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**Datasheet for the decision
of 19 October 2012**

Case Number: T 1227/10 - 3.3.06

Application Number: 02733859.9

Publication Number: 1485445

IPC: C10G 11/18

Language of the proceedings: EN

Title of invention:

Process of removing nitrogen oxides from flue gases from a fluidized catalytic cracking unit

Patentee:

Belco Technologies Corporation

Opponent:

Shell Internationale Research Maatschappij B.V.

Headword:

Flue gas cleaning process/BELCO

Relevant legal provisions:

EPC Art. 123(2)

RPBA Art. 13(1)

Keyword:

"Added subject-matter (yes): deletion of a figure labelled as prior art and of the corresponding part of the description in the original application"

Decisions cited:

G 0003/89, G 0001/93, G 0002/10, T 0006/81, T 0022/83,
T 0740/91, T 1039/93, T 0667/08, T 0183/09, T 1634/09

Catchword:

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Case Number: T 1227/10 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 19 October 2012

Appellant: Shell Internationale Research Maatschappij B.V.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 19 April 2010
rejecting the opposition filed against European
patent No. 1485445 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P.-P. Bracke
Members: L. Li Voti
J. Geschwind

Summary of Facts and Submissions

- I. The present appeal is from the decision of the Opposition Division to reject the opposition against the European patent no. 1 485 445, concerning a process for removing nitrogen oxides from flue gas.
- II. In its notice of opposition the Opponent sought the revocation of the patent *inter alia* on the grounds of Article 100(c) EPC 1973.
- III. The Opposition Division found in its decision that
- the deletion during the examination proceedings of the original figure 1 and of the part of the description relating to this drawing, both of them indicating the illustrated embodiment as being part of the prior art, removed an erroneous statement of the prior art in the original application; therefore, in line with the decision T 22/83, these parts of the original application had to be ignored in assessing the invention disclosed in the original application and their deletion would not contravene Article 123(2) EPC;
 - the granted patent complied with all the requirements of the EPC.
- IV. Claim 1 as granted reads as follows:
- "1. A process for removing nitrogen oxides from flue gas issuing from a regenerator of a fluidized catalytic cracking unit wherein the flue gas is cleaned of substantial amounts of dust in the regenerator, the process comprising the steps of:

- a) directing the flue gas into a tertiary cyclone separator and separating the solids therefrom so that not more than 250mg/Nm³ of solids exit in an overflow from the tertiary cyclone separator and causing between 0.5% and 6% percentage of flue gas entering the tertiary cyclone separator to exit as an underflow from the tertiary cyclone separator with solids separated in the tertiary cyclone separator;
- b) Conveying the overflow to a selective catalytic reduction unit and processing the overflow in the selective catalytic reduction unit to form an outlet gas stream; and
- c) Introducing the outlet gas stream and the underflow into a wet scrubber and removing at least 80% of particles of 3.0 microns size and larger and 30% of 1.5 micron size."

V. An appeal was filed against this decision by the Opponent (Appellant).

The Respondent (Patent Proprietor) submitted during the oral proceedings held before the Board on 19 October 2012 an amended set of claims as auxiliary request.

Claim 1 of the auxiliary request differs from claim 1 as granted insofar as it ends with the additional wording ", wherein no additional filtering is processed through ceramic filter."

VI. The Appellant submitted *inter alia* that

- the deletion of figure 1 and of the corresponding passage of the description on page 6 of the original

application modified the information of the invention contained in the original application and directed at the public; hence, the embodiment indicated as prior art in the original application was now encompassed by claim 1 as granted; therefore, said amendments contravened the requirements of Article 123(2) EPC;

- the decisions of the Boards of Appeal cited by the Respondent in support of the admissibility of the amendments were not applicable to the present case;

- the amendment contained in claim 1 of the auxiliary request submitted during oral proceedings was at first sight not supported by the passage of the original disclosure indicated by the Respondent; therefore, this late filed request was not clearly allowable and had not to be admitted.

VII. As regards the amendments to the original application documents disputed by the Appellant, the Respondent submitted that

- only the ground for opposition under Article 100(c) EPC 1973, i.e. the compliance of these amendments with the requirements of Article 123(2) EPC had to be decided upon;

- to the contrary, the compliance of the amendments carried out during the examination proceedings with the criteria for the correction of an obvious error exposed in G 3/89 (OJ 1993, 117) should not be discussed;

- the disputed amendments did not modify the teaching of the original application since it was still clear

from the rest of the description that the use of a ceramic filter on the underflow of the third stage separator (called tertiary cyclone separator in claim 1 and hereinafter referred to as TSS) was not part of the invention; therefore, the granted patent did not contain subject-matter extending beyond the content of the original application;

- the admissibility of such amendments was in line with the decisions T 6/81 (OJ 1982, 183), T 22/83 and T 1039/93;

- the amendment to the auxiliary request was supported by the original description; moreover, the filing of an amended claim 1 in the oral proceedings was admissible since the impact of the objections raised by the Appellant under Article 123(2) EPC had become clear for the first time during oral proceedings.

VIII. The Appellant requests that the decision under appeal be set aside and the patent be revoked.

IX. The Respondent requests that the appeal be dismissed or, in the alternative, that the patent be maintained on the basis of the auxiliary request submitted during oral proceedings and, if documents D5 to D9 are admitted into the proceedings, that the case be remitted to the department of first instance for further prosecution.

Reasons for the Decision

1. Respondent's main request

1.1 Article 123(2) EPC

1.1.1 The Appellant submitted that the subject-matter of the patent in suit extended beyond the content of the original application since figure 1 and the corresponding passage of the description of the original application had been deleted (see point VI above).

The Board agrees in this respect with the Respondent that the only issue to be decided upon in the present case concerns the alleged deficiency contested by the Appellant with the ground of opposition of Article 100(c) EPC 1973; hence, the compliance with the requirements of Rule 139 EPC (corresponding to Rule 88, second sentence, EPC 1973) for the correction of an obvious error of the amendments carried out during the examination proceedings has not to be examined by the Board.

In fact, as explained in G 3/89 (points 1.3, 1.4 and 1.6 of the reasons), the prohibition of extension under Article 123(2) EPC applies also in the case of a correction under Rule 88, second sentence, EPC 1973.

1.1.2 According to the established jurisprudence of the Boards of Appeal of the EPO it is essential, when deciding on issues of added subject-matter, to identify the technical information that the skilled person, on the date of filing, would have objectively derived from

reading the entire original disclosure, including description, claims and drawings (see G 3/89, points 1.4 and 2 of the reasons; G 2/10, OJ 2012, 376, point 4.3, first full paragraph of the reasons; T 667/08, point 4.1.4, second and third full paragraph of the reasons).

It is also established case law that the prohibition of Article 123(2) EPC ensures that an Applicant cannot improve his position by adding subject-matter not disclosed in the application as filed, which additional subject-matter would give him an unwarranted advantage and could be damaging to the legal security of third parties relying on the content of the original application; in fact, for example, the public could be faced otherwise at a later stage, with claims which extend beyond what was disclosed in the application as filed and published for the information of the public (see G 1/93, OJ 1994, 541, point 9 of the reasons and T 740/91, point 2.5 of the reasons).

- 1.1.3 Claim 1 as granted concerns a process for removing nitrogen oxides from flue gas issuing from a regenerator of a fluidized catalytic cracking (FCC) unit, wherein the flue gas is directed into a TSS, the overflow from the TSS is conveyed to a selective catalytic reduction unit (SCR), and the outlet gas stream from the SCR is introduced into a wet scrubber together with the underflow from the TSS.

The wording of the independent claim 1 thus does not specify whether the underflow from the TSS can be further treated before introducing it into the wet scrubber.

The description of the patent in suit teaches that there is no need to install a gas solid separator like a ceramic filter on the underflow of the TSS (paragraph 19) and that the underflow from the TSS is directed around the SCR and is re-injected into the flue gas duct after the SCR without requirement for a further cyclone separator such as a so-called fourth stage separator (FSS) or for a ceramic filter (paragraph 22, column 5, lines 15-19); however, the description teaches also that the invention is illustrated in figures 1 and 2 (paragraph 20), wherein figure 1 does not contain any intermediate treatment of the underflow from the TSS but figure 2 includes the use of an FSS for treating said underflow before introducing it into the wet scrubber.

In fact, the embodiment of figure 2 is reflected in the wording of dependent claim 4.

Therefore, even though the claimed invention teaches that there is no need to convey the underflow of the TSS to a gas solid separator, it would have been clear to the skilled person, by considering the whole content of the patent in suit, that such a step is also not excluded, as shown, for example, in figure 2 and covered by the wording of claim 4.

Hence, it would have been clear to the skilled person that the process of claim 1 as granted encompasses also embodiments in which the underflow of the TSS is further treated with any type of gas solid separator before entering the wet scrubber. In the light of the whole content of the patent in suit there would have been also no reason for the skilled person to assume

that the use of a filter like a ceramic filter as gas solid separator on the underflow of the TSS is prohibited or excluded by the wording of claim 1.

1.1.4 The wording of claim 1 of the originally filed application is similar to that of claim 1 as granted and also requires that the underflow of the TSS is introduced together with the outlet stream of the SCR into a wet scrubber without specifying whether said underflow can be subjected to an intermediate treatment. Moreover, similarly to the granted patent, the originally filed documents teach that there is no need to install a gas solid separator like a ceramic filter on the underflow of the TSS (page 6, lines 8 to 11 of the published original application WO 03/078544) and that the underflow from the TSS is directed around the SCR and is re-injected into the flue gas duct after the SCR without requirement for an FSS or a ceramic filter (page 7, lines 7 to 10); moreover, they contain two figures (figures 2 and 3 corresponding to figures 1 and 2 as granted), wherein one of these figures (figure 3) illustrates an embodiment of the invention wherein the underflow of the TSS is further treated in an FSS, which embodiment is covered by the wording of dependent claim 5 (corresponding to claim 4 as granted).

However, differently from the patent as granted, the original application contained also a figure 1 labelled as prior art and a passage of the description specifying that figure 1 was a schematic view of an FCC unit of the prior art (page 6, lines 14 to 17) wherein the underflow of the TSS was associated to a filter before being directed to a wet scrubber together with the outlet stream of the SCR.

Therefore, even though it is not disputed that the wording of the original claim 1 encompassed theoretically a process corresponding to that labelled as prior art in figure 1, the skilled person, by reading the whole content of the application, would have objectively derived therefrom that the Applicant's invention did not require the use of a gas solid separator on the underflow of the TSS, it could include as alternative a treatment of the underflow of the TSS in an FSS, as shown in original figure 3 and required in original claim 5, but it excluded the process labelled as prior art in figure 1 wherein the underflow from the TSS was treated in a filter before entering the wet scrubber.

In fact, it has to be reiterated, as already explained above (point 1.1.2), that what counts for the assessment of the compliance of an amendment with Article 123(2) EPC is the technical information that the skilled person would have objectively derived **on the date of filing** on reading the content of the original disclosure, since only in this way the legal security of third parties relying on the content of the original application would be preserved; therefore, the fact that after the date of filing a disclosure might perhaps be found to be wrong is in this respect irrelevant (see, for example, T 740/91, point 2.6 of the reasons).

The Board thus finds that the original application did not include the possibility of using a filter as gas solid separator for further treating the underflow of the TSS before entering the wet scrubber, whilst the

patent as granted encompasses such a possibility, as explained above.

Hence, the deletion of original figure 1 and of the related passage of the description has modified the application in a way that the granted claim 1 includes subject-matter which was excluded from the originally filed invention as it would have been understood by a skilled person on reading the whole original application on the date of filing.

- 1.1.5 As regards the decisions cited by the Respondent in support of its opinion that the extent of the application had not been changed by the above mentioned amendments, the Board remarks that all these decisions concern an appeal against the refusal of an application; in particular, in T 6/81 the preamble of the independent claim did not reflect correctly what it was known as state of the art but included subject-matter not known at the priority date of that patent in suit which had to be disregarded for the evaluation of inventive step (points 2.2 and 2.3 of the reasons); in T 22/83 a figure indicated as prior art in the application could not be used as starting point for the evaluation of inventive step and was disregarded in the absence of evidence that it really represented state of the art (points 3(iv) to 3(vi) of the reasons); in T 1039/93 the deletion of the label "prior art", which was present in the original application with regard to some figures, was considered to comply with the requirements of Article 123(2) EPC by the Board since the Applicant declared during appeal that such figures were not part of the state of the art (see point 2 of the reasons).

Therefore, the Board finds that none of these cases concern a ground of appeal under Article 100(c) EPC 1973; moreover, they do not concern the impact of the deletion of a figure and part of the description of the original application on the interpretation of the independent claim of the granted patent; hence, they concern completely different legal situations which are not applicable to the present case.

1.1.6 The Board thus concludes that claim 1 as granted extends beyond the content of the original application and contravenes the requirement of Article 123(2) EPC.

2. Admissibility of Respondent's auxiliary request

2.1 The Respondent submitted an auxiliary request during oral proceedings. Claim 1 of this request differs from claim 1 of the main request insofar as it ends with the additional wording ", wherein no additional filtering is processed through ceramic filter." (see point V above).

The Respondent submitted that the real impact of the Appellant's objection under Article 123(2) EPC had become clear only in the oral proceedings before the Board. Therefore the filing of an auxiliary request in the oral proceedings in order to deal properly with this objection had become necessary.

The Board remarks that the Appellant's objection under Article 123(2) EPC had already been raised with the grounds of opposition under Article 100(c) EPC 1973, was part of the decision under appeal and had been

reiterated in the statement of the grounds of appeal; therefore, it was very well known to the Respondent since a long time.

Hence, the lateness of the Respondent's attempt to overcome this objection by amending the claims for the first time in the oral proceedings before the Board is unjustified.

Such a late filed request thus amounts to a modification of the Respondent's case, which can be only exceptionally accepted at the Board's discretion taking into account *inter alia* the current state of the proceedings and the need for procedural economy (see Article 13(1) RPBA), for example, taking into account the fact that the claims would be at first sight allowable or not and whether their admission would not cause the need for adjourning oral proceedings.

- 2.2 In the present case, the Respondent submitted in the oral proceedings that the amendment to claim 1 was supported by the passage on page 6, lines 8 to 11, of the original application.

However, as remarked by the Appellant, the wording added to claim 1 does not correspond to that contained in said passage of page 6, which is limited to the installation of a ceramic filter on the underflow of a TSS, a technical feature which is not present in the amended claim 1.

Therefore, the Board finds that the amended claim 1 is not at first sight allowable and, being very late filed, is not to be admitted into the proceedings under

Article 13(1) RPBA (see also T 183/09, points 4.2 to 4.4 of the reasons; and T 1634/09, points 3.1 to 3.4 of the reasons).

3. Since none of the Respondent's requests was found to be allowable, the admissibility of documents D5 to D9 does not need to be discussed.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

D. Magliano

P.-P. Bracke