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**Datasheet for the decision
of 6 December 2018**

Case Number: T 1024/13 - 3.5.02

Application Number: 07123819.0

Publication Number: 2073375

IPC: H02P23/04, H02P29/00

Language of the proceedings: EN

Title of invention:

Apparatus for avoiding torque components at critical frequencies in machine drive systems

Applicant:

GENERAL ELECTRIC COMPANY

Relevant legal provisions:

EPC Art. 123(2)
RPBA Art. 12(4)

Keyword:

Amendments - added subject-matter (yes)
Late-filed request - submitted with the statement of grounds of appeal - request clearly allowable (no) - request could have been filed in first instance proceedings (yes)

Decisions cited:

T 1178/08



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Case Number: T 1024/13 - 3.5.02

D E C I S I O N
of Technical Board of Appeal 3.5.02
of 6 December 2018

Appellant: GENERAL ELECTRIC COMPANY
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 16 November
2012 refusing European patent application No.
07123819.0 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman R. Lord
Members: G. Flynn
J. Hoppe

Summary of Facts and Submissions

- I. The applicant's appeal contests the examining division's decision to refuse the European patent application 07 123 819.0, which was published as EP 2 073 375 A1.
- II. The contested decision is a so-called "decision according to the state of the file" which makes reference to the examining division's communications dated 18 July 2012, 11 April 2011 and 10 August 2010.
- III. In the latest of the cited communications, dated 18 July 2012, the examining division considered claims 1 to 6 as filed on 20 October 2011 and held inter alia that:
 - for various reasons the claims did not fulfil the requirements of Article 123(2) EPC;
 - claim 1 did not meet the requirements for clarity, Article 84 EPC; and
 - the subject-matter of claim 1 lacked novelty over document D2 (DE 44 27 697 A1), Articles 52(1) and 54(1) and (2) EPC.
- IV. In the Notice of Appeal, filed with a letter dated 21 January 2013, the appellant (applicant) requested "that the Decision to Refuse be set aside, and that a patent be granted on the basis of the present claims, or on the basis of amended claims which may be submitted in the course of the proceedings".
- V. With the statement setting out the grounds of appeal, filed with a letter dated 26 March 2013, the appellant filed three versions of an amended claim 1 entitled "Primary Request", "First Auxiliary Request" and

"Second Auxiliary Request", respectively. Amended description pages valid for all requests were also filed. The appellant submitted a Primary Request, a First Auxiliary Request and a Second Auxiliary Request, in each case requesting that the correspondingly entitled claim be used to replace the claims currently on file. The appellant argued that each of these requests overcame all of the objections raised in the communication dated 18 July 2012. Oral proceedings were requested.

VI. The various versions of claim 1 filed on appeal read as follows (underlining added by the Board to indicate the feature referred to under point 6. of the reasons):

Primary Request

"1. A drive controller comprising a torque disturbance rejection loop (40), said drive controller comprising:
a first signal summation element (28) provided with a speed reference signal (26);
a speed controller (30) fed by an output of the first signal summation element (28);
a current controller (12) supplied with feed forward information from the speed controller (30);
a second signal summation element (48) providing an inner loop for comparing a reference current from the speed controller (30) and measured current signals (32) derived from an output of a machine drive (14), said current controller (12) providing drive commands to the machine drive (14);
an electric machine (16) connected to a mechanical load (18) by a mechanical shaft (20), said machine drive (14) being operable to turn on and off electrical power to the electric machine (16);

a speed encoder (22) mounted to the mechanical shaft (20);

a speed estimator device (24) provided in an outer speed-controller loop, said speed estimator device (24) receiving speed encoder pulses from the speed encoder (22) and having an output coupled to the first signal summation element (28) such that the first signal summation element (28) provides a reference current to the speed controller (30);
characterized by:

a torque estimator (42) supplied with the measured current signals (32) derived from the output of the machine drive (14);

a torque disturbance controller (44) having an input connected to the output of the torque estimator (42), the torque disturbance controller (44) band-pass filtering a torque estimate from the torque estimator (42) at a filter frequency centered around a critical frequency corresponding to a resonance mode of the mechanical shaft (20); and

a third signal summation element (46) for adding the output of the speed controller (30) to an output of the torque disturbance controller (44) to provide both the feed forward information for the current controller (12) and the reference current from the speed controller (30) provided to the second signal summation element (48)."

First Auxiliary Request

"1. A drive controller comprising a torque disturbance rejection loop (50), said drive controller comprising:

a first signal summation element (54) provided with a speed reference signal (26);

a speed controller (30) fed by an output of the first signal summation element (54);

a current controller (12) supplied with feed forward information from the speed controller (30);

a second signal summation element (62) providing an inner loop for comparing a reference current from the speed controller (30) and measured current signals (32) derived from an output of a machine drive (14), said current controller (12) providing drive commands to the machine drive (14);

an electric machine (16) connected to a mechanical load (18) by a mechanical shaft (20), said machine drive (14) being operable to turn on and off electrical power to the electric machine (16);

a speed encoder (22) mounted to the mechanical shaft (20);

a signal processor (52) provided in an outer speed-controller loop, said signal processor (52) receiving speed encoder pulses from the speed encoder (22) and having an output coupled to the first signal summation element (54) such that the first signal summation element (54) provides a reference current to the speed controller (30);

characterized by:

a torque disturbance controller (56) having an input connected to the output of the signal processor (52); and

a third signal summation element (60) for adding the output of the speed controller (30) to an output of the torque disturbance controller (56) to provide both the feed forward information for the current controller (12) and the reference current from the speed controller (30) provided to the second signal summation element (62)."

Second Auxiliary Request

"1. A drive controller providing torsional mode damping control (70), said drive controller comprising:

- a first signal summation element (28) provided with a speed reference signal (26);
- a speed controller (30) fed by an output of the first signal summation element (28);
- a current controller (12) supplied with feed forward information from the speed controller (30);
- a second signal summation element (80) providing an inner loop for comparing a reference current from the speed controller (30) and measured current signals (32) derived from an output of a machine drive (14), said current controller (12) providing drive commands to the machine drive (14);
- an electric machine (16) connected to a mechanical load (18) by a mechanical shaft (20), said machine drive (14) being operable to turn on and off electrical power to the electric machine (16);
- a speed encoder (22) mounted to the mechanical shaft (20);
- a speed estimator device (24) provided in an outer speed-controller loop, said speed estimator device (24) receiving speed encoder pulses from the speed encoder (22) and having an output coupled to the first signal summation element (28) such that the first signal summation element (28) provides a reference current to the speed controller (30);

characterized by:

- a torque sensor (72) for measuring torque on the mechanical shaft (20);
- a signal conditioner (74) connected to the torque sensor (72) for conditioning a feedback torque signal derived therefrom;

a torque-damping controller (76) connected to the signal conditioner (74) to receive the conditioned feedback torque signal; and

a third signal summation element (78) for adding the output of the speed controller (30) to an output of the torque-damping controller (76) to provide both the feed forward information for the current controller (12) and the reference current from the speed controller (30) provided to the second signal summation element (80)."

VII. The Board summoned the appellant to attend oral proceedings to be held on 20 December 2018.

The Board set out their observations on the appeal in a communication annexed to the summons. They advised that they were minded to use their discretion under Article 12(4) RPBA not to admit any of the requests filed with the appeal. As they created a completely new case and gave rise to several new problems that need to be assessed, they could and should have been filed during the examining proceedings.

Furthermore, the Board noted that the first and second auxiliary requests appeared to define subject-matter related to the embodiments of those original claims which were not covered by the European search report, so in accordance with decision G2/92 could not be pursued in the present application.

VIII. With a letter dated 3 December 2018 the appellant advised the Board that no representative would be available to attend the oral proceedings and requested that the Board issue a written decision in accordance with the current state of the file.

- IX. On 6 December 2018 the Registrar of the Board telephoned the appellant and was informed that the request for oral proceedings was withdrawn. The Board then cancelled the oral proceedings.

Reasons for the Decision

1. Under Article 12(4) RPBA a Board of Appeal has discretion not to admit requests which could have been presented in the first instance proceedings, but were not. This also applies to an *ex parte* case (see Case Law of the Boards of Appeal (CLBA), 8th edition, IV.E.4.3.3b), first paragraph; T 1178/08, reasons point 2.3). A Board must exercise that discretion having regard to the particular circumstances of the individual case.

Furthermore, it is established case law that *ex parte* proceedings before the Boards of Appeal are primarily concerned with examining the contested decision. The appeal proceedings are intended to review the correctness of the first instance decision rather than to continue examination by other means (CLBA), 8th edition, IV.E.4.1.4, last paragraph). By presenting their amended requests, which are apt to present a new case, only in appeal proceedings appellants make it impossible for the Board to examine the contested decision. In such circumstances the Boards of Appeal have exercised their discretion not to admit the requests (see T 1178/08).

2. In the present case, the applicant was given several opportunities to file amended claims in the first-instance proceedings. Indeed, the applicant filed

amended claims on three occasions (3 June 2010, 17 February 2011 and 20 October 2011). Each time the amended claims were based on claims 1 to 9 as originally filed and were directed to a "torsional mode damping system". No auxiliary requests were filed. In reply to the summons to oral proceedings before the opposition division, which already set out the essential reasons for the later decision, the applicant merely requested a decision according to the file.

3. On appeal, the appellant filed a primary request and first and second auxiliary requests, each with a single amended claim directed to a "drive controller". In each request the amended claim has little in common with any of the claims as originally filed. As a basis for the three amended versions of the claim, the appellant cited figure 1 of the application as originally filed, together with figure 3, 4 or 5, respectively and the corresponding description. Using the paragraph numbering of the application as published, these are paragraph [0004] together with:
 - for the primary request, paragraph [0020];
 - for the first auxiliary request, paragraphs [0022], [0023] and [0024]; and
 - for the second auxiliary request, paragraphs [0025], [0026] and [0027]).
4. The appellant did not give any details of how the features of the three versions of the claim, both individually and in combination, are considered to be directly and unambiguously derivable from the extensive passages of the description cited as a basis.
5. The Board made an attempt to correlate the wording of the claims with the respective passages cited and found *prima facie* that there were a substantial number of

differences and omissions of detail which amount to added subject-matter, contrary to Article 123(2) EPC.

6. By way of a single example, claim 1 according to each of the requests filed on appeal specifies "a second signal summation element (...) providing an inner loop for comparing a reference current from the speed controller (30) and measured current signals (32) derived from an output of a machine drive (14)" (emphasis added). This feature was not disclosed in the claims as originally filed. Furthermore, it is clear from the description of figure 3 that at the signal summation element 48 measured current signals 32 are compared to "the reference signal from the ... summation element 46" (see EP 2 073 375 A1, column 6, lines 42 to 45), not to a reference current from the speed controller 30 as stated in claim 1 according to each of the requests filed on appeal. This different feature in claim 1 of each request adds subject-matter, contrary to Article 123(2) EPC.
7. In view of the above the Board considers it appropriate to use their discretion under Article 12(4) RPBA not to admit any of the requests filed with the appeal. As they create a completely new case and give rise to several new problems that need to be assessed, they could and should have been filed during the first-instance proceedings.
8. Furthermore, and for the sake of completeness, the first and second auxiliary requests define subject-matter related to the embodiments of those original claims which were not covered by the European search report. In accordance with decision G2/92 these cannot be pursued in the present application.

9. In the absence of any admissible request the appeal had to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar:

The Chairman:



U. Bultmann

R. Lord

Decision electronically authenticated