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**Datasheet for the decision  
of 7 March 2018**

**Case Number:** T 1665/13 - 3.2.01

**Application Number:** 07856251.9

**Publication Number:** 2084098

**IPC:** B66C1/42, B66C23/36, F03D1/00,  
F03D11/04

**Language of the proceedings:** EN

**Title of invention:**  
METHOD AND DEVICE FOR MOUNTING OF WIND TURBINE BLADES

**Patent Proprietor:**  
Siemens Aktiengesellschaft

**Opponent:**  
Vestas Wind Systems A/S

**Headword:**

**Relevant legal provisions:**  
EPC Art. 56, 108  
RPBA Art. 13(1), 12(4)  
EPC R. 101

**Keyword:**

Admissibility of appeal (yes)

Inventive step (auxiliary request 2 : yes)

Admissibility of late filed submissions (no)

**Decisions cited:**

G 0010/91, G 0003/14

**Catchword:**



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Case Number: T 1665/13 - 3.2.01

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.01**  
**of 7 March 2018**

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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
4 June 2013 concerning maintenance of the  
European Patent No. 2084098 in amended form.**

**Composition of the Board:**

**Chairman** G. Pricolo  
**Members:** C. Narcisi  
O. Loizou

## **Summary of Facts and Submissions**

- I. European patent No. 2 084 098 was maintained in amended form by the decision of the Opposition Division posted on 4 June 2013. An appeal was lodged against the decision by the Opponent and by the Patentee respectively on 8 August 2013 and on 25 July 2013 and the respective appeal fee was paid. The statement of grounds of appeal was filed by the Opponent on 14 October 2013 and by the Patentee on 17 September 2013.
- II. Oral proceedings were held on 7 March 2018. Appellant II (Opponent) requested that the appealed decision be set aside and that the patent be revoked. Appellant I (Patentee) requested that the appealed decision be set aside and that the patent be maintained as granted (main request) or, in the alternative, that the patent be maintained in amended form on the basis of the first auxiliary request as filed with letter dated 8 January 2018, or that the appeal of the Opponent be dismissed.
- III. Claim 1 (main request) reads as follows:

"A method for mounting a wind turbine blade (3) to a wind turbine hub (1) by use of a crane boom (5, 105), wherein the orientation of the blade (3) is kept substantially horizontal when the blade (3) is lifted off the ground and mounted to the rotor hub (1), characterized in that at least one control wire (13, 113) and a winch arrangement (11, 123, 125) are used for controlling the orientation of the blade (3) in addition to at least one bearing wire (15, 115) for bearing the blade's weight."

Claim 1 of auxiliary request 1 is identical with claim 1 of the main request.

Claim 1 of auxiliary request 2 reads as follows:

"A method for mounting a wind turbine blade (3) to a wind turbine hub (1) by use of a crane boom (5, 105), wherein the orientation of the blade (3) is kept substantially horizontal when the blade (3) is lifted off the ground and mounted to the rotor hub (1), wherein at least one control wire (13, 113) and a winch arrangement (11, 123, 125) are used for controlling the orientation of the blade (3) in addition to at least one bearing wire (15, 115) for bearing the blade's weight, characterized in that a winch arrangement (123, 125) which is located at a lifting device (109) which is designed so as to be attachable to the wind turbine blade (3), and at least one control wire (113) which is controllable by the winch arrangement (123, 125) are used for controlling the distance of the blade (3) from the crane boom (105) and/or the orientation of the blade (3) within a horizontal plane."

Claim 4 of auxiliary request 2 reads as follows:

"A wind turbine blade lifting system comprising a lifting device (9, 109) with a frame (17, 117) which is designed so as to be connectable to a wind turbine blade (3), a crane boom (5, 105), a winch arrangement (11, 123, 125), and at least one control wire (13, 113) which runs to the winch arrangement (11, 123, 125) for controlling the blade's orientation to be substantially horizontal and/or for controlling the blade's (3) orientation within a substantially horizontal plane when it has been lifted off the ground. characterized in that

the winch arrangement (123, 125) is located at the lifting device (109), and at least one rope (121, 121B) extends from the top end of the boom, (105) to its bottom end and in which the control wire (113) is connected to the at least one rope."

IV. The Patentee's arguments may be summarized as follows:

The subject-matter of claim 1 (main request and auxiliary request 1) is inventive over prior art documents E1 (Hull Wind II: A Case Study of the Development of a Second Large Wind Turbine Installation in the Town of Hull, MA, June 2006, (The Hull Paper)) and E8 (JP-A-6-156975; with English translation E8a), for the skilled person starting from E1 would not consider E8, which is directed to a specific crane and therefore belongs to a different technical field, not related to the mounting of a wind turbine rotor blade to a hub. In addition, even if the skilled person were to consider E8, he would not arrive at the claimed subject-matter, as the lifting beam 13 and the winch 12 disclosed in E8 cannot provide sufficient control for mounting the rotor blade to the hub (in particular, the rotor blade would be attached by two slings and be suspended loosely at opposite ends to the lifting beam 13). The same applies to a further control wire which would possibly be connected to the rotor blade's tip (as shown in figure 18 of E1), given that in this case a greater force and moment would be needed to control both the rotor blade and the lifting beam connected thereto.

The subject-matter of claim 1 (auxiliary request 2) involves an inventive step over E1 in view of E8 (or E3) and the skilled person's common general knowledge

or further documents D1 (WO-A1-03/100249), E4 (GB-A-1 031 022), E7 (DE-U-20 109 835), E9 (GB-A-1 439 411), E10 (DE-A-40 00 095), E11 (JP-A-06-80380) and E12 (US-A-3 545 629). First, documents E9 to E12 should not be admitted into the appeal proceedings since they were filed late and moreover they are no more relevant than the prior art already on file. In effect, none of these documents discloses or suggests the characterizing features of claim 1 and in particular "a winch arrangement (123, 125) which is located at a lifting device (109) which is designed so as to be attachable to the wind turbine blade (3)" (hereinafter designated as feature (i)). The same applies to D1, E4, E7, and similarly no evidence was provided proving that feature (i) forms part of common general knowledge. Feature (i) in combination with the further characterizing features of claim 1 specifically leads to an improved and more effective control and stabilization of the wind turbine rotor blade during mounting to the rotor hub.

The subject-matter of apparatus claim 4 corresponds to the method of claim 1 and for the same reasons as stated hereinabove it fulfils the requirements of inventive step.

V. The Opponent's arguments may be summarized as follows:

The Patentee's appeal is not admissible since in its statement of grounds of appeal the Patentee does not deal with the reasons given in the appealed decision in relation to lack of inventive step of the subject-matter of granted claim 1 and repeats almost verbatim the arguments submitted during opposition proceedings, contrary to the requirements of established case law.

The Patentee's first and second auxiliary requests should not be admitted into the appeal proceedings since they were late filed.

The subject-matter of the independent claims (of any one of the pending requests) in conjunction with the disclosure of the patent specification is not sufficiently clearly and completely disclosed such that it may be carried out by the skilled person. The reasons were given during opposition proceedings and reference was made thereto in the Opponent's statement of grounds of appeal as well as in a later submission.

The subject-matter of granted claim 1 (of the main request and of auxiliary request 1) does not involve an inventive step over the obvious combination of documents E1 and E8 (or E3) which directly leads to the claimed subject-matter.

The subject-matter of claim 1 (of auxiliary request 2) is not clear and includes subject-matter which goes beyond the content of the application as filed, as set out in the statement of grounds of appeal.

Documents E9 to E12 should be admitted into the appeal proceedings, for these documents were filed in response to the reasons given in the appealed decision in relation to auxiliary request 2 (identical with present auxiliary request 2), which was filed during oral proceedings before the Opposition Division.

The subject-matter of method claim 1 (of auxiliary request 2) does not imply an inventive step over document E1 in view of document E8 (or E3) and the skilled person's common general knowledge or documents D1, E4, E7, E9 to E12. In effect, aforementioned



feature (i) constitutes the sole difference distinguishing the subject-matter of claim 1 from the obvious combination of the disclosures of E1 and E8 (or E3) (see above). However, feature (i) cannot justify an inventive step, as it would be obvious to the skilled persons that various alternatives are possible for locating the control winch arrangement and that in principle any technically appropriate location could be chosen. Indeed, different alternative locations are known from the prior art, such as from D1 (winch arrangement located on the crane), D7 and D9 (winch arrangement located on the lifting frame), E4 (winches located in the overhead lifting frame) and similarly for E10 to E12 (all substantially showing winches located on the lifting frame). Based on this prior art the skilled person would have an obvious choice between different generally known logical alternatives for positioning the winch in a technically appropriate and advantageous position, no inventive activity being needed.

Similarly, the skilled person would arrive in an obvious manner at the claimed subject-matter starting from E1 and forming the obvious combination with E8 (or E3) and further with any one of the above documents E4, E7, E9 to E12 (see e.g. E9 disclosing winches on the lifting platform to control the horizontal orientation of the platform and the suspended load).

In addition, feature (i) by itself does not provide any advantageous technical effects, as alleged by the Patentee. Indeed, an improved control of the wind rotor blade would only be achieved if the overall length of the control wire would be reduced, e.g. by excluding fixing both ends of the control wire to the crane's boom or to the crane's base. However, such a feature

(or any equivalent feature) is not included in claim 1, thus resulting in the subject-matter of claim 1 being deprived of any meaningful technical effect and confirming the lack of an inventive step.

The subject-matter of independent apparatus claim 4 (of auxiliary request 2) lacks an inventive step for the same reasons as stated in relation to claim 1 (see above), this subject-matter essentially differing from the subject-matter of claim 1 only in that no distinction is made between a bearing wire and a control wire.

### **Reasons for the Decision**

1. The appeals are admissible. The Opponent's contentions in relation to the Patentee's appeal being inadmissible cannot be followed. In effect, even if in the statement of grounds of appeal substantially the same reasons were given as submitted during opposition proceedings, this could by no means be a general criterion and a sufficient reason for the appeal being deemed to be inadmissible. Indeed the specific merits and circumstances of each case have to be considered, the essential requirement for admissibility being that the reasons why the Appellant disagrees with the appealed decision be stated in a sufficiently clear and complete manner. This criterion is fulfilled in the present case, since sufficient reasons were given by the Patentee concerning both independent claims of the main request, even if in a succinct form (Article 108 EPC).

2. The Opponent's objections based on lack of a sufficiently clear and complete disclosure of the invention (Article 83 EPC) were late filed and were not admitted into the appeal proceedings. Indeed, these objections were not specifically addressed (see Article 12(2) RPBA (Rules of Procedure of the Boards of Appeal)) in the statement of grounds of appeal, which merely included a general reference to "the arguments and grounds put forward in the opposition proceedings". Although in its letter dated of 1 March 2018 the Opponent submitted that "the original request of course included the sufficiency arguments under section 100(b)", no arguments in respect of the issue of sufficiency of disclosure were submitted at all during appeal proceedings in the written submissions and the Board considered that it was not appropriate for reasons of procedural economy to begin this discussion during oral proceedings at a very late stage in appeal proceedings (Article 13(1) RPBA).
  
3. The subject-matter of claim 1 of the main request is not inventive over E1 and E8. It is not disputed that the claimed subject-matter differs from E1 solely in that a winch arrangement is used (in conjunction with the control wire) for controlling the orientation of the rotor blade. Starting from E1 the skilled person would face the objective technical problem of avoiding the use of manpower to improve control of the orientation of the wind turbine rotor blade during the mounting process of the rotor blade (to the rotor hub) and to improve safety (see e.g. patent specification, [0006], hereinafter designated as EP-B). Trying to improve the mounting method shown in E1 (see figure 18) and in order to solve the stated technical problem the skilled person would look for methods of lifting a load

by means of a crane and for ways of controlling the orientation of the suspended load. A solution would be clearly provided by document E8, which deals with the technical problem of lifting a load and stabilizing the load by preventing swivel (see E8a, [0005], [0006]). E8 discloses separate control and load bearing wires (as in E1) and moreover winches 12 at the base of the crane are provided to set the tension of the control wires to control and stabilize the load's orientation. Therefore the skilled person would obviously envisage adapting the crane of E8 to the method of E1 and firmly connecting the rotor blade by means of two (or more) slings to the crane's lifting beam 13 (similarly to what is shown in figure 18 of E1). The Patentee's arguments cannot be followed since it is evident that the load orientation control system of E8 (e.g. including lifting beam, control wires, winches etc.) would be adapted (if at all necessary) and designed such as to meet the requirements of precision and accuracy necessary for mounting of a rotor blade to a rotor hub. In particular, orientation inaccuracies arising for instance through the suspension of the blade to the lifting beam could be effectively suppressed inter alia by using sufficiently short slings, possibly having an inherent rigidity. Consequently, the skilled person would arrive in an obvious manner at the subject-matter of claim 1 (Article 56 EPC).

4. For the same reasons as above, the Patentee's auxiliary request 1 fails, given claim 1 being identical with claim 1 of the main request.
5. The Opponent's objection in respect of the admissibility the Patentee's auxiliary request 2 is moot, for the patent was maintained in amended form

according to this request by the appealed decision, the Patentee having requested dismissal of the Opponent's appeal as early as in its reply to the Opponent's statement of grounds of appeal.

6. The Opponent's objections based on Article 84 EPC and on Article 100(c) EPC (in conjunction with Article 123(2) EPC) are not admissible, for lack of clarity is not a ground of opposition and the independent claims of this request result merely from a combination with granted dependent claims, no further amendments having been made (see decision G 3/14 of the Enlarged Board of Appeal). Moreover, no ground of opposition based on Article 100(c) was submitted in the notice of opposition and according to established case law of the Boards of Appeal a new ground for opposition may only be considered with the approval of the Patentee, which is not given (see decision G 10/91 of the Enlarged Board of Appeal).
  
7. The subject-matter of claim 1 of auxiliary request 2 implies an inventive step over prior art E1 and E8 (or E3) in view of further documents D1, E4 and E7, as well as in view of common general knowledge. It is not disputed that at least aforementioned feature (i) does not directly and necessarily result from the obvious combination of E1 and E8. Nonetheless, the Opponent contends that this feature would be obvious in view of common general knowledge, as derivable for instance from D1, E4 or E7, and that no specific technical effect or advantage is implied by this feature. This view cannot be shared by the Board and this for several reasons.  
First, no suggestions can be found in E1 or E8 to dispose the winch arrangement on the lifting device (or lifting frame), according to feature (i). The obvious

combination of E1 and E8 would not lead or incite the skilled person to go one step further than what is proposed by E8, since E8 already provides a satisfactory solution to the objective technical problem posed starting from E1 (see above) and no suggestion is made in E1 or E8 that further advantages or improvements could be achieved by considering different alternatives for the location of the winch arrangement.

Second, even on assumption that D1, E4 and E7 represent common general knowledge, it is not clear wherefrom the skilled person would get the incentive or motivation to implement feature (i). Only E7 shows a winch arrangement located on the lifting device, however in this known apparatus the control wires at the same time also perform the function of load bearing wires. This is not compatible with the configuration and structure of the apparatus of E8, wherein control wires and load bearing wires are clearly separate and distinct. Thus, there is likewise no suggestion as to how a combination of the technical teachings of E8 and E7 could be put into effect.

Third, the technical effects mentioned by the Patentee (i.e. improved orientation control resulting from the increased proximity of the winch arrangement and the rotor blade, as well as from reduced control wire length) are certainly rendered possible by feature (i), albeit not necessarily and automatically resulting therefrom. However, the Opponent's argument is not reasonable that further features would be needed (e.g. such as specifying where the control wire's ends are fixed) to render feature (i) technically meaningful, since the skilled person reading claim 1 would anyway understand that the control wire's ends cannot be fixed on the ground, otherwise the control wire's length would increase and orientation control would get even

worse than in the known device of E8. Indeed, the patent specification (EP-B) discloses that the control wire's ends are fixed to a spool of the winch arrangement (see EP-B, [0050]) provided on the lifting device. Nonetheless, this feature does not have to be included in claim 1, for the claimed subject-matter generally should include only the essential features, distinguishing the invention from the prior art, which also render possible (or directly or indirectly lead to) the purported technical advantages, without unduly or exceedingly limiting the scope of protection.

The above arguments also apply if E3 is considered instead of E8, since the disclosure of E3 is undisputedly no more relevant than that of E8.

In view of the above reasons the subject-matter of claim 1 is not in any manner rendered obvious by the cited prior art (Article 56 EPC) and by the skilled person's common general knowledge.

8. Documents E9 to E12 were not admitted into the appeal proceedings pursuant to Article 12(4) RPBA (Rules of Procedure of the Boards of appeal). The Board considered that according to both the minutes of the oral proceedings (before the Opposition Division) and the appealed decision the Opponent did not raise any further objections against maintenance of the patent in amended form based on auxiliary request 2. Moreover, the independent claims of this request (submitted during oral proceedings before the Opposition Division) resulted from the combination of granted claims, and, in addition, did not substantially differ from the independent claims of auxiliary request 2 filed by the Patentee well in advance of the oral proceedings and in preparation of the same. Therefore the Opponent was not

caught by surprise and had enough time to consider this request. In addition, the Opponent could have asked for an interruption of the oral proceedings, if needed, in order to examine more closely the subject-matter included in the independent claims of this request. Consequently, by contrast to the Opponent's view, the Patentee's second request could and should have been objected to during opposition proceedings, and it was the Opponent's deliberate choice not to do it. For these reasons the Board decided not to admit the above documents into the appeal proceedings, since the appeal proceedings are not a continuation of the opposition proceedings allowing the parties to discuss any further issues not considered during opposition proceedings.

Anyway, even if documents E9 to E12 were considered admissible this would not lead to any different conclusions on inventive step. Indeed, these documents are no more relevant than the documents already on file, particularly E7. Like E7, E9 (and similarly E10 to E12) solely discloses a wire serving the purpose of both inclination control (of the load) and load bearing, which wire is connected to a winch (or cylinder drum) located on the lifting device or lifting frame. Thus, for essentially the same reasons as set out above in relation to E7 (see point 7), document E9 (as any of documents E10 to E12) would not lead the skilled person (starting from E1 and in view of E8 or E3) in an obvious manner to the claimed subject-matter.

For similar reasons as set out hereinabove (see also point 7) the subject-matter of independent apparatus claim 4 is not rendered obvious by the cited prior art (Article 56 EPC). Indeed, starting from E1 and E8 the combination with E7 (or with anyone of documents E9 to E12) would not be obvious, for E8 and E7 disclose



different types of control systems (e.g. no distinction being made between control wires and bearing wires in E7).

**Order**

**For these reasons it is decided that:**

The appeals are dismissed.

The Registrar:

The Chairman:



A. Vottner

G. Pricolo

Decision electronically authenticated