

OPINION UNDER SECTION 74A

Patent	EP(UK) 1601451
Proprietor(s)	Lothar Wellenbrock et al
Exclusive Licensee	
Requester	Lunding Agro, on 29 August 2007
Observer(s)	Lothar Wellenbrock et al
Date Opinion issued	26 November 2007

The request

1. The comptroller has been requested to issue an opinion as to whether EP (UK) 1601451 (“the patent”) would be infringed by the Lunding Omrører machine were it to be manufactured and/or sold in the United Kingdom. The requestor, Lunding Agro, asserts that there would be no such infringement.
2. To support their argument the requestor has submitted a written statement and several photographs of the machine, and they have also requested that a video, available at <http://www.lunding-agro.dk/> , which shows the machine in operation be considered. A copy of the video has been filed with The United Kingdom Intellectual Property Office.

Observations

3. Observations in response to the request were received from the proprietor of the patent in a letter from their Patent Attorneys Venner Shipley LLP dated 16 October 2007. The observations were accompanied by a photograph of an adapted Lunding Omrører machine which was said to have been used in an experiment carried out by the proprietor on 28 September 2007. In the observations the proprietor asserts that claims 1 and 4 of their patent would be infringed by the sale and/or manufacture of the Lunding Omrører machine in the UK.

Observations in reply

4. Observations in reply were received from Mewburn Ellis LLP, on behalf of the requestor, refuting the proprietor's observations and re-stating the requestor's opinion that no infringement would occur.

The Patent

5. The patent was granted on 13 December 2006 and is still in force. The patent was originally published in German, and thus this opinion is based upon the English translation filed on 12 March 2007.
6. The patent relates to a device for circulating grain material from a lower into an upper storage region, said device comprising a conveyor screw and a driving unit driving said screw. One embodiment of the invention is shown in figure 1:

Side view

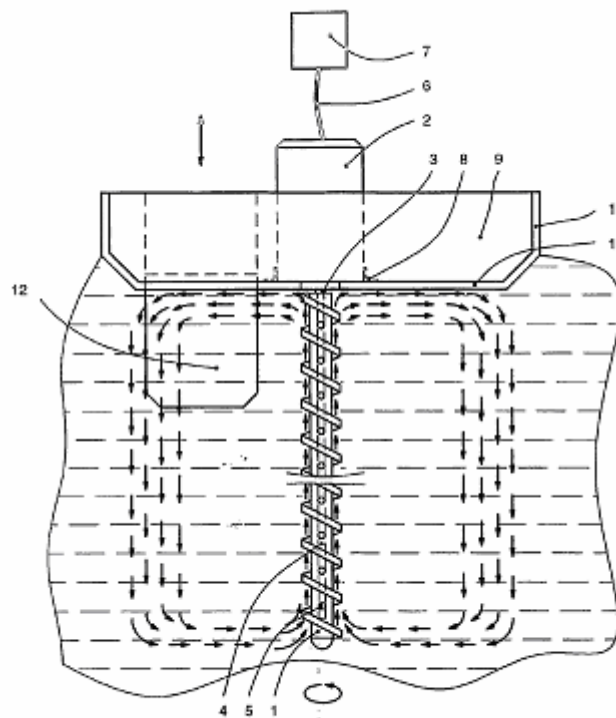


Fig. 1

7. In brief, the embodiment shown above comprises a conveyor screw 1 driven by a driving unit 2 and supported on a volume of grain by a bearing member 9, where the screw penetrates into the grain so that grain adjacent to the lowermost tip of the conveyor screw is circulated to an uppermost region. In an alternative embodiment the pitch of the conveyor screw may increase in the direction of the driving unit so that grain originally further up the screw may also be circulated.
8. In figure 1 it can be seen that in the first embodiment the bearing member 9 comprises a base plate 10 which is perpendicular to the direction of the conveyor screw 1 and which maintains the device on the surface of the grain material. Also in figure 1, an inhibiting plate 12 is arranged parallel to the axis of the conveyor screw and is immersed in the grain material so as to absorb peripheral forces produced by the rotary motion of the conveyor screw. It should be stressed however that figure 1 merely shows one embodiment of the invention, and at this stage I draw no conclusions from the appearance of the inhibiting plate.
9. A further embodiment of the invention of the patent which in my view, after having inspected the photographs and video depicting the Lunding Omrører machine, is the most similar in appearance to said machine, is shown in figures 6 and 8:

Side view

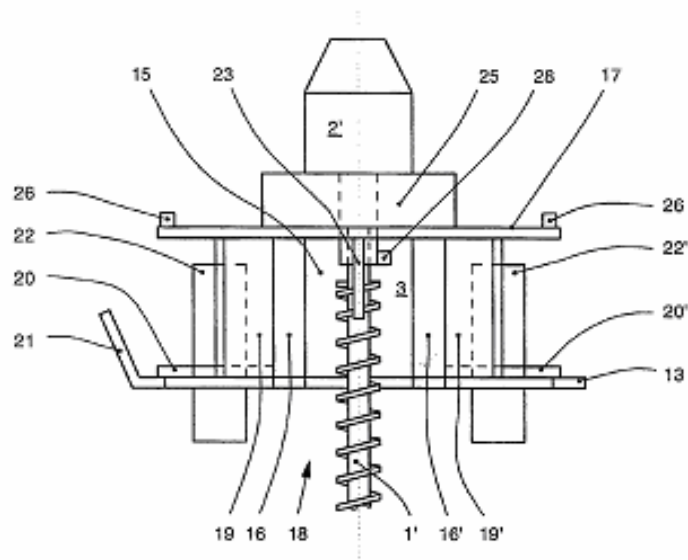


Fig. 6

Plan view

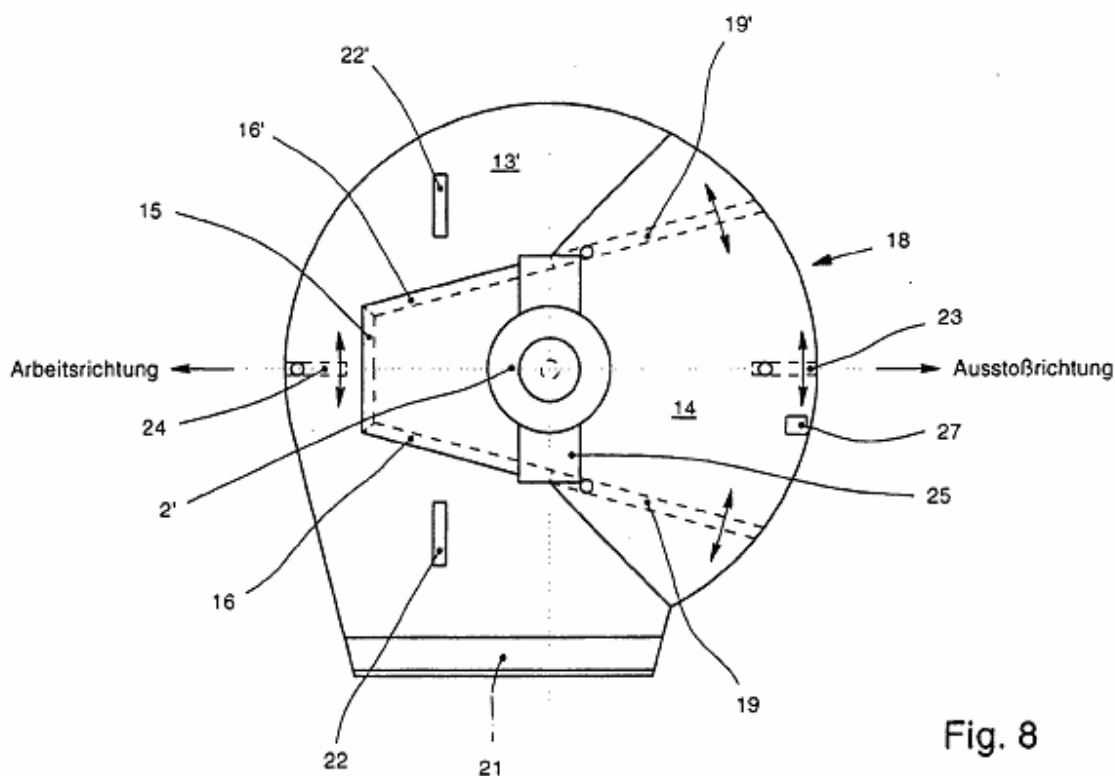


Fig. 8

10. The embodiment of figures 6 and 8 is a mobile device; that is one which is moved across the surface of the grain as a result of the action of circulating the grain to the surface. The device again comprises a conveyor screw 1' and a bearing plate 13, but above said plate a filling chamber 14 is located. The filling chamber is bounded by walls 16, 16' 15 and by a top bearing plate 17. In use grain is drawn up through an opening in the bottom bearing plate 13 so as to fill the chamber 14. It is then ejected through opening 18 in the filling chamber. As stated in the patent, *'The flow of grain material out of the filling chamber 14 towards the ejecting chamber 18 also produces an oppositely directed force, which acts on the end wall of the filling chamber 14 and displaces the entire device in an operating direction'*. As in the first embodiment inhibiting plates 22, 22' are shown to be provided, as is steering apparatus 23, 24. However it is also stated that "Use of the inhibiting plates 22, 22', the rear steering apparatus 23 and the front steering apparatus 24 is optional".

11. The patent has 10 claims, of which claim 1 is the only independent claim. The requestor asserts that claim 1, and thus the remainder of the dependant claims also, is not infringed by the Lunding Omrører machine. By contrast the proprietor asserts that claim 1, and dependant claim 4, would both be infringed by the manufacture and/or sale of the Lunding Omrører machine in the UK.
12. Claim 1 of the patent reads as follows:

Device for circulating grain material from a lower into an upper storage region, said device consisting of a conveyor screw (1, 1') for the grain material and a driving unit (2) driving said conveyor screw (1, 1'), which screw and unit are connected to one another via a coupling unit (3), wherein said driving unit (2) is connected in a torsion-proof manner to a bearing member (9) which is oriented with its lower bearing surface at an angle to the axis of the conveyor screw (1, 1'), possesses a size of surface that resists the conveying capacity of said conveyor screw (1, 1'), and is equipped with at least one inhibiting plate (12, 22, 22') which penetrates into the grain material, and wherein said inhibiting plate (12, 22, 22') possesses a size of surface that resists the peripheral forces of the rotating conveyor screw (1, 1'), characterised in that the conveyor screw (1, 1') possesses a greater length than the depth of penetration of the inhibiting plate (12, 22, 22') and is designed, in its shape and dimensions, in such a way that circulation of the grain material from a lowermost into an uppermost storage region is made possible.

Discussion

13. The requestor has explicitly stated that the opinion is requested solely in terms of infringement and therefore, throughout the following discussion, I will assume that the patent is valid and in force.
14. My first task in considering infringement is to decide how to construe claim 1 of the patent. Then I must decide whether the Lunding Omrører machine falls within the scope of the claim so construed. In order to decide the proper construction to put upon claim 1 I shall follow the standard principles of claim construction as set out in *Kirin-Amgen and others v Hoechst Marion Roussel Limited and others* [2005] RPC 9. I must put a purposive construction on the claims; interpret them in the light of the description and drawings as instructed by section 125(1) of The Patents Act 1977 ("the Act") and take account of the Protocol to Article 69 of the EPC. In simpler language I must decide what a person skilled in the art would have understood the patentee to have used the language of the claim to mean.

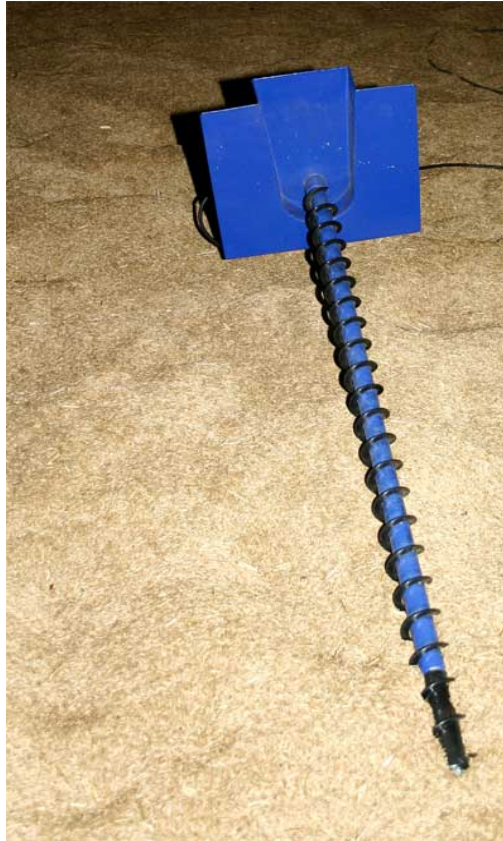
15. Section 125(1) of the Act states that:

“For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.”

and the Protocol on the Interpretation of Article 69 of the EPC (which corresponds to section 125(1))states that:

“Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patentee with a reasonable degree of certainty for third parties”.

16. The requestor has brought to my attention the prior art US 4491422 which was considered during examination at the EPO. The requestor has said *‘...when considering claim interpretation, it is of use to review the content of the prior art, in order to ensure that a sensible interpretation is given to the claims.’* However Lord Hoffman in *Kirin-Amgen and others v Hoechst Marion Roussel Limited and others* [2005] RPC 9 noted that *‘The determination of the extent of protection conferred by a European patent is an examination in which there is only one compulsory question, namely that set by art.69 and its Protocol: what would a person skilled in the art have understood the patentee to have the used the language of the claim to mean? Everything else, including the Protocol questions, is only guidance to a judge trying to answer that question.’* Therefore in construing the claims I have considered only the disclosure of the patent.
17. The similarity between the invention of the patent and the Lunding Omrører machine can be seen when the photographs of the latter are inspected. One of the photographs, showing the underside of the machine, is shown below:



18. It can be seen that the Lunding Omrører machine comprises a conveyor screw driven by an electric motor (not shown above, but located to the upper side of the rectangular plate shown in the photograph), and a base plate for location on the grain material. Also not shown in the photograph above is a handle, which is present when in use, for an operator to hold, said handle also being located to the upper side of the rectangular/base plate. A chute is formed in the base plate so that grain is drawn up into the chute and then ejected out of one end. As can be seen from the photograph, there is no plate or other member extending below the lower surface of the base plate other than the conveyor screw. However the Lunding Omrører machine does comprise a bow plate which extends upwards from the base plate in the same manner as the guide plate 21 shown in figure 6 of the patent.
19. Upon inspecting the submissions from both the requestor and the proprietor it is clear to me that the question of infringement turns on the following section of claim 1:

'... wherein said driving unit (2) is connected in a torsion-proof manner to a bearing member (9) which is oriented with its lower bearing surface at

an angle to the axis of the conveyor screw (1, 1'), possesses a size of surface that resists the conveying capacity of said conveyor screw (1, 1'), and is equipped with at least one inhibiting plate (12, 22, 22') which penetrates into the grain material, and wherein said inhibiting plate (12, 22, 22') possesses a size of surface that resists the peripheral forces of the rotating conveyor screw (1, 1'), characterised in that the conveyor screw (1, 1') possesses a greater length than the depth of penetration of the inhibiting plate (12, 22, 22') ...'

20. Considering first the purposive construction I must apply to the bearing member, at page 6 lines 13 to 16 of the patent it is stated that *'The size of the base plate 10 is selected so that the bearing forces of the bearing member maintain the device on the surface of the grain material'*. It is clear to me from this, and other references to the bearing member, that the bearing member is a member which is intended to be of a sufficient size so as to maintain the machine generally on the surface of the grain material. To my mind this is consistent with the general meaning of to "bear" something, i.e. to carry or withstand an article or force. It is clear that during use the weight of the machine, and the screwing action of the conveyor screw, does not cause it to be dragged down in to the main body of the grain.
21. Upon inspecting the video showing the Lunding Omrører machine in operation it is clear that the machine is generally maintained at the surface of the grain material. Also, from inspecting the photographs of the Lunding Omrører machine, it is clear to me that the rectangular plate (labeled as a base plate in the photographs) is the particular feature which maintains the machine on the surface of the grain. It is therefore my view that the base plate of the Lunding Omrører machine serves the same purpose as the bearing plates of the various embodiments shown in the patent and falls within a purposive construction of the bearing member referred to in claim 1 of the patent.
22. I will now turn to the purposive construction that I must apply to the inhibiting plate of claim 1 of the patent. The relevant section states:

'...and is equipped with at least one inhibiting plate (12, 22, 22') which penetrates into the grain material, and wherein said inhibiting plate (12, 22, 22') possesses a size of surface that resists the peripheral forces of the rotating conveyor screw (1, 1'), characterised in that the conveyor screw (1, 1') possesses a greater length than the depth of penetration of the inhibiting plate (12, 22, 22') ...'
23. It is the requestor's assertion that the Lunding Omrører machine does not possess such an inhibiting plate, and that in their opinion the correct interpretation is that *'...the inhibiting plate must penetrate into the grain*

to an extent sufficient enough to bear against the main body of the grain material to inhibit rotation of the device'. Where by main body the requestor means '...the body of grain below the surface of the grain at the bearing member'.

24. In contrast it is the proprietor's opinion that the Lunding Omrører machine does possess an inhibiting plate within the meaning of claim 1 of the patent. It is their opinion that claim 1 '*...simply requires that an inhibiting plate is provided which penetrates the grain material and is of a sufficient size so as to fulfil the function of resisting the peripheral forces of the rotating conveyor screw*'. It is the proprietor's contention that both the bow plate and outlet chute of the Lunding Omrører machine fulfil the purpose of the inhibiting plate of claim 1, and therefore that claim 1 would be infringed.
25. It is worth pointing out at this time that the proprietor has said that an experiment on the Lunding Omrører machine has been conducted where in effect the bow plate and outlet chute were masked off so that they could have no resistive effect against the torque generated by the rotating conveyor screw. They claim that the unmodified Lunding Omrører machine provides a rotational torque of 1.5 Nm whereas the modified version provides 2.5 Nm. Or put another way, the bow plate and outlet chute apparently apply a counter torque to that of the rotating screw of 1.0 Nm. There is no evidence to back up this claim, although for the purposes of this opinion request I am willing to accept it at face value
26. It should also be noted that the requestor has also carried out an experiment where the handle of the Lunding Omrører machine was released from the operator's grip and it was observed that the machine proceeded to rotate with respect to the surface of the grain. I have no evidence at my disposal to back up this claim, but again I accept it at face value.
27. In claim 1 it is stated that the inhibiting plate '*...penetrates into the grain material...*'. To my mind the skilled addressee, i.e. an agricultural machine engineer concerned in the design and manufacture of agricultural machinery, would understand the word "penetrate" to mean to find a way into or through, i.e. for a member to break the surface of an object or mass and for the penetrating member to then be located within the object or mass. Considering the figures of the patent, the inhibiting plate 12 in figure 1 and the inhibiting plates 22, 22' in figures 6 and 8, in my view have penetrated the grain material in just such a manner. The plates are inserted into the upper surface of the body of grain material so as to then be located within the grain. I acknowledge that the patent, at page 11 lines 17 to 19, refers to the particular inhibiting plates 22, 22' as

being optional, but in my view the skilled addressee when reading claim 1 would come to the conclusion that there must be at least one plate-like member which penetrates the grain material according to the purposive construction applied to the word “penetrate” described above. This degree of penetration is emphasised by the fact that claim 1 refers to the conveyor screw possessing “...a greater length than the depth of penetration of the inhibiting plate”. I cannot see how the bow plate and chute walls of the Lunding Omrører machine could be said to “penetrate” the grain material when applying this purposive construction to claim 1 of the patent. The bow plate and chute walls are not located within the grain material, but instead they merely respectively press against undulations at the surface of the grain and against grain drawn up by the conveyor screw into the chute.

28. I will now go on to consider what the skilled addressee would have understood claim 1 to mean with regard to the inhibiting plate having ‘...a size of surface that resists the peripheral forces of the rotating conveyor screw (1, 1’),...’. In the patent a disadvantage of the prior art is described as being that ‘Significant physical strength is required to overcome the resistances of the conveyor screw rotating in the grain material.’ and that an object of the invention of the patent should be to develop a device ‘...which can be used over an unlimited period of time and which does not require manual force for circulation.’. It is also said of the embodiment shown in figure 1 of the patent that ‘...the device also remains in its resting position since the peripheral forces produced by the rotary motion of the conveyor screw 1 are absorbed by the inhibiting plate 12 immersed in the grain material. Thus, only the conveyor screw 1 rotates, and the device remains at the place of use.’. In my view the word “resist” generally means to withstand or to prevent an action taking place. However I believe that claim 1 of the patent should not be so narrowly construed, and that the skilled addressee would realise that the inhibiting plate(s) may not entirely prevent the device from rotating on the surface of the grain material as long as the machine still fulfils its purpose. It has been argued by the proprietor that the bow plate and chute of the Lunding Omrører machine ‘resist the peripheral forces of the rotating conveyor screw’, and their experiment tends to suggest that this may be the case. The modified Lunding Omrører machine provided a greater torque than the unmodified version, tending to suggest that the bow plate and chute walls partially resist the peripheral forces of the rotating conveyor screw. However the requestor has also shown in their experiment that when the handle of the apparatus is released and the power to the motor is on ‘...the apparatus rotated with respect to the grain at an angular speed which was unsuitable for steady-state operation of the device. Indeed, very shortly after being released from manual control, the device turned over...’. Therefore, whilst the partial resistance offered by the bow plate and chute is thought to fall within the

scope of the word “resist” as construed above, the Lunding Omrører machine would not appear to work without further resistance being provided by the user of the machine.

29. In their observations the proprietor has addressed the “Improver” or Protocol questions. These are:
- (i) Does the variant have a material effect on the way in which the invention works?
 - (ii) Would the fact that the variant has no material effect have been obvious to the skilled person at the date of publication of the patent?
 - (iii) Would the reader skilled in the art nevertheless have understood from the language of the claim that the patentee intended that strict compliance with the primary meaning was an essential requirement of the invention?
30. It should be noted that in *Kirin-Amgen and others v Hoechst Marion Roussel Limited and others* [2005] RPC 9 Lord Hoffman stated that the Protocol questions ‘...are only guidelines, more useful in some cases than in others’. However, as both the proprietor and the requestor, in their observations and observations in reply, have addressed these questions I will now look at them myself.
31. In answer to the first question, the proprietor’s belief that the variant has no material effect, in my view is incorrect. In my view the experiment carried out by the proprietor appears to show that grain striking the bow plate and upstanding walls does have an effect on the rotational torque generated by the Lunding Omrører machine, therefore I believe there is a part of the machine that ‘resists the peripheral forces of the rotating conveyor screw’. However from the results of the requestor’s experiment it is my view that the Lunding Omrører machine does not operate in the same manner as the machine of the patent. The resistance against the peripheral forces of the rotating conveyor screw provided by the bow plate and chute of the Lunding Omrører machine is not sufficient by itself to allow the machine to work effectively, therefore the variant (the lack of a “penetrating” inhibiting plate) does have a material effect on the way in which the invention works.
32. As I have found that the variant does have a material effect on the way in which the invention works I can see no point in addressing the second and third Protocol questions.
33. In my view the Lunding Omrører machine does not possess an inhibiting

plate as described in claim 1 of the patent. No part of the machine can be described as being an inhibiting plate which '*...penetrates into the grain material, and wherein the inhibiting plate possesses a size of surface that resists the peripheral forces of the rotating conveyor screw*'. Claim 1 of the patent is therefore not infringed by the Lunding Omrører machine as shown in the evidence provided before me. It follows that dependent claims 2 to 10 are similarly not infringed.

Opinion

34. I conclude that were the Lunding Omrører machine to be manufactured and/or sold in the United Kingdom that these actions would not infringe EP (UK) 1601451.

Application for review

35. Under section 74B and rule 77H, the proprietor may, within three months of the date of issue of this opinion, apply to the comptroller for a review of the opinion.
36. Under rule 77H(5) such an application for review may be made by the proprietor only on the grounds that by reason of its interpretation of the specification of the patent the opinion wrongly concluded that a particular act would not constitute an infringement of the patent.

NOTE

This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.

Peter Gardiner
Examiner