Patents Act 1977 **Opinion Number** **06/25**

OPINION UNDER SECTION 74A

Patent	GB2536217 B
Proprietor(s)	Siemens Aktiengesellschaft
Exclusive Licensee	-
Requester	Hutchinson IP Ltd
Observer(s)	Siemens Energy Global GmbH & Co. KG
Date Opinion issued	25 June 2025

The request

1. The comptroller has been requested to issue an opinion as to whether GB2536217, the Patent, is valid in the light of prior art submitted with the request. The Patent was filed on 6 March 2015 and granted on 31 January 2017 and is currently in force.

2. The request refers to six documents (*and provides translations and/or English language equivalents listed),* all of which were published before the Patent was filed, as follows:

D1: US2012/0257973 A1 Envision Energy (Denmark) ApS

D2: WO2014/131457 A1 Siemens AG
D2a US2016/0013653 (a later equivalent).
D2b Computer-generated translation of D2.

D3: Wind Turbines – Fundamentals, Technologies, Application, Economics – Third Edition. Erich Hau. ISBN – 978-3-642-27150-2
Chapter 10 – electrical system
Chapter 17 – offshore wind energy utilisation

D4: EP2811159 A1 Siemens AG
D4a Computer-generated English translation of EP2811159A1.

D5: Transformer Engineering – Design, Technology, and Diagnostics, Second Edition, ISBN: 978-1-4398-5418-1
Chapter 15 – Recent Trends in Transformer Technology

D6: ABB Review 2-2012
Available from the ABB Library Download Center at https://library.abb.com

3. The request suggests that claim 1 lacks novelty over D4, then turns to inventive step, combining D1 and D2. The remaining documents are used to argue for what might be common general knowledge. The request notes the documents cited during the search and examination phase for this case, but no arguments are advanced that rely on them, and I shall not need to return to those documents.

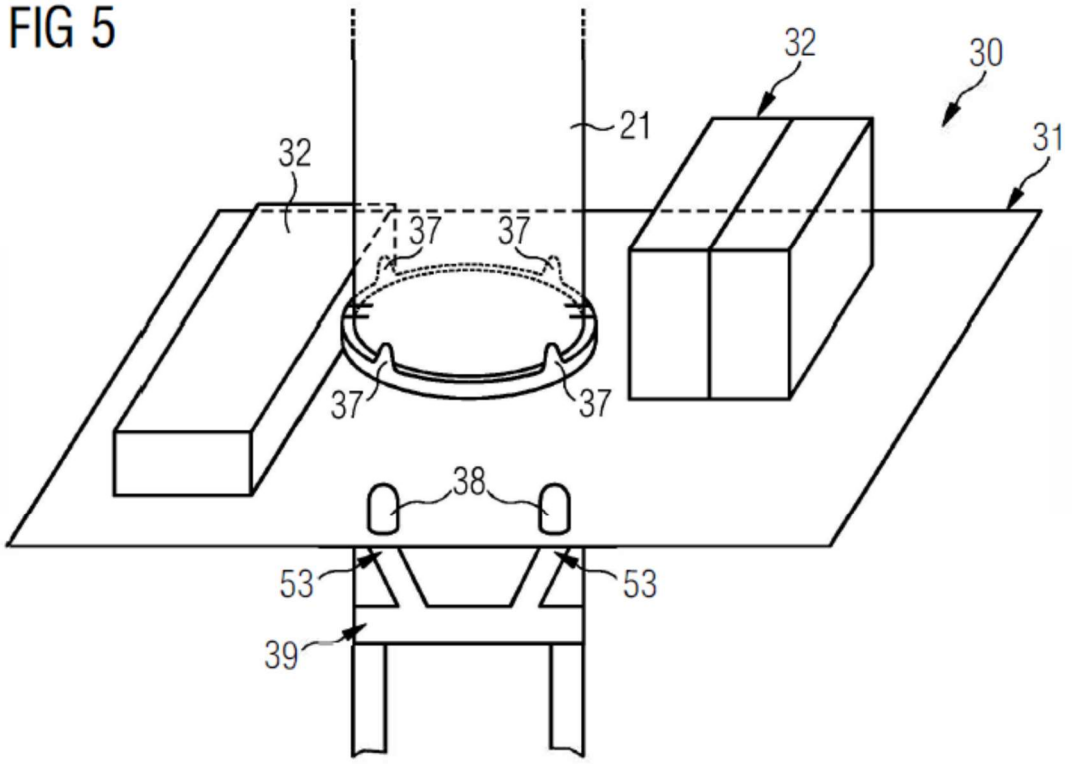
4. Haseltine Lake Kempner filed observations, on behalf of Siemens Energy Global GmBH & Co. KG. Observations in reply then followed from Hutchinson IP. None of those observations suggest that the translations or equivalents differ in a relevant way from the primary documents identified, and I shall take them to be correct.

The Patent

5. As set out in the request, The Patent relates to an offshore wind turbine power export system which aims to reduce the cost and complexity of conventional offshore substation platforms (OSPs) by integrating power export equipment into modules mounted directly on a turbine support. The power export module, according to the Patent, provides electrical power conversion and export facility. The power export module provides an interconnection between multiple wind turbines in an array and a power export cable [page 4 line 26 to page 5 line 7].

6. Figure 5 of the Patent shows a power export module 30 that includes a ‘mounting’ 31 that is mounted around a wind turbine tower 21 to a foundation 39 by connectors 37,38. Power export equipment 32 is carried on the mounting 31, which is a flat platform in the illustrated example. What is not shown in figure 5 is any electrical configuration, which includes a transformer for power conversion and suitable electrical connections to provide a connection between i) the transformer and an array of wind turbines and ii) the transformer and a power export cable.

FIG 5



7. The request suggests that the Patent purports to achieve benefits such as a relatively light-weight construction (see for example page 8, lines 4 to 7), environmentally friendliness (see for example page 8, lines 10 to 14) and cost effectiveness (see for example page 8, lines 17 to 24).

The claims

8. The Patent includes 15 claims, stemming from a single independent claim 1, which both parties have split up as follows:

1.1	An offshore turbine array power export system comprising a power export module and at least one offshore turbine support,
1.2	the module comprising a mounting for power export equipment
1.3	and a coupling for coupling the mounting to the offshore turbine support
1.4	wherein the mounting comprises a central opening shaped to correspond with an outer surface of a section of the offshore turbine support,
1.5	whereby the mounting when connected encircles the section of the support;
1.6	wherein the power export module has an input connected to one or more offshore turbines in the array to receive power generated by the turbines in the power export module and has an output to export power from the array.

9. Of course, *Kirin-Amgen and others v Hoechst Marion Roussel Limited and others* [2005] RPC 9 requires that I put a purposive construction on the claims, interpret it in the light of the description and drawings as instructed by Section 125(1) and take account of the Protocol to Article 69 of the EPC. Simply put, 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.

10. None of the submissions suggest that there is any particular difficulty in interpreting the claim. However, it might help to note that the term encircles is used in clause 1.5, and that the Patent envisages both rectangular and circular arrangements (noting the discussion of pylons on page 6). So whilst one dictionary definition of the term encircle is" *to surround something, forming a circle around it",* the term must be read broadly enough to encompass different shapes.

11. I would also note that this clause requires the mounting to encircle a *section* of the support. Here, I take that to mean that a cross-section (which might typically be substantially horizontal) of the support (such as a rectangular pylon or circular tower) is surrounded – rather than the alternative meaning of the word section as being only part of the support.

The arguments

Initial consideration of D4

12. The request starts out by arguing that claim 1 is not novel over D4, and I shall therefore start with this document. The request and the observations focus on figures 4 and 5 of D4.

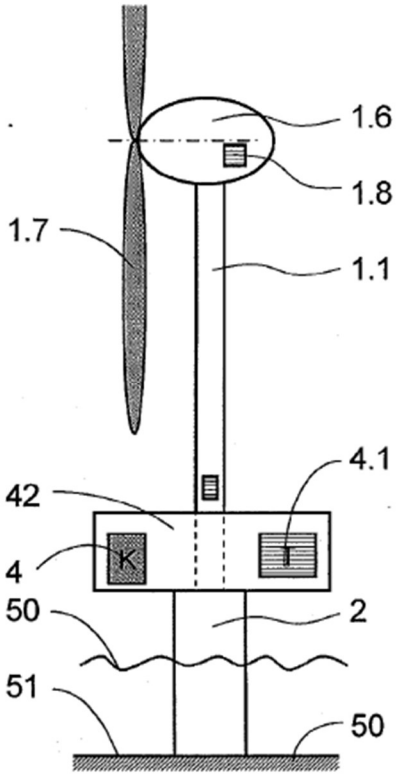


Fig. 4

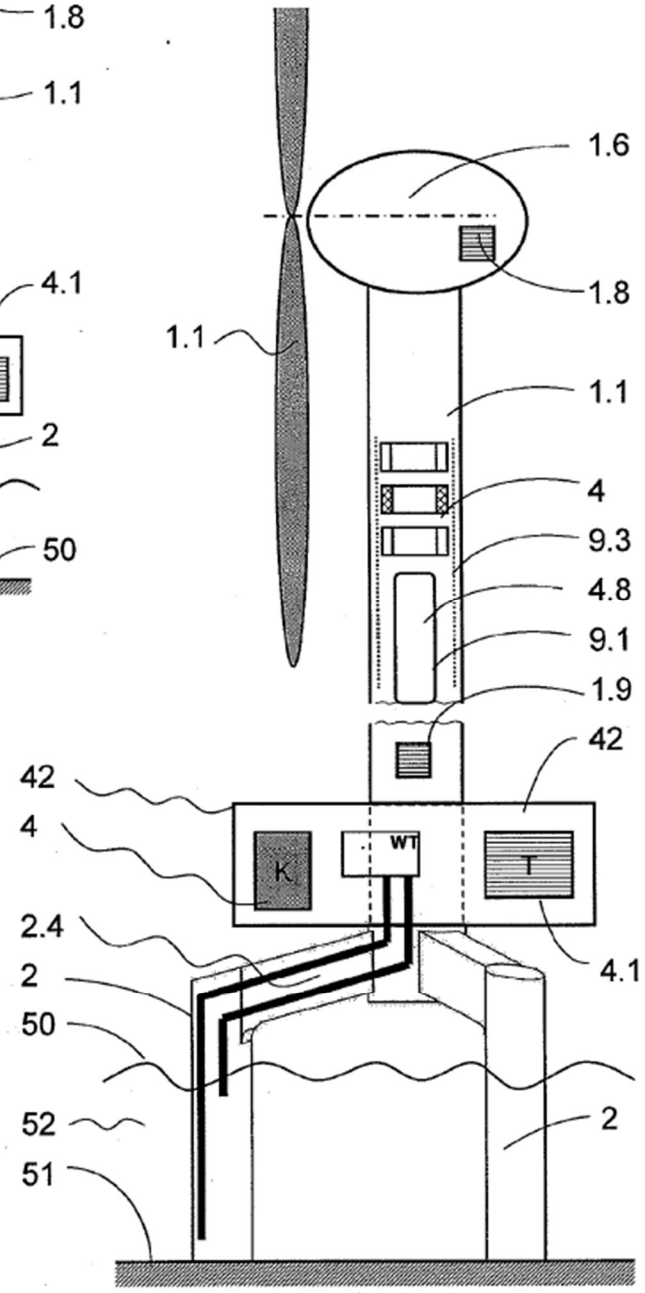
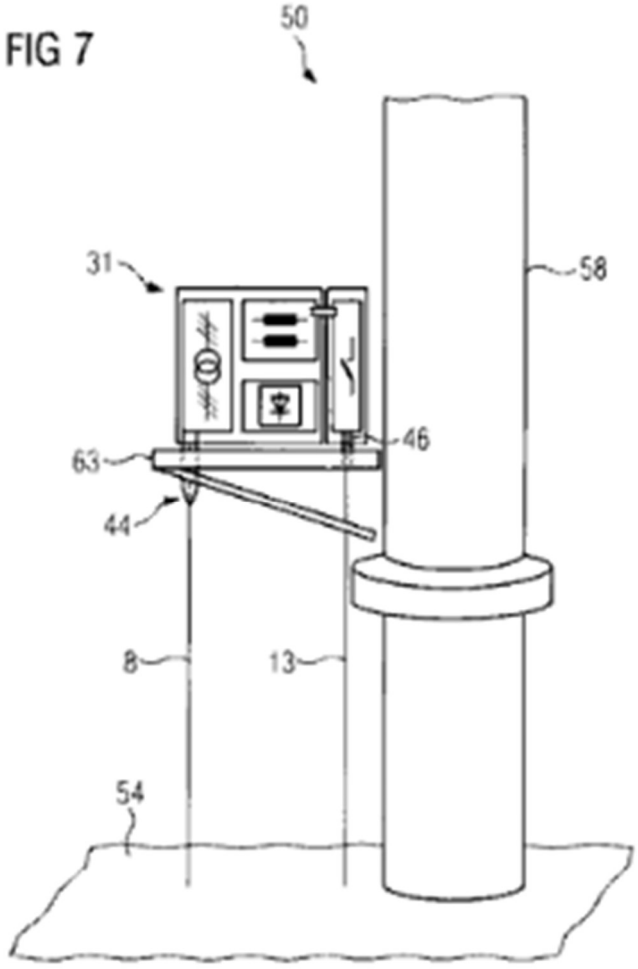


Fig. 5

13. In the request, it is asserted that this arrangement of 42 (the substation) on the foundation, 2 (shown as being tripartite in figure 5) provides the features of 1.1, 1.2, 1.3 and 1.6). There is no argument about this in the observations. Rather the observations question whether the dotted lines in these figures (which indicate the support) show that the substation encircles the support. The observations suggest an alternative for the arrangement of D4, in which the substation is mounted in front of the support in this view and attached by a bracket (or other arrangement). Haseltine Lake Kempner in their observations draw from D2 to suggest this might look like:



14. In the observations in reply, Hutchinson question whether there is any support for this interpretation in D4. They conclude that the converter station of D4 is consistent with a “mounting that encircles” a wind support structure as is required by claim 1. Having examined D4, there is nothing that clearly points to one interpretation or the other of the arrangement shown in figures 4 and 5.

15. So where does that leave me? One part of the question is what the skilled person would have understood from reading D4. If Haseltine Lake Kempner are correct, then the claim is novel. However, that would not be the end of the question. D4 was published before the Patent was filed. I must also conclude that the skilled person would not find the encircling embodiment to be an obvious alternative, to conclude that the Patent is valid.

16. The observations quickly jump to D2 to raise a similar point on inventive step, and I therefore will return to this later – as much of the discussion there of what is common general knowledge will be relevant to any consideration of D4 for inventive step. Before doing so, I should summarise at this point, there are two contrasting interpretations of what is shown in D4, which will inevitably lead to different conclusions being reached on novelty. It seems to me that both interpretations are plausible, but I have been given no evidence that enables me to make a judgement on which is most likely.

Inventive step in relation to D1, D2

17. To turn to D1 and D2. In the request, Hutchinson use the *Pozzoli* steps[1] to set out their argument, asserting that the skilled person here could be seen as a multidisciplinary team involved in the production of offshore wind turbines. This is a clearly established industry, and it seems to me that such multidisciplinary teams exist. I am therefore content to take this definition of the skilled person, and it is not disputed in the observations.

18. The request goes on to note the lack of features 1.4 and 1.5 in D2. The request then asserts that this gap is provided by D1. The request does not assert that D1 is common general knowledge, nor does it identify suggest that there is any reference from one document to the other. This causes me some difficulty when it comes to the structured approach of *Pozzoli*, as it amounts to a mosaic of features from two separate documents. For me to conclude that an invention is obvious, using such a mosaic, it must be likely that the skilled person would have considered those teachings together. Laddie J in *Pfizer Ltd.'s Patent [2001] FSR 16* at paragraph 66 stated:

> *When any piece of prior art is considered for the purposes of an obviousness attack, the question asked is "what would the skilled addressee think and do on the basis of the disclosure?" He will consider the disclosure in the light of the common general knowledge and it may be that in some cases he will also think it obvious to supplement the disclosure by consulting other readily accessible publicly available information. This will be particularly likely where the pleaded prior art encourages him to do so because it expressly cross-refers to other material. However, I do not think it is limited to cases where there is an express cross-reference. For example if a piece of prior art directs the skilled worker to use a member of a class of ingredients for a particular purpose and it would be obvious to him where and how to find details of members of that class, then he will do so and that act of pulling in other information is itself an obvious consequence of the disclosure in the*

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[1] ***Pozzoli SpA v BDMO SA & Anor [2007] EWCA Civ 588***
(1)(a) Identify the notional "person skilled in the art"
(1)(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?

prior art.

19. The observations assert that the common general knowledge of the skilled person would appear to be limited to offshore turbine arrays in which a standalone offshore structure (OSP - offshore substation platform) is used to house electrical equipment needed to step up the voltage of power generated by offshore turbine generations (these being acknowledged, and their disadvantages discussed, in the paragraph spanning pages 3 and 4 of the Patent) as well as the provision of work platforms for inspection, maintenance, and servicing tasks.

20. The request does include reference to D3 to suggest that platforms on towers are part of the common general knowledge. However, they do not provide evidence of the extent to which such platforms might be made in any particular way. In the words of the request, it might be possible to imagine a range of ways to build such structures using mountings, brackets, as integral parts of towers, or by affixing them in some other way. Indeed, as the request notes, the prior art cited at examination stage included a support structure mounted to the tower of the wind turbine (Figure 1 of EP2863053), an intermediate structure in EP2808546 and a hollow internal element in EP2811160. Neither the request nor the observations really provide me with evidence to suggest what solutions are commonly used or might be part of the general knowledge of the skilled person.

21. At most it therefore seems to me that an encircling mounting as disclosed in D1 is one of a range of options that might be available to the skilled person. Hutchinson assert that this is a design choice, and it is therefore obvious. The request and observations do not go into any further detail on how case law approaches this question. I think that may be to borrow from some of the EPO approach to inventive step. In so far as the Manual of Patent practice makes reference to matters of design, that is in the context of collocation (the combination of a series of known features, each playing its usual part in the final entity). I am not convinced that this can be said to the case here, so I am not convinced that the reference to a mere design choice here moves the argument forward under UK case law.

Returning to D4

22. However, that choice is somewhat restricted when it comes to the interpretation of D4. It is not clear to me that there are alternatives to the two interpretations put forward by the respective parties. The skilled person either interprets the figure to be one or the other only, or the disclosure is not clear, and the skilled person is left with some uncertainty as to which is intended but appreciates that both are possible interpretations.

23. It is I think worth at this point noting that this of course an Opinion, and it is intended that I should come to a view that is consistent with the balance of probabilities on the evidence that I have before me. Having noted that there are gaps in the evidence that I have been provided with, it may still be of assistance to the parties for me to set out what my view is on that balance, given the information currently available to me. I also note the point made in the observations, that, for a finding of lack of novelty, the disclosure must clearly enable the skilled person to work an invention that falls within the scope of a claimed invention.

24. However, as set out in the Manual of Patent Practice discussion of *SmithKline Beecham Plc's (Paroxetine Methanesulfonate) Patent [2006] RPC 10*:

> *"for enablement, the person skilled in the art is assumed to be willing to make trial and error experiments to get it to work, and the question is not what the skilled person would think the disclosure meant, but rather whether they would be able to work the disclosed invention."*

25. Ultimately, it is my view that if D4 does not give the skilled person a clear pointer into whether the structure surrounds the turbine tower or is in front of it; then the skilled person is left to consider which of the two constructions they wish to investigate or implement. That might involve a range of considerations, but it seems to me that it is lying in the road (noting *Philips (Bosgra's) Application, [1974] RPC 241* as one of the pieces of caselaw used in step 4 of *Pozzoli*) for the skilled person to consult others, or to do further searching to establish whether the encircling arrangement is feasible, or indeed advantageous.

26. Here, the observations assert that it is of course possible that the skilled person might opt for the mounting in front of the pole, as shown in D2. In the observations in reply, Hutchinson dispute this, suggesting the bracket required in D2 is not shown in D4, and that the drawing is closer to that shown in Figures 6 and 7 of the Patent (the encircling arrangement). Hutchinson conclude that it is reasonable to assume that the skilled person would interpret D4 as showing an encircling arrangement.

27. The observations go on to assert that the arrangement shown in 17.21 and 17.23 of D3 (shown below) – would not be strong enough to support the necessary equipment. That may of course be the case, and it seems to me that these would be relevant considerations for the skilled person. The evidence I have at this stage does not show whether these are issues that could be overcome, for example simply by building a more substantive structure than the work platform requires.

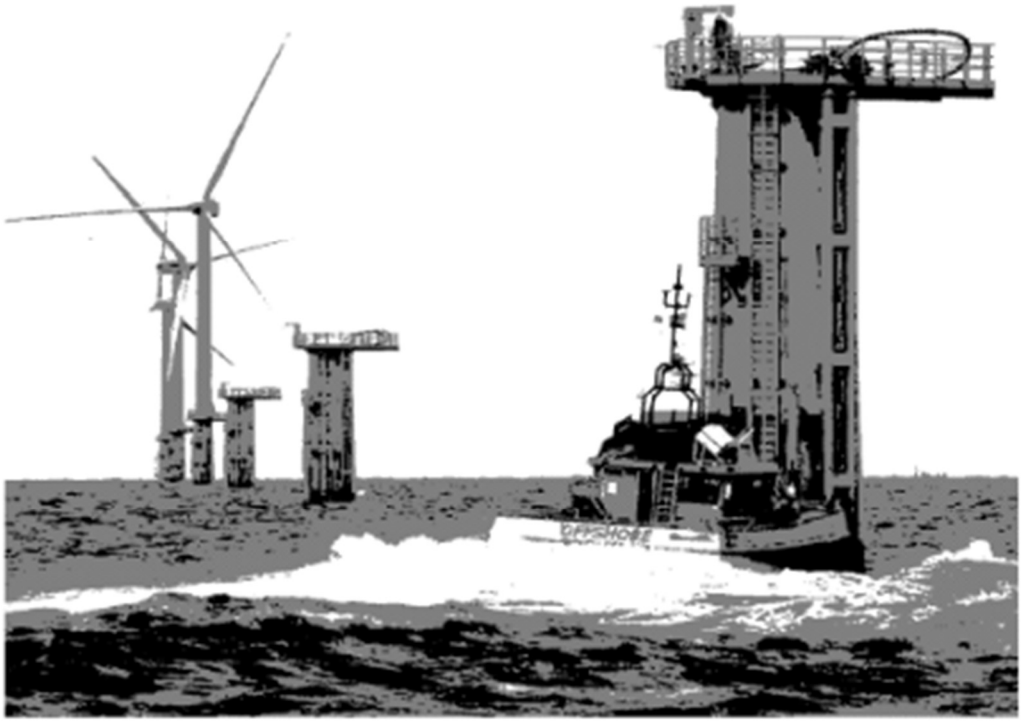

Fig. 17.21. Docking of a service boat at the tower (Maritime Journal)

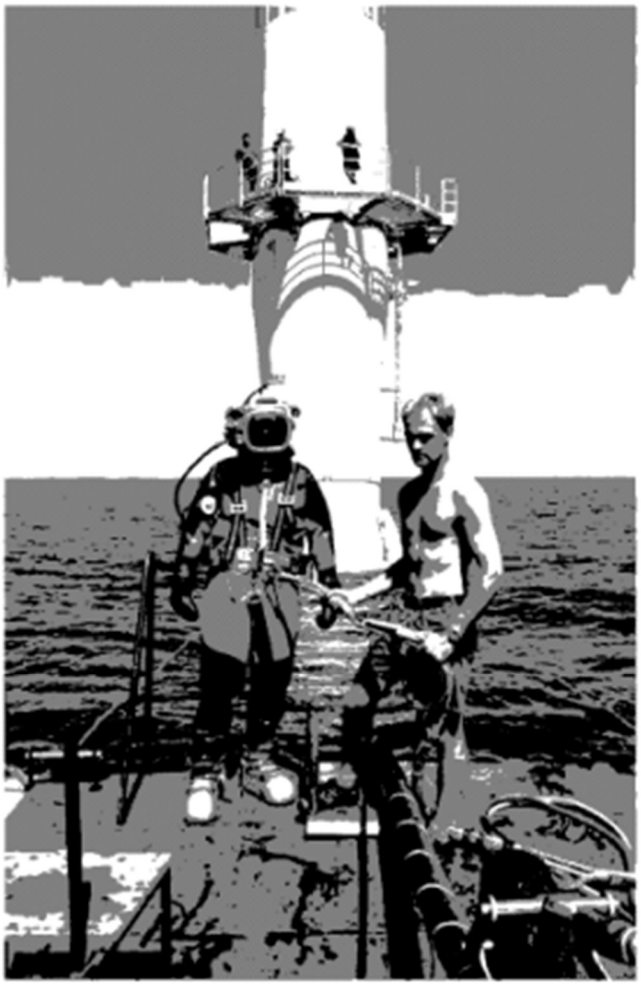

Fig. 17.23. Maintenance work in the Ytre Stenground wind park (NEG Micon)

28. Ultimately, I have been asked to come to a view. Whilst it may be that there is no convincing argument presented on whether the structure must be understood as being in front or must surround the support; I also have this third possibility that the skilled person considers and investigates both options. I am not convinced on the evidence before me that the obstacles presented are insurmountable in implementing that surrounding arrangement. That is, I think sufficient for me to conclude on the balance of probabilities, that starting from D4, the encircling arrangement is one that it is at least lying in the road for the skilled person to investigate.

29. It is therefore my view that claim 1 is on that balance of probabilities not inventive given the disclosure of D4.

Returning to D1 and D2

30. As the observations note, the situation is different when the skilled person starts from D2, they are already presented with an embodiment that does not encircle the support. It is also the case that the range of options is greater (internal spaces etc.) The gap is therefore greater. To put that another way, the probabilities are reduced that on the evidence before me that claim 1 of the Patent will be obvious. Having concluded that claim 1 is not inventive given D4, I am not convinced that at this stage it is helpful for me to be drawn further on a case that has not fully been made.

The Dependent Claims

31. I do not intend to go through the dependent claims in great detail, many of which are additional advantageous features of the system as a whole without direct synergy with the mounting construction. The request makes arguments against each of the dependent claims. The observations from Haseltine Lake Kempner raise arguments in support of claims 6, 9 and 10-14. Although, the observations make no concessions on the other claims, that is an indication that I should focus more on the claims that Haseltine Lake Kempner have raised argument on.

32. First, to turn to claim 2-5.

> *2. A system according to claim 1, wherein the array is rated for production of at least 200MW.*
> *3. A system according to claim 1 or claim 2, wherein the support comprises a turbine tower and a turbine foundation.*
> *4. A system according to claim 3 wherein the turbine foundation comprises one of a jacket, a gravity base foundation, a tripod or a monopile.*
> *5. A system according to any preceding claim, wherein the system comprises a plurality of power export modules, each module fitted to a different offshore turbine support.*

33. It seems to me that the features listed in these claims (power rating, the presence of a foundation, such as tripod or monopile, and a plurality of turbines requiring power export modules) are conventional, and I do not think that any of these claims contain features which will inventively distinguish the Patent.

6. A system according to claim 5, wherein the plurality of power export modules are electrically coupled together at one of medium voltage, or export voltage.

34. On claim 6, the request suggests that the claim's use of the terms medium and export voltage are not clear, although it notes the examples of 220kV or 13kV in the Patent, and that array cable voltage levels of 33kV and 66kV are mentioned. The request suggests that medium voltage is a typical voltage level which is used to interconnect wind turbines in a wind park. The request notes chapter 17.1.3 (page 689) of D3 which describes the use of a voltage range of 30-40kV for array cabling and 110-150kV for cable links to land.

35. Haseltine Lake Kempner in the observations argue that the array cabling shown in Figure 17.12 of D3 includes an offshore substation and is therefore different from the system using a plurality of power export modules (required by claim 5 on which claim 6 is dependent.) Factually that is correct, however, I am not convinced that that is sufficient. The use of high voltages for transmission (and associated power savings) – and stepping down that voltage for sub-transmission and distribution cables is well established, and it is my view that the voltages concerned are therefore within the ranges that might be selected by the skilled person, that is to say that there is a right to work those voltages. I do not think that claim 6 inventively distinguishes the Patent.

7. A system according to any preceding claim, wherein the power export equipment further comprises an oil-free transformer.
8. A system according to any preceding claim, wherein the mounting further comprises one or more housings for the power export equipment.

36. In the request, Chapter 10.6.1 (page 422) of D3 is used as an example of an oil free transformer, and notes the liquid filled transformer mentioned at page 8 line 19 of the Patent. The request goes on to suggest that the shipping containers of D1 are examples of housings for the power export equipment. Haseltine Lake Kempner raise no specific arguments in relation to these claims. I do not think that claims 7 and 8 inventively distinguish the Patent.

9. A system according to any of claims 1 to 8, wherein the module comprises a housing formed in two or more parts for fitting to the support.
10. A system according to claim 9, wherein the parts further comprise interlocking connectors to fix the two or more parts together in position on the support.

37. The request suggests that shipping containers for example have two or more parts (the container box and pivotable door); that such doors would be affixed using interlocking connectors. Haseltine Lake Kempner dispute this, suggesting that a shipping container is not formed in two or more parts (suitable) for fitting to the [offshore turbine] support. The observations similarly argue that the provision of interlocking connectors may result in a simple assembly process but that the concrete structure of D1 does not have interlocking connectors. In the observations in reply, Hutchinson effectively suggest that the claim only requires the module is suitable for fitting to the support and the housing (or the module) is formed in two or more parts. Ultimately, it seems to me that modular constructions using interlocking

connectors have clear advantages for transport and fitting, and it is therefore lying in the road for the skilled person to adopt such a construction. It may be that there is something important in the suggestion made in the observations in reply that the structure of D1 is a concrete moulded structure – and that modular constructions or the use of standard containers are not obvious to the skilled person. However, I do not think that this argument has been developed and I do not have any evidence on this point. I do not therefore think that claims 9 or 10 inventively distinguish the Patent.

> *11. A system according to claim 9 or claim 10, wherein the power export equipment is installed in the parts of the housing before the parts are fitted to the support.*

38. The request asserts that the installation of parts in a housing before fitting to something cannot be considered patentable. This may be a reference to the idea that these are product by process steps. Haseltine Lake Kempner suggest that the request's assertion is a generalisation that fails to reflect the context of the claimed invention. The observations in reply do not address this claim further. I am not convinced that this means an argument has really been developed either way on this claim in relation to inventive step.

> *12. A system according to claims 9-11, wherein the coupling comprises a plurality of connectors spaced about an outer surface of the housing.*
> *13. A system according to claim 12, wherein the coupling further comprises a plurality of connectors spaced about the support, positioned such that they connect to the connectors on the outer surface of the housing.*
> *14. A system according to any preceding claim, wherein the coupling comprises connectors aligned substantially parallel to a central axis of the support.*

39. The request suggests that the features of claims 12-14 are arbitrary choices. Haseltine Lake Kempner dispute this. Haseltine Lake Kempner suggest that for example the provision of connectors that are aligned substantially parallel to a central axis of the tower (as in claim 14) allow the mounting to be held in place by the effect of gravity. These claims are not addressed in the observations in reply. Ultimately, that means again, that I do not think that a clear argument on what would be obvious to the skilled person in relation to these claims has been developed.

> *15. A system according to any preceding claim, wherein the central opening is substantially circular, or substantially rectangular.*

40. The request suggests that D1 is an example of a structure with a circular opening, and that the selection of a circular or rectangular shape is arbitrary and therefore a straightforward choice for the skilled person. The observations and observations in reply make no further reference to this claim. Here, I think I can reasonably go a little further. Given that it seems to me that towers are quite typically circular or rectangular, I think that the skilled person would readily appreciate that any structure that surrounds them might have such a central opening, and that it is lying in the road for the skilled person to adopt such a circular or rectangular opening. I do not therefore think that claim 15 inventively distinguishes the Patent.

Opinion

41. It is therefore my opinion, based on the evidence presented and the balance of probabilities that claim 1 is not inventive in the light of D4.

42. It is further my view that claims 2-10 and 15 do not provide additional features that would inventively distinguish the application.

Application for review

43. Under section 74B and rule 98, the proprietor may, within three months of the date of issue of this opinion, apply to the comptroller for a review of the opinion.

Robert Shorthouse
Examiner

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.