimately, motivation may explain the "reason why one might reasonably expect the hypothetical person of ordinary skill in the art to combine elements of the prior art to come up with the claimed invention" (*Novopharm* at para 25). Or, in other words, the proposed invention might be obvious "if the skilled person has good reason to pursue 'predictable' solutions that provide a 'fair expectation of success'" (*Pfizer Canada Inc. v Novopharm Limited*, 2009 FC 638 at para 56; *aff'd Novopharm Limited v Pfizer Canada Inc.*, 2010 FCA 242).

[95] While motivation does not appear to be a determinative element of the Commissioner's assessment, it essentially found that "the skilled person was motivated to seek equipment size reductions and cost effectiveness, which would have been evident advantages of using the known bend performance optical fiber." The Commissioner also relied on D2 which it essentially found "discusses a desire for miniaturization of optical devices that requires optical fibers with a small signal loss at small bend radii, which discussion is a pretext for the description of the bend performance optical fiber of D2."

[96] As I understand the Commissioner's reasoning, there was a known problem with the conventional technology and the prior art apparently revealed a solution to that problem, which in turn would have motivated the person skilled in the art to solve the problem. I conclude that this finding reasonably supports the Commissioner's determination of obviousness: if the problem is CGK and the solution is part of the prior art, then even the so-called "uninventive" skilled person might have been motivated to create the proposed invention to implement that solution.

[97] Corning tendered that the passage of time between the prior art disclosure of January 2005 and the claim date of March 2007 – without any further prior art disclosures discussing the motivation to obtain the proposed invention – contradicts the Commissioner's finding that the skilled person would have been motivated to obtain the invention. I recognize that "motivation arguably cuts both ways": motivation can support a conclusion that "it was likely obvious that someone would eventually get there, without inventiveness" although if the motivation existed before the claim date, one might be inclined to ask "if it was obvious – and there was specific

motivation to try it – why didn't you?" (*Astrazeneca Canada Inc. v Mylan Pharmaceuticals ULC*, 2017 FC 142 at para 159, citing *Beloit Canada Ltée/Ltd v Valmet Oy*, 64 NR 287 at para 21, 8 CPR (3d) 289 (FCA) [*Beloit*] at para 21).

[98] The Commissioner recognized the passage of two years between the prior art disclosure and the claim date but found the passage of time was neutral to its assessment of the obviousness of the claims in the 996 Application, as there was no evidence of "failed attempts by others" to obtain the invention during that period.

[99] This finding was open to the Commissioner when one remembers that the 996 Application concerns a housing for the splitter module which makes use of bend performance optical fibers and that the prior art document D2, which concerns a patent application published in February 2007 (before the claim date), refers to "miniaturization of an integrated optical device" in "recent years" and the "rise of optical fiber manufacturing techniques." In other words, the reduced dimensions of components integrating bend performance fibers had been contemplated before the claim date – though not as something particularly difficult to obtain.

[100] This Court has considered answers to *Beloit's* "why didn't you?" question. Ultimately, the failure to provide a satisfactory answer has been found to be of importance in some cases, particularly where evidence was presented of failed attempts by other scientists engaged in the same or similar work (*Apotex Inc. v Bayer AG*, 2007 FCA 243 at paras 43, 48; *Pfizer Canada Inc. v Apotex Inc.*, 2007 FC 971 at paras 65-66; *aff'd Pfizer Canada Inc. v Apotex Inc.*, 2009 FCA 8). However, this Court has also considered possible answers to this question. For example,

it is possible that other individuals were working on the technology but had not disclosed it to the public or filed a patent application before the claim date (*Pollard Banknote Limited v BABN Technologies Corp.*, 2016 FC 883 at paras 210-220). In any case, the FCA has recently held that it is not always necessary that the question posed by *Beloit* as to why the invention was not made earlier specifically be asked (*Packers Plus Energy Services Inc. v Essential Energy Services Ltd.*, 2019 FCA 96 at paras 25, 39-40).

[101] Ultimately, the Commissioner did not have information at its disposal regarding efforts expended by others in attempting to obtain a smaller optical splitter housing. Such evidence would certainly support a finding of non-obviousness. However, I cannot conclude that, in the absence of such evidence, it was unreasonable for the Commissioner to find that the passage of time (2 years) was a neutral factor in its assessment of obviousness.

[102] The final argument raised by Corning was that the Commissioner failed to consider a number of “optimization factors” that it raised (i.e. that in developing the splitter module, there were unexpected difficulties and hurdles that had to be overcome, requiring testing and experimentation). Like motivation, time and effort involved in arriving at the proposed invention may be a relevant factor in assessing obviousness. Increased time and expense in developing the proposed invention may weigh against a finding of obviousness, though such a finding is not determinative (*Novopharm* at para 25).

[103] I agree with Corning that there does not appear to be any legal basis supporting the Commissioner’s finding (in its decision on the 996 Application) that the patent specification

ought to have included remarks concerning particular difficulties encountered during the design process to ensure compliance with subsection 27(3) of the Act. As Corning submits, the purpose of a patent specification is, namely, to ensure that the skilled person would be able to “make, construct, compound, or use” the proposed invention (paragraph 27(3)(b) the Act).

[104] The Commissioner found the specifications in respect of both patent applications to be sufficient in that regard: “[w]e are of the opinion that the skilled person would be able to produce an optical splitter module which would conform to the requirements set out in the claims.” There is an evident distinction to be made between the contents of the specifications, which provide how to create the proposed invention, and the discovery process that precipitates the proposed invention.

[105] All this being said, however, I do not believe that this statement amounts to a reviewable error warranting this Court’s intervention in itself. As I understand the Commissioner’s finding, it was insufficient for Corning’s counsel to set forth, during the requisition process and at the hearing, a number of alleged experimental difficulties without concrete evidence. Even testimony from the inventor of such difficulties, while useful, has been held not to be determinative (*Tensar Technologies Ltd v Enviro-Pro Geosynthetics Ltd*, 2019 FC 277 at para 158). In this case, no such evidence was before the Commissioner.

[106] In the end, the Commissioner’s conclusion that alleged difficulties in developing the claimed invention did not support a finding of non-obviousness relied on factual findings that

were supported by the evidence (or lack thereof in this case). In this regard, this Court's intervention is not warranted.

[107] For the foregoing reasons, I find that the Commissioner's decision to refuse the 996 and 149 Patent Applications on the ground of obviousness under section 28.3 of the Act was reasonable. Given this finding, it is unnecessary to address the remedy issue. Corning's appeals are dismissed.

## VII. Costs

[108] The Attorney General does not seek costs in this matter and, in accordance with section 25, no costs shall be awarded to either party (*Blair 2010* at para 67; *Procter & Gamble Co. v Canada (Commissioner of Patents)*, 2006 FC 976 at para 36; *Micromass UK Ltd. v Canada (Commissioner of Patents)*, 2006 FC 117 at para 17).

**JUDGMENT IN T-1549-18 & T-1550-18**

**THIS COURT'S JUDGMENT is that**

1. The appeals are dismissed
2. No costs are awarded

“Glennys L. McVeigh”

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Judge

**FEDERAL COURT**

**SOLICITORS OF RECORD**

**DOCKET:** T-1549-18

**STYLE OF CAUSE:** CORNING CABLE SYSTEMS LLC v THE ATTORNEY  
GENERAL OF CANADA

**AND DOCKET:** T-1550-18

**STYLE OF CAUSE:** CORNING CABLE SYSTEMS LLC v THE ATTORNEY  
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