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**Datasheet for the decision  
of 14 December 2011**

**Case Number:** T 1984/07 - 3.4.01

**Application Number:** 00946923.0

**Publication Number:** 1108218

**IPC:** G01R 21/133

**Language of the proceedings:** EN

**Title of invention:**

Methods and apparatus for metering energy consumption

**Patentee:**

GENERAL ELECTRIC COMPANY

**Headword:**

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**Relevant legal provisions:**

EPC Art. 123(2), 113(1)

EPC R. 115(2)

RPBA Art. 15(3)

**Keyword:**

"Added subject-matter (yes)"

"Basis of decisions - opportunity to comment (yes)"

**Decisions cited:**

T 0552/06, T 1704/06

**Catchword:**

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Case Number: T 1984/07 - 3.4.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.01  
of 14 December 2011

**Appellant:**  
(Applicant)

GENERAL ELECTRIC COMPANY  
1 River Road  
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**Representative:**

Goode, Ian Roy  
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**Decision under appeal:**

Decision of the Examining Division of the  
European Patent Office posted 21 June 2007  
refusing European patent application  
No. 00946923.0 pursuant to Article 97(1) EPC  
1973.

**Composition of the Board:**

**Chairman:** B. Schachenmann  
**Members:** F. Neumann  
H. Wolfrum

## Summary of Facts and Submissions

- I. The appeal lies from the decision of the examining division to refuse the European patent application number 00 946 923.0. The contested decision was based on a lack of clarity of claim 18 then on file and a lack of inventive step of claims 1 to 36 then on file.
- II. With the statement setting out the grounds of appeal the appellant filed an amended set of claims "for consideration" by the Board. Arguments were presented in favour of inventive step. Oral proceedings were requested as an auxiliary measure.
- III. The Board summoned to oral proceedings and in a communication set out its preliminary opinion concerning clarity, added subject-matter and inventive step.
- IV. In response to this communication, the appellant filed two further amended sets of claims forming the basis of a main and auxiliary request respectively to replace all previous requests.
- V. Oral proceedings were held in the absence of the appellant.
- VI. Claim 1 of the main request reads as follows:

*"A method for metering energy consumption with an electric meter (100), said method comprising the steps of:*

*generating metering quantities for a plurality of phase voltages from a multiphase voltage source, including generating revenue-related data;*  
*periodically monitoring voltage changes on each of the phase voltages; and*  
*performing a predetermined task in response to a change on at least one of the phase voltages while continuing to generate revenue-related data;*  
*accumulating data provided by external devices in the electric meter (100) to enable the total watt-hour usage of an installation to be read from said electric meter (100);*  
*characterized in that:*  
*performing a predetermined task in response to a change on at least one of the phase voltages comprises the steps of changing metering form type in accordance with a remaining set of phase voltages when at least one of the phase voltages has a voltage phase angle that is not within ten degrees of an expected value or a current phase angle that is not within 120 degrees of an expected value;*  
*generating metering quantities from the remaining set of phase voltages using the changed metering form type;*  
*wherein monitoring voltage changes on the phase voltages further comprises periodically checking whether voltage is lost."*

Claim 8 of the main request is an independent apparatus claim and claims 2 to 7 and 9 to 14 are dependent claims.

Claim 1 of the auxiliary request reads:

"A method for metering energy consumption with an electric meter (100), said method comprising the steps of:

- generating metering quantities for a plurality of phase voltages from a multiphase voltage source, including generating revenue-related data;
- periodically monitoring voltage changes on each of the phase voltages; and
- performing a predetermined task in response to a change on at least one of the phase voltages while continuing to generate revenue-related data;
- accumulating data provided by external devices in the electric meter (100) to enable the total watt-hour usage of an installation to be read from said electric meter (100);

characterized in that:

- performing a predetermined task in response to a change on at least one of the phase voltages comprises the steps of changing metering form type in accordance with a remaining set of phase voltages when at least one of the phase voltages has a voltage phase angle that is not within ten degrees of an expected value or a current phase angle that is not within 120 degrees of an expected value; and
- generating metering quantities from the remaining set of phase voltages using the changed metering form type; wherein monitoring voltage changes on the phase voltages further comprises periodically checking whether voltage is lost; and
- wherein the meter (100) is in a wye configuration initially and wherein changing metering form type in accordance with a remaining set of phase voltages comprises changing the form to a 2½ element meter."

Claim 7 of the auxiliary request is an independent apparatus claim and claims 2 to 6 and 8 to 12 are dependent claims.

VII. The arguments of the appellant, insofar as they are pertinent to the present decision, are set out below in the reasons for the decision.

### **Reasons for the Decision**

#### 1. Late-filed requests

1.1 In response to the communication which the Board issued in preparation of the oral proceedings, the appellant filed two sets of claims forming the basis of a new main request and a new auxiliary request.

1.2 In accordance with Article 13(1) of the Rules of Procedure of the Boards of Appeal (RPBA), the question of whether these amendments to the appellant's case are to be admitted into the proceedings is subject to the Board's discretion. This applies to any amendment to the party's case which is filed after the initial statement setting out the grounds of appeal: the fact that the two sets of claims in the present case were filed in response to the Board's communication and within the deadline for filing further submissions does not change this fact.

1.3 Thus, the first issue to be decided upon in the present case is whether the two sets of claims forming the basis of the main request and the auxiliary request are to be admitted into the proceedings.

1.4 In accordance with Article 13(3) RPBA, "[a]mendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the Board [...] cannot reasonably be expected to deal with without adjournment of the oral proceedings". As will be shown below, this situation does not arise in the present case. Consequently, the requests filed with the letter of 14 November 2011 are admitted into the proceedings.

2. Background of the invention

Both claim 1 of the main request and claim 1 of the auxiliary request are directed to a method for metering energy consumption with an electric meter in order to generate revenue-related data. Multiphase electrical power is generated by electrical utility service providers and supplied to customers on a plurality of power supply lines, the voltage waveform on each of the power supply lines having a unique phase angle. The method of claim 1 involves generating metering quantities for the plurality of phase voltages, each of the separate phase voltages being monitored.

The configuration of the meter used for monitoring the energy consumption can be altered in dependence on the electrical circuit in which the meter is connected. In general terms, the idea underlying the invention is to re-configure the meter (or, in the wording of the application, change the meter form type) in response to a specific type of change on one of the phase voltages. The description (see page 19, lines 22-26) refers to a specific example in which metering is being performed

with three input voltage sources  $V_a$ ,  $V_b$  and  $V_c$ ; if one of the phase voltages  $V_a$  is lost, then the metering form type is automatically changed so as to generate metering quantities using only  $V_b$  and  $V_c$ . This means that even if the metering of one of the phases is somehow interrupted, billing information can still be generated since the energy consumption is recorded using a different meter configuration which does not rely on the missing phase.

3. Article 123(2) EPC

3.1 Both claim 1 of the primary request and claim 1 of the auxiliary request contain the step of "performing a predetermined task in response to a change on at least one of the phase voltages while continuing to generate revenue-related data". The predetermined task is then defined in the characterising portion of both of these claims as comprising, *inter alia*, the step of "changing metering form type in accordance with a remaining set of phase voltages when at least one of the phase voltages has a voltage phase angle that is not within ten degrees of an expected value or a current phase angle that is not within 120 degrees of an expected value".

3.2 This amendment does not have a basis in the originally filed disclosure.

3.3 From the section headed "Diagnostics" on pages 22 to 26 of the PCT publication of the originally-filed application, it is clear that various diagnostic tests are performed at least every few seconds. A predetermined number of consecutive failures of a



certain test will give rise to a diagnostic error result for that test (page 22, lines 20-29). Once a diagnostic error is detected, this occurrence is stored in an event log (page 25, lines 17-20).

The diagnostic operation now included in claim 1 corresponds to Diagnostic #1 outlined at the top of page 23. This is the passage cited by the appellant which he considered to provide a basis for the amendment made. However, beyond logging the diagnostic error result, the originally filed application makes no reference to any other step(s) which would have to be taken should a Diagnostic #1 error occur. In particular, there is no indication that the metering form type should be changed in such a case. This passage only defines the limits of acceptable voltage phase angles and current phase angles without suggesting that failure to comply with these limits will entail a change of metering form.

- 3.4 In fact, the originally-filed application only discusses a change of metering form type in the specific case that at least one of the phase voltages is lost. This scenario is the subject of original claims 2 to 6 and 32 to 36 and is discussed under the heading "Revenue Guard Plus" on pages 19 and 20 of the PCT publication of the originally-filed application. Here it is explained that when one of the phase voltages is lost - whereby "lost" can mean that the phase voltage drops to a half of the normal voltage - then the metering operation is converted to another form. This change of meter form type is only ever discussed in conjunction with the loss of one of the phase voltages; no suggestion is made either in the

"Revenue Guard Plus" section or indeed in any other section of the application that the metering form type may be changed to take account of polarity errors or cross phasing errors.

3.5 Thus, having regard to a reconfiguration of the meter, the original disclosure is restricted to the changing of metering form type in response to a loss of phase voltage, the changing of metering form type in response to a voltage or current phase angle error not being mentioned. There is therefore no basis in the original application documents for this particular amendment.

3.6 Since the feature in question is contained in both claim 1 of the primary request and claim 1 of the auxiliary request, the requirements of Article 123(2) EPC are not fulfilled for either of the requests on file.

4. Absence of the appellant at the oral proceedings

4.1 As announced in advance, the duly summoned appellant did not attend the oral proceedings. In accordance with Rule 115(2) EPC, the proceedings continued without him. As foreseen by Article 15(3) of the Rules of Procedure of the Boards of Appeal (RPBA), the absent appellant was treated as relying only on his written case and the issuance of the decision was not delayed due to his absence at the oral proceedings.

4.2 In advance of the oral proceedings the appellant requested that he be contacted by telephone should neither of the requests on file be considered to be substantially allowable "such that an allowable set of

claims may be prepared before the date of the Oral Proceedings".

- 4.3 Whilst Article 116(1) EPC foresees a fundamental right to oral proceedings if requested by a party to the proceedings, a similar right to an informal telephone consultation does not exist (see T 552/06, Reasons 2.2).

In the present case, the Board summoned to oral proceedings at the appellant's request and was prepared to discuss the case with the appellant during those oral proceedings. A communication was issued in preparation of the oral proceedings in which various objections of the Board were presented. The whole purpose of convening an oral proceedings is to allow an exchange of opinions between the appellant and the entire Board and to ensure that the appellant has had ample opportunity to present its case before a decision is taken at the conclusion of those proceedings. If a party chooses not to attend the oral proceedings, it gives up the opportunity to present its case in this manner. The Board notes that no request to re-schedule the oral proceedings was made.

Under Rule 100(2) EPC the Board shall invite the parties "as often as necessary" to file observations. In view of the fact that oral proceedings had been appointed, a further opportunity to present observations or requests need not be given outside this framework, the oral proceedings providing the necessary platform for this exchange of opinions.

- 4.4 The Board does not rule out that there may be circumstances in which a telephone call may be

appropriate: for example, if only minor objections remain which can be easily attended to by straightforward amendments. However, in the present case, the objections are of such nature that any further amendments are likely to entail more than just a simple modification to the wording of the claims or a straightforward adaptation of the description. In view of the late stage of the proceedings and the declared intention of the appellant not to attend the oral proceedings, it is questionable whether any further requests involving possibly extensive amendments to the claims would have been admitted into the proceedings anyway.

5. Right to be heard

5.1 The claims forming the basis of both requests were filed in response to the Board's communication. A further communication was not issued before the oral proceedings. Since the appellant did not attend these oral proceedings, the Board had to consider whether taking a decision on these claims would infringe the requirements of Article 113(1) EPC.

5.2 Article 15(3) RPBA reads:

"The Board shall not be obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of any party duly summoned who may then be treated as relying only on its written case".

This text is the same as the text of Article 11(3) RPBA of 1 May 2003, the explanatory notes to which state the following (CA/133/02 dated 12 November 2002):

"This provision does not contradict the principle of the right to be heard pursuant to Article 113(1) EPC since that Article only affords the opportunity to be heard and, by absenting itself from the oral proceedings, a party gives up that opportunity".

- 5.3 The Board follows the line taken in decision T 1704/06 (reasons, 7.6), in which it was held that: "[...] in the situation where an appellant submits new claims after oral proceedings have been arranged but does not attend these proceedings, a board [...] can also refuse the new claims for substantive reasons [...] even if the claims have not been discussed before and were filed in good time before the oral proceedings. This will in particular be the case if an examination of these substantive requirements is to be expected in the light of the prevailing legal and factual situation."

In the present case, the appellant had to expect that a discussion of both formal and substantive issues relating to the newly filed sets of claims would take place during the oral proceedings. Specifically, the appellant had to expect that the Board would at least consider the question of whether the new requests could be admitted into the proceedings and, if so, whether the amendments satisfy the requirements of Article 123(2) EPC.

- 5.4 It follows that in the present case, the Board was indeed in a position in the oral proceedings to decide on the requests on file without violating the appellant's right to be heard. By filing amended claims before the oral proceedings and then not attending those oral proceedings, the appellant must expect a

decision based on objections which may be raised against those claims in his absence (Article 15(3), (6) RPBA).

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

M. Schalow

B. Schachenmann