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**Datasheet for the decision
of 19 October 2018**

Case Number: T 0752/15 - 3.5.03

Application Number: 09150837.4

Publication Number: 2085843

IPC: G05B19/048

Language of the proceedings: EN

Title of invention:

Method and system for analyzing performance of a wind farm

Patent Proprietor:

General Electric Company

Opponent:

Siemens Aktiengesellschaft

Headword:

Performance analysis of a wind farm/GENERAL ELECTRIC

Relevant legal provisions:

EPC Art. 56

RPBA Art. 12(4), 13(1)

Keyword:

Inventive step - (no)

Admissibility - auxiliary requests (no)

Decisions cited:

T 1634/09



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Case Number: T 0752/15 - 3.5.03

D E C I S I O N
of Technical Board of Appeal 3.5.03
of 19 October 2018

Appellant: General Electric Company
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 5 February 2015
revoking European patent No. 2085843 pursuant to
Article 101(2) EPC.**

Composition of the Board:

Chairman F. van der Voort
Members: K. Schenkel
C. Josefsson

Summary of Facts and Submissions

- I. This case concerns an appeal filed by the proprietor against the decision of the opposition division revoking European patent No. EP 2 085 843.
- II. The opposition division held, *inter alia*, that the subject-matter of claim 1 as granted was not novel having regard to the disclosure of document D2 (=US 2004/0230377 A1). An auxiliary request submitted during the oral proceedings was not admitted into the proceedings.
- III. In its statement of grounds of appeal, the appellant (proprietor) requested that the decision under appeal be set aside and that the opposition be rejected (main request) or, in the alternative, that the patent be maintained in amended form on the basis of the set of claims of an auxiliary request filed with the statement of grounds of appeal. The claims of the auxiliary request were said to be based substantially upon the claims of the auxiliary request that was filed during the oral proceedings before the opposition division. It further requested oral proceedings.
- IV. With its reply to the statement of grounds of appeal, the respondent (opponent) requested that the appeal be dismissed. It argued, *inter alia*, that the subject-matter of claim 1 of the main request did not involve an inventive step having regard to the disclosure of D2 and taking into account the common general knowledge and that the opposition division was right in not admitting the auxiliary request filed during the oral proceedings.

V. With a letter dated 12 September 2018, the appellant filed further auxiliary requests 2 to 5. The auxiliary request filed with the statement of grounds of appeal will hereinafter be referred to as auxiliary request 1.

VI. In a communication following a summons to oral proceedings and without prejudice to its final decision, the board expressed its view, *inter alia*, that the subject-matter of claims 1 and 7 of the main request did not appear to involve an inventive step (Articles 52(1) and 56 EPC) and that the opposition division exercised its discretion not to admit the auxiliary request presented during the oral proceedings correctly.

VII. Oral proceedings took place on 19 October 2018.

The appellant requested that the decision under appeal be set aside and that the opposition be rejected (main request) or, in the alternative, that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of a set of claims of auxiliary request 1 filed with the statement of grounds of appeal, or one of auxiliary requests 2 to 5 filed with the letter dated 12 September 2018.

The respondent requested that the appeal be dismissed.

At the end of the oral proceedings, after deliberation by the board, the chairman announced the board's decision.

VIII. Claim 1 of the main request, i.e. claim 1 as granted, reads as follows:

"A system for analyzing performance of a wind farm [sic] comprising a server (102) operatively coupled to a computer network (104), said server including a processor (108) having a memory (110), including software modules having instructions configured to instruct said processor to:

obtain, via the computer network, customer input (204) from a plurality of customers, the customer input relating to performance of at least one product (206) operated by each said customer, and wherein each product comprises a plurality of components (208), wherein the product (206) is a wind farm (300), the plurality of components (208) comprise wind turbines (302);

for each said customer input:

perform a relative analysis relating to wind loads on said plurality of components of corresponding said product or products;

use the results of the relative analysis to determine, using the system, whether a specific analysis or analyses relating to wind loads are to be performed and on which of said components; and

if a specific analysis is to be performed, perform a specific analysis or specific analyses on the determined said components and use results of said specific analysis or of said specific analyses to prepare a report or reports relating to wind loads;

wherein said system is configured to maximize or improve a maintenance or longevity metric, the relative analysis determining a subset of said wind turbines

(302) having maximum loads, and said specific analysis comprising a load analysis on said subset of wind turbines."

- IX. Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that, at the end, the following wording is added:

", and determine whether a turbine model and layout are suitable for a selected site in terms of mechanical loads".

- X. Claim 1 of auxiliary request 2 differs from claim 1 of the main request in that, at the end, the following wording is added:

"; and wherein said report or reports (218) includes at least one of service and/or operational recommendations for the corresponding product or products (206) to each customer".

- XI. Claim 1 of auxiliary request 3 differs from claim 1 of the main request in that, at the end, the following wording is added:

"; and wherein the report (218) includes at least one service and/or operational recommendations comprising moving one or more said wind turbines (302), changing a model of one or more wind turbines, or a combination thereof".

- XII. Claim 1 of auxiliary request 4 differs from claim 1 of the main request in that the term "system" is three times replaced by "global portal (100)" and in that at the end the following wording is added:

"; and wherein said global portal (100) comprises a data collection module (602), data adapter modules (604) and a data processing module (606), the data collection module (602) being operable to collect data received over a network (608) for processing within the global portal (100), and wherein the data adapter modules (604) comprise a compatibility layer that checks the data received by data collection module (602) for consistency and converts this data, as necessary, into standardised forms for use by data processing module (606) and data collection module (602), depending upon which direction the data is being shipped".

XIII. Claim 1 of auxiliary request 5 differs from claim 1 of the main request in that, at the end, the following wording is added:

"that provides a layout plan analysis and/or wind resource assessment".

Reasons for the Decision

1. *Main request - claim 1 - inventive step*

1.1 The patent in suit relates to a system for analysing the performance of a wind farm comprising a plurality of wind turbines. The analysis includes a relative analysis which is performed on the plurality of wind turbines and which determines a subset of wind turbines having maximum loads. Based on the results of the relative analysis, it is determined whether a specific analysis relating to wind loads is to be performed and on which of the wind turbines. The specific analysis comprises a load analysis for the wind turbines concerned.

1.2 The closest prior art is considered to be represented by document D2 which discloses a wind power management system for monitoring the performance of wind turbines in wind farms (title and abstract). The system, i.e. wind power management system 10 (FIG. 1), comprises several servers (SCADA (Supervisory, Control, and Data Acquisition) servers 16 coupled to the wind turbines and a server 21 as part of a real-time portfolio manager 18) operatively coupled to a network ("WAN/INTERNET", FIG. 2). The board notes that it is implicit that the servers of the wind power management system include a processor with a memory and software modules necessary for carrying out the desired functions. The SCADA servers 16 acquire data from the wind parks (paragraph [0049], lines 8 to 12). The system provides several screens showing wind turbine data (see, for example, FIG. 3 to FIG. 5). As shown in FIGS. 3, 5 and 7, the data include the power and therefore relate to the wind turbine's performance. A comparison summary display features a compare functionality ("COMPARE" feature", paragraph [0093]) which allows the comparison of parameters for all the wind turbines, like wind speed and power, displayed in a comparison summary on a display for singling out a turbine or turbines from the group, thereby indicating potential problems and the need for further attention.

The board notes that it is implicit that wind load depends on the wind speed. A comparison of the wind speeds for the wind turbines therefore constitutes a relative analysis relating to wind loads. Further, singling out a wind turbine or wind turbines implies determining of a subset of wind turbines. Further, D2 discloses that further specific turbine detail information comprising wind speed can be displayed by

clicking on the individual turbine in the overview screen ("Turbine Detail Screen", paragraph [0098] and FIG. 7).

The system of D2 further includes a CMMS (computerized maintenance management system) (paragraphs [0030], [0059] and [0061], and FIG. 1) which can determine wind turbines which work improperly and which can predict equipment which may fail in the near future, in order to improve performance. In the board's view, a system which can predict equipment which may fail in the near future in order to improve performance is thereby configured to improve a maintenance metric.

- 1.3 Using the language of claim 1, D2 thus discloses a system for analysing the performance of a wind farm comprising a server operatively coupled to a computer network, the server including a processor having a memory, including software modules having instructions configured to instruct said processor to:

obtain, via the computer network, customer input from a plurality of customers ("wind power enterprise 52" hosting wind parks 12 and 14, paragraph [0064], and enterprise 87 operating wind park 89, paragraph [0068], lines 1 to 8), the customer input relating to performance of at least one product operated by each customer, and wherein each product comprises a plurality of components, wherein the product is a wind farm, the plurality of components comprise wind turbines;

for each customer input:

perform a relative analysis relating to wind loads on the plurality of components of corresponding product or products ("COMPARE' feature");

wherein the user may use the results of the relative analysis to determine, using the system, on which of said components a specific analysis is to be performed (singling out the wind turbine which needs further attention); and

if a specific analysis is performed, perform a specific analysis or specific analyses on the determined components and use results of the specific analysis or of the specific analyses to prepare a report or reports relating to wind loads ("Turbine Detail Screen");

wherein the system is configured to improve a maintenance metric (prediction from the "CMMS" module), the relative analysis determining a subset of the wind turbines, and the specific analysis comprising a load analysis on the subset of wind turbines ("Turbine Detail Screen").

1.4 The system of claim 1 thus differs from the system known from D2 in that it is configured such that the relative analysis determines a subset of wind turbines having maximum loads and that the system determines whether the specific analysis relating to wind loads is to be performed.

1.5 Starting out from D2, the technical problem underlying the subject-matter of claim 1 may therefore be seen in finding a criterion for determining the subset of wind turbines on which the specific analysis is to be carried out and to free the user from having to

determine whether or not to perform the specific analysis.

1.6 The board notes that the compare function of the system of D2 refers to potential problems and the need for further attention for specific wind turbines (paragraph [0093]). D2, thus, provides a hint to further analyse specific wind turbines in the context of potential problems. In the board's view, it would have been obvious to the skilled person using common general knowledge that wind turbines with maximum loads or, in other words, exposed to the highest wind speeds or loads are more prone to problems. Hence, in order to find a criterion for determining the subset of wind turbines for the specific analysis, it would have been obvious to the person skilled in the art to single out wind turbines with maximum loads and subject these to a specific analysis. Configuring the system to determine whether or not the specific analysis is to be performed using this criterion is, in the absence in the claim of any specific detail on how this is achieved, tantamount to merely automatising the determination step which is well within the ordinary skills of the person skilled in the art and does not therefore contribute to an inventive step.

1.7 The skilled person, starting out from D2 and faced with the above-mentioned technical problem, would therefore, taking into account common general knowledge, configure the system to determine the subset of wind turbines for the specific analysis on the basis of maximum loads and to determine whether the specific analysis is to be carried out. He would thus arrive without exercising inventive skill at a system which includes all the features of claim 1.

1.8 Arguments of the appellant

The appellant argued that the patent is about mechanical loads caused by the wind and that D2 was not related to wind loads in the sense of the patent. Further, it argued that the calculations of wind loads were very complex, noting that there was no linear relationship between rotor speed and wind speed. The problem underlying the subject-matter of claim 1 was to reduce computational time.

The board is not convinced by these arguments. Although wind loads or, in other words, mechanical loads caused by the wind may be very complex and depend on multiple factors, wind speed is certainly one of these factors. Hence, an analysis based on the wind speed, as in D2, is an analysis relating to wind loads. With respect to the complexity of the calculations, the board notes that claim 1 does not include features relating to the complexity of the relative or specific analysis.

1.9 In view of the above, the board concludes that the subject-matter of claim 1 does not involve an inventive step (Articles 52(1) and 56 EPC). The main request is therefore not allowable.

2. *Auxiliary request 1 - admissibility*

2.1 Claim 1 of auxiliary request 1 is identical to claim 1 of the auxiliary request which was presented in the opposition proceedings during the oral proceedings and which was not admitted by the opposition division on the ground that the request, by the addition of a feature taken from the description, created an unexpected situation and raised issues which could not

be dealt with during the oral proceedings (Rule 116 EPC).

The opposition division in its communication dated 25 June 2014 in preparation of the oral proceedings gave its preliminary opinion that the subject-matter of claim 1 as granted was not inventive having regard to the disclosure of D2 and normal design practice. Thus, new claims with additional features intended to overcome this objection could have been filed before the oral proceedings. Nevertheless, the auxiliary request in question was not filed until during the oral proceedings. Further, the added feature was taken from the description and constitutes an amendment the opponent could not reasonably have expected. The opponent therefore had no reason to prepare itself for such an amendment, for example by searching for a prior art document disclosing this feature.

The appellant argued that it could not have been foreseen that the opposition division would hold that the claims lacked novelty after having admitted in its communication dated 25 June 2014 that the claimed subject-matter was new. It further argued that it was evident that the opposition division misinterpreted the expression "wind loads" and that a rejection of the main request could therefore not have been envisaged by the proprietor.

The board, however, notes that the examination of inventive step includes an examination of novelty and that claim amendments aimed at contributing to an inventive step would also contribute to novelty. The fact that the patent was revoked on the ground of lack of novelty instead of inventive step did not therefore change that duly adding further features not known from

the relevant prior art documents to the claimed subject-matter would have been appropriate, in order to overcome the objections raised by the opposition division. The board further notes that the appellant did not argue a change of the opposition division's interpretation of the expression "wind load" during the oral proceedings, which could otherwise have potentially changed the subject of the proceedings.

The board therefore sees no reason to overrule the way in which the opposition division exercised its discretion not to admit the auxiliary request.

2.2 In view of the above, the board, exercising its discretion under Article 12(4) RPBA, did not admit auxiliary request 1 into the appeal proceedings.

3. *Auxiliary requests 2 to 5 - admissibility*

3.1 Auxiliary requests 2 to 5 were filed with the letter dated 12 September 2018, i.e. one month before the scheduled oral proceedings before the board.

According to Article 13(1) RPBA, any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the Board's discretion. The discretion shall be exercised in view of, *inter alia*, the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

3.2 In accordance with case law, a request may be admitted pursuant to Article 13(1) RPBA at a late stage of appeal proceedings if sound reasons exist for filing the request so far into the proceedings, which may be the case when amendments are occasioned by developments

during the proceedings, if the request does not extend the scope of discussion as determined by the grounds of appeal and the respondent's reply, it being noted that under Article 12(2) RPBA the grounds of appeal and the reply must contain a party's complete case, and if the request is clearly or obviously allowable, meaning that it must be immediately apparent to the board, with little investigative effort on its part, that the amendments made successfully address the issues raised without giving rise to new ones (cf. T 1634/09, point 3.2 of the reasons).

3.3 In the present case, the filing of auxiliary requests 2 to 5 was not occasioned by developments during the appeal proceedings. Nor did the appellant argue otherwise.

3.4 In claim 1 of auxiliary requests 2 and 3, the feature added to claim 1 in accordance with auxiliary request 1 (see point IX above) has been deleted and replaced by features not related to the deleted feature (see points X and XI above). Hence, auxiliary requests 2 and 3 are diverging from auxiliary request 1.

3.5 Further, claim 1 of auxiliary request 2 essentially adds the feature that the report includes service or operational recommendations for the wind turbines. In this respect, the board notes that the system of D2 can predict equipment which may fail in the near future, which is said to be important when the failure may cause unwanted down-time (paragraph [0061]). In the board's view, this prediction inherently includes a service recommendation with respect to equipment which may fail in the near future.

Claim 1 of auxiliary request 3 essentially adds the feature that the report includes a service or operational recommendations for moving and/or changing the model of one or more wind turbines. The board, however, is of the view that, should the system of D2 reveal, that a wind turbine is constantly overloaded, it would have been obvious to recommend a replacement with a model more suitable for the conditions at the place of the overloaded wind turbine.

The additional features of the subject-matter of claims 1 of auxiliary requests 2 and 3 therefore, *prima facie*, do not contribute to an inventive step. Auxiliary requests 2 and 3 are thus not clearly allowable.

- 3.6 Claims 1 of auxiliary requests 4 and 5 include features taken from the description which were not in any of the claims examined by the examining division or by the opposition division. If the board were to admit one of these requests, the board would be compelled either to give a first ruling on the subject-matter, which is contrary to the main purpose of appeal proceedings, this being to give the losing party a possibility to challenge the decision of the opposition division on its merit, i.e. to review the correctness of the first instance decision, or to remit the case to the opposition division, which is against the need for procedural economy.

With regard to claim 1 of auxiliary request 4, the board is of the view that the additional wording "checks the data ... for consistency" and "converts this data, as necessary, into standardised forms" is, in the absence of any technical criteria, vague.

With regard to claim 1 of auxiliary request 5, the board is of the view that the "layout plan analysis and/or wind resource assessment" does not have a well-recognised meaning within the art.

Claims 1 of auxiliary requests 4 and 5 therefore, *prima facie*, do not comply with Article 84 EPC. Auxiliary requests 4 and 5 are thus not clearly allowable.

3.7 The board, exercising its discretion under Article 13(1) RPBA, did not therefore admit auxiliary requests 2 to 5 into the appeal proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar:

The Chairman:



G. Rauh

F. van der Voort

Decision electronically authenticated