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Datasheet for the decision of the Enlarged Board of Appeal of 29 September 2017

Case Number: R 0006/16

Appeal Number: T 0138/12 – 3.3.10

Application Number: 05723599.6

Publication Number: 1737808

IPC: C07C51/12, C07C51/48

Language of the proceedings: EN

Title of invention:
Removal of permanganate reducing compounds from methanol carbonylation process stream

Patent Proprietor:
Celanese International Corporation

Opponent:
Daicel Chemical Industries, Ltd.

Headword:
Right to be heard/CELANESE

Relevant legal provisions:
EPC Art. 112a, 113(1)
EPC R. 106, 107

Keyword:
Admissibility of petition (yes)
Allowability of petition (no) – fundamental violation of Article 113 EPC (no)

Decisions cited:
R 0001/08, R 0002/08, R 0004/08, R 0011/09, R 0012/09, R 0019/09, R 0003/10, R 0017/11, R 0018/11, R 0015/12, R 0001/13, R 0008/13, R 0016/13, R 0008/14

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Catchword:

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Case Number: R 0006/16

D E C I S I O N
of the Enlarged Board of Appeal
of 29 September 2017

Petitioner: (Patent Proprietor)	Celanese International Corporation 1601 West LBJ Freeway Dallas, TX 75234 (US)
Representative:	Kador & Partner Corneliusstraße 15 80469 München (DE)
Other Party: (Opponent)	Daicel Chemical Industries, Ltd. Mainichi Intecio 4-5 Umeda 3-chome Kita-ku Osaka-shi Osaka 530-0001 (JP)
Representative:	Grünecker Patent- und Rechtsanwälte PartG mbB Leopoldstraße 4 80802 München (DE)
Decision under review:	**Decision of the Technical Board of Appeal 3.3.10 of the European Patent Office of 19 November 2015.**

Composition of the Board:

Chairman: T. Bokor
Members: R. Moufang
B. Czech

Summary of Facts and Submissions

I. The petition for review was filed by the proprietor of European patent No. 1 737 808, which was revoked by decision T 138/12 of Technical Board of Appeal 3.3.10 (hereinafter: "the Board"). The decision was pronounced in oral proceedings of 19 November 2015, and its written reasons were despatched on 12 April 2016. It set aside the opposition division's interlocutory decision that the patent as amended fulfilled the requirements of the EPC, which had been appealed by both the proprietor and the opponent. The Board found that the subject-matter of a main request and of each of auxiliary requests 1, 1A, 2, 3 and 4 was not inventive having regard to document (2) as closest prior art in combination with document (1). It did not admit auxiliary request 2A into the proceedings.

II. Claim 1 of auxiliary request 3, as itemised by the Board (see pages 1, 2 and 4 of the decision), reads as follows:

"i) A process for reduction and/or removal of permanganate-reducing compounds (PRC's) and C_{2-12} alkyl iodide compounds formed in the carbonylation of a carbonylatable reactant selected from the group consisting of methanol, methyl acetate, methyl formate and dimethyl ether and mixtures thereof to produce a product comprising acetic acid, comprising the steps of:

a) separating said carbonylation product to provide a volatile phase comprising acetic acid, and a less volatile phase;

b) distilling said volatile phase to yield a purified acetic acid product and a first overhead

comprising organic iodide, water, acetic acid, and at least one PRC;

c') directing the first overhead to an overhead receiver decanter wherefrom the light phase is directed to a distillation apparatus;

c'') distilling the light phase in the distillation apparatus to form a PRC enriched second overhead;

d) extracting the second overhead with water and separating therefrom an aqueous stream comprising said at least one PRC;

e) recycling at least a first portion of the extracted second overhead to said distillation apparatus; and

f) introducing at least a second portion of the extracted second overhead directly or indirectly into the reaction medium,

g) wherein said second overhead comprises dimethyl ether in an amount effective to reduce the solubility of methyl iodide in said aqueous stream."

III. The reasons given by the Board for its decision may be summarised as follows:

(a) Claim 1 of auxiliary request 3 was directed to an embodiment encompassed by claim 1 of each of the main request and the auxiliary requests 1, 1A and 2. Thus, if the embodiment lacked inventive step, all those requests were not allowable. The inventive step analysis was therefore focused on claim 1 of auxiliary request 3 (in the following "Claim 1").

(b) Claim 1 related to a process for reduction and/or removal of permanganate-reducing compounds (= PRCs) formed in the carbonylation of *inter alia* methanol to produce a product comprising acetic acid. Document (2), a document referred to repeatedly in the patent in suit and considered by the proprietor as the actual starting point for the claimed invention, also related to such a process and disclosed several steps of the process of Claim 1. More particularly, Fig. 1 of document (2) corresponded exactly to Fig. 2 of the patent in suit, which was an embodiment of the process of Claim 1, apart from stream 68 in Fig. 2 of the patent in suit, which corresponded to step e) of the claim, namely recycling at least a first portion of the extracted second overhead to the distillation apparatus. The process of document (2) thus represented the closest prior art with respect to Claim 1.

(c) The problem to be solved in view of this state of the art could be seen in, first, improving the aldehyde removal of the system, and reducing the amount of methyl iodide which is removed from the process as waste. This problem was credibly solved by the steps specified in Claim 1.

(d) The skilled person would wish to reduce the amount of acetaldehyde in stream 66 in Fig. 1 of document (2). Document (1) was also concerned with this very same problem and taught recycling at least a part, i.e. all, of the extracted second overhead to the distillation apparatus and introducing at least a part of the extracted second overhead

indirectly, i.e. via the distillation apparatus, into the reaction medium. Hence, the skilled person faced with the above problem would, instead of returning stream 66 in its entirety directly to the reactor, recycle at least a portion thereof to column 18 or 22, in order to remove more aldehyde therefrom. Thus, adding step e) to the process of document (2) was obvious. The proprietor's arguments that the skilled person would not have combined documents (1) and (2) and that these documents were even incompatible could not be followed.

(e) By recycling at least a portion of stream 66 in this manner, dimethyl ether (= DME) was inevitably formed in column 22 in view of the temperature of said column (column 22 of document (2) being operated under exactly the same conditions as those given for column 22 of the patent in suit), the presence of higher amounts of methyl iodide resulting from the recycle via lines 68 and 40 of the methyl iodide stream 66, and large amounts of water entering via stream 50. DME formed in this column exited with the top stream 52 and entered the water extractor 27, where it inherently reduced the solubility of methyl iodide in water, such that the separated aqueous stream 64 which was directed to waste treatment necessarily comprised less methyl iodide as a result. Thus, when reducing the amount of aldehyde in stream 66 in an obvious manner, the part of the problem relating to reducing the amount of methyl iodide lost to waste treatment was also inherently solved.

Thus feature g) of Claim 1 of auxiliary request 3 was merely an inevitable consequence of step e).

(f) The proprietor had argued that, had the skilled person combined the teaching of document (1) with document (2), he would have recycled all of the extracted second overhead to the second distillation apparatus. This would have led to a problematic build-up of pressure in the distillation apparatus due to the formation of large quantities of DME. However, the potential problem of over-pressure was not avoided by the process of Claim 1, since the amount "at least a portion" was not further specified in the claim and could therefore be as high as 99%. Furthermore, when applying the teaching of document (1) to that of document (2), the skilled person would not automatically recycle all of the extracted second overhead 66 to column 22, since the actual amount depended on the subjective requirements of the skilled person with regard to the desired purity of the acetic acid.

(g) As Claim 1 lacked inventive step, the main request and auxiliary requests 1, 1A and 2 were also not allowable (see point (a) above). The same held true for auxiliary request 4, since its claim 1 corresponded almost exactly to that of Claim 1 and the proprietor had not provided additional arguments in support of inventive step for this further auxiliary request. Auxiliary request 2A was not admitted since it had been filed very late, involved a change of the category of claim 1 and

did not clearly fulfil the requirements of Article 123(2) EPC.

IV. The petitioner, i.e. the proprietor, alleges that fundamental violations of its right to be heard occurred in the appeal proceedings. The written reasons for the challenged decision revealed that the Board had made several erroneous assumptions which were not laid open to the petitioner in the oral proceedings, and so the petitioner had been denied an opportunity to be heard on these issues and been unable to bring forward arguments showing the incorrectness of the Board's views. The situation was the same as in decision R 16/13. The erroneous assumptions were the following:

(a) In the claimed invention, according to the Board, recycling a portion of the raffinate stream back into distillation column 22 reduced the amount of acetaldehyde in the raffinate, which therefore reduced the amount of acetaldehyde recycled back into the reactor via the second portion of stream 66. However, this was wrong, since recycling to the distillation column did not lower the concentration of acetaldehyde in the raffinate. Rather, it increased the efficiency of the extraction, allowing for an increased removal of acetaldehyde per unit methyl iodide lost as waste. The Board's erroneous assumption was relevant for the decision, since it influenced the formulation of the objective technical problem starting from document (2) as well as the obviousness analysis, in which the disclosures of documents (2) and (1) were combined.

(b) Furthermore, the Board concluded that combining the disclosures of documents (2) and (1) would result in a process that inevitably resulted in a realisation of claim feature g), according to which the second overhead comprised DME in an amount effective to reduce the solubility of methyl iodide in the aqueous stream.

This conclusion was based on the assumption that column 22 of document (2) was operated under "**exactly the same conditions**" as those given for column 22 of the patent in suit. However, this assumption was not discussed either during the oral proceedings or in the written procedure. It was surprising, since the opponent itself had only referred to "very similar" process steps disclosed in document (2). It was particularly surprising in view of the fact that the patent in suit disclosed that it was possible to feed additional water to column 22, whereas document (2) was totally silent in this regard and even expressly taught that water was the least preferred inhibitor for polymer formation in column 22. The feeding of additional water to column 22 clearly distinguished the operation conditions of column 22 as set out in the patent from those of document (2). These facts were explicitly brought forward by the petitioner during the oral proceedings, albeit in its argumentation why the skilled person would not combine documents (1) and (2). Since the Board did not contest the teaching of the patent in suit as to feeding additional water to column 22 and since no experimental evidence for an inherent formation of DME in column 22 had been

provided throughout the whole proceedings, there was no incentive for the petitioner at any time to further comment on the differences in the process conditions in column 22 as set out in the patent and in document (2).

(c) Implicitly, but erroneously, the Board assumed that the skilled person, when combining document (1) with document (2), would have been in a "one-way street situation", such that the newly discovered effect of reducing the amount of methyl iodide lost to waste treatment could not, as a mere "bonus effect", contribute to inventiveness. However, in the written procedure, the potential presence of a bonus effect was never mentioned, and no substantial debate on this issue was conducted at the oral proceedings. The Board also failed to examine if a "one-way-street situation" was indeed present which would have been necessary for establishing a "bonus effect" according to the case law of the boards of appeal, as demonstrated by several decisions cited by the petitioner. Rather, the Board had merely adopted the opponent's argumentation. In view of the intense discussion of document (1), it was clear that this document contained multiple different embodiments from which the skilled person could choose. When combining the teaching of document (2) with that of document (1), the number of possibilities increased even further. In view of this situation there was no reason for the petitioner to argue in favour of its interpretation of that issue.

(d) The Board found that the problem of providing a stable process was not solved over the whole range of the claim, since the amount of "at least one portion" of the extracted second overhead was not further specified. However, this inventive step objection had never been discussed during the oral proceedings. According to the Board, the actual amount of the extracted second overhead which the skilled person would recycle to column 22 depended on the subjective requirements of the skilled person regarding the desired purity of the acetic acid. This was a misinterpretation of the claimed process and could readily have been clarified if the proprietor had been given the opportunity to comment thereon.

V. Anonymous third-party observations were filed on 27 January 2017. In a letter dated 21 February 2017 the petitioner argued that these observations should be held inadmissible.

VI. The Enlarged Board of Appeal (in the following: the "Enlarged Board"), in its composition according to Rule 109(2)(a) EPC, summoned to oral proceedings and informed the petitioner of its preliminary view on some of the relevant issues.

VII. Oral proceedings before the Enlarged Board took place on 29 September 2017.

The petitioner was heard on the grounds for the petition. It focused on the alleged violations summarised in section IV(b) and (c) above, which it considered to be closely inter-related. The course of

the oral proceedings before the Board had been unsatisfactory. Issues which finally turned out not to be decisive had been intensively discussed, in particular the lines of attack relying on document (1) as closest prior art, which had been primarily argued by the opponent. However, comparatively little time had been provided for the assessment of inventive step starting from document (2) as closest prior art, although the latter had formed the basis for the revocation decision. The Board had failed to comply with its duty to clearly explain what assumptions it had made in this regard.

At the end of the oral proceedings, the chairman pronounced the Enlarged Board's decision.

VIII. The petitioner requested that

- the decision under review be set aside and the proceedings re-opened before the Board,
- the members of the Board who had participated in the decision under review be replaced, and
- reimbursement of the fee for the petition for review be ordered.

Reasons for the Decision

Admissibility of third-party observations

1. When the Enlarged Board composed according to Rule 109(2)(a) EPC examines a petition for review as to whether it is clearly inadmissible or unallowable, it decides without the involvement of other parties and on the basis of the petition (see Rule 109(3) EPC). This principle would be undermined if third-party observations were admissible at that stage of the review proceedings. In addition, Article 115 EPC limits third-party observations to observations concerning the patentability of the invention to which the application or patent relates. However, as already noted in section VII of decision R 18/11 of 22 November 2012, patentability issues cannot be the subject of review proceedings. The Enlarged Board thus disregards the third-party observations filed in the present review proceedings (see section V above).

Admissibility of the petition

2. The petitioner is adversely affected by the contested decision revoking the patent. The petition was filed on the ground referred to in Article 112a(2)(c) EPC. It therefore complies with the provisions of Article 112a(1) and (2) EPC.

3. The written decision was notified to the petitioner by a registered letter dated 12 April 2016. Since the petition was filed and the corresponding fee paid on 22 June 2016, the petition also complies with Article 112a(4), second sentence, EPC. The other

conditions in relation to the contents of the petition as set out in Article 112a(4), first sentence, in conjunction with Rule 107 EPC are also fulfilled.

4. According to Rule 106 EPC, a petition under Article 112a(2)(a) to (d) EPC is only admissible where an objection in respect of the procedural defect was raised during the appeal proceedings and dismissed by the board. However, an exception applies where such objection could not be raised during the appeal proceedings. The petitioner has not raised any objection against the alleged violations of its right to be heard, either at the oral proceedings or at any other stage of the appeal proceedings. It does however claim that the alleged violations only became visible through the written reasons of the decision. The Enlarged Board is satisfied that this is indeed the case. Thus, the exception to Rule 106 EPC applies.

5. It follows from the above that the petition is admissible.

Allowability of the petition

Fundamental violation of the right to be heard – general principles

6. The petitioner alleges that its right to be heard was violated (Article 112a(2)(c) in conjunction with Article 113(1) EPC) because the Board based its decision on several erroneous assumptions without giving the petitioner an opportunity to be heard on these issues and to bring forward arguments showing the incorrectness of the Board's views.

7. Decisions of a board of appeal may only be based on grounds or evidence on which the parties have had an opportunity to present their comments (Article 113(1) EPC). This implies that a party may not be taken by surprise by the reasons of the decision, referring to unknown grounds or evidence. "Grounds or evidence" under Article 113(1) EPC is to be understood as the essential legal and factual reasoning on which a decision is based (see decision R 16/13 of 8 December 2014, Reasons 3.3). A party has to have an opportunity to comment on the decisive aspects of the case although, ultimately, the board must be able to draw its own conclusion from the discussion of the grounds put forward (see decisions R 8/13 of 15 September 2015, Reasons 2.1; R 16/13, *supra*, Reasons 3.3).

8. The right to be heard is a fundamental right of the parties which has to be safeguarded irrespective of the merits of a submission. It is therefore irrelevant whether a party's standpoint, which it alleges it would have taken had it been given the opportunity, would have been well-founded (see R 3/10 of 29 September 2011, Reasons 2.10; R 1/13 of 17 June 2013, Reasons 13.5).

On the other hand, the right to be heard does not go so far as to impose a legal obligation on a board to disclose in advance to the parties how and why it will come to its conclusion on the basis of the decisive issues under discussion – or at least those foreseeable as the core of the discussion. This is part of the reasoning given in the written decision (R 1/08 of 15 July 2008, Reasons 3.1; R 15/12 of 11 March 2013, Reasons 5; R 16/13, *supra*, Reasons 3). Thus, a board of

appeal is not required to provide the parties in advance with all foreseeable arguments in favour of or against a request.

9. Grounds or evidence within the meaning of Article 113(1) EPC need not emanate from the board; it is sufficient if another party raises the objection (R 2/08 of 11 September 2008, Reasons 8.2). If the reason given in a decision corresponds to an argument put forward by the other party, the petitioner was aware of it and thus not taken by surprise (R 4/08 of 20 March 2009, Reasons 3.3; R 12/09 of 15 January 2010, Reasons 11; R 8/14 of 28 July 2015, Reasons 8). A subjective surprise has no bearing on whether a party knew the issues which might be raised and had an adequate opportunity to comment on them. Parties and their representatives are responsible for the conduct of their case, and it is for them to submit the necessary arguments to support their case on their own initiative and at the appropriate time. They have to address any point they consider relevant and fear that it may be overlooked and to insist that it be discussed in the oral proceedings (R 17/11 of 19 March 2012, Reasons 19).

The issue of reducing the amount of acetaldehyde in the raffinate stream

10. One of the specific complaints raised by the petitioner (see section IV(a) above) is that it was objectively surprised and did not have an opportunity to comment upon the Board's - allegedly erroneous - view that recycling a portion of the raffinate stream to distillation column 22 according to the claimed

invention reduced the amount of acetaldehyde in the raffinate.

11. The claimed process is for reducing and/or removing PRCs, one of them being acetaldehyde. Various passages of the patent description emphasise that the invention aims at improving acetaldehyde removal; see in particular paragraph [0008]: "[...] it is a primary objective to remove or reduce the acetaldehyde and alkyl iodide content in the process"; paragraph [0016]: "[...] there remains a need for alternative processes to improve the efficiency of acetaldehyde removal"; paragraph [0034]: "The present invention may broadly be considered as an improved process for distilling PRC's, primarily aldehydes and alkyl iodides, from a vapor phase acetic acid stream"; paragraph [0046]: "The present applicants have now discovered that returning at least a portion of raffinate stream 66 to distillation column 22 improves the aldehyde removal efficiency of the entire system."

12. Detailed explanations are given in the petition as to why the invention's recycling of a portion of the raffinate stream increases the efficiency of the extraction but does not lower the concentration of acetaldehyde in the raffinate. However, the Enlarged Board is unable to identify anything comparable to these explanations or even a hint in this direction in the patent description or in the petitioner's submissions during the opposition and appeal proceedings. Quite to the contrary, the petitioner appears to have previously adopted a position corresponding to that of the Board. In particular, in its letter dated 6 April 2010, which was the first

substantive response to the opposition, the petitioner stated the following (point 3.3):

> "[...] The present invention gives clear reasons for the above effects. It can be taken from the patent specification that the at least one portion of stream 66, i.e. stream 68 still contains a small but noticeable amount of PRC, especially acetaldehyde. **Recycling stream 68 into distillation column 22 and then extraction with water once again will undoubtly** [sic] **decrease the content of said acetaldehyde.**" [emphasis added]

In its letter dated 18 August 2011 (point 5.20) and again in the grounds of appeal dated 23 March 2012 (point 3.18), the petitioner submitted the following:

"Accordingly, [...] it becomes clear that the patentee's selection and utilization [...] results in the formation of dimethyl ether in the product, which in combination with the recited step [...] **allows for** both **an unexpected increase in acetaldehyde removal** AND an unexpected reduction in the loss of methyl iodide from the system as waste [...]" [emphasis added].

13. It follows from the above that, from an objective point of view, it is difficult to see how the petitioner could have been surprised by the Board's understanding that recycling stream 68 into distillation column 22 reduced the amount of acetaldehyde in the raffinate. The question of whether the skilled person would combine document (2), taken as closest prior art, with document (1) was discussed in the written proceedings as well as in the oral proceedings before the Board.

According to the well-established problem-solution approach, a crucial issue was how to define the technical problem solved by the claimed invention over the teaching of document (2). During the opposition appeal proceedings the petitioner had ample opportunity to submit its view on this issue. No fundamental violation of the petitioner's right to be heard can be established in this respect. The technical and legal correctness of the conclusions the Board drew from the description of the patent and the parties' submissions is not a matter for review proceedings.

The issue of inevitably realising claim feature g)

14. The petitioner furthermore complains (see section IV(b) above) that it was objectively surprised and did not have an opportunity to comment upon the Board's assumption that column 22 of document (2) was operated under exactly the same conditions as those given for column 22 of the patent in suit. Based on this assumption, the Board came to the conclusion that combining the teachings of documents (2) and (1) would inevitably realise claim feature g) relating to the amount of DME comprised in the second overhead.

15. As already set out above (points 7 to 9), the right to be heard does not go so far as to impose a legal obligation on a board to disclose in advance to the parties how and why it will come to its conclusion on the basis of the decisive issues under discussion. A board must be able to draw its own conclusion from the discussion of the grounds put forward.

16. In the present case the petitioner emphasises that, in its argumentation why the skilled person would not combine documents (1) and (2), it had explicitly pointed out that the feeding of additional water to column 22 clearly distinguished the operation conditions of column 22 as set out in the patent from those of document (2) (see section IV(b) above). It follows from this submission that the petitioner has actually had an opportunity – and has taken it - to argue that the operation conditions of column 22 were different according to the claimed invention and according to document (2). Its right to be heard can therefore only have been infringed if the argument put forward was so relevant that the Board had to deal with it in the written reasons for the decision.

17. It is observed that the description of the patent discloses the feeding of additional water as an optional step only, and not as a necessary step of the invention. Paragraphs [0047] and [0048] contain the following passages:

> "In one embodiment of the invention, all of stream 66 may be returned to column 22. It has been discovered, however, that it is preferable to return at least a portion of stream 66 to the reaction system rather than returning the entire stream to column 22. When the applicants began testing the present invention, it was observed that the pressure in column 22 rose significantly over time, indicating an accumulation of a volatile component in the system that was not being removed in the extraction. **Applicants discovered that there were a number of chemical**

> **reactions taking place within column 22, including the hydrolysis [...] and the subsequent formation of dimethyl ether (DME).** DME was identified as the volatile component that was causing the increase in column pressure. [...]
>
> At the same time, however, the present applicants have also discovered an unexpected advantage to the presence of small amounts of DME in the acetaldehyde removal system. Specifically, it turns out that DME reduces the solubility of methyl iodide in water. [...] Accordingly, a further aspect of the present invention includes the step of injecting additional DME upstream of extractor 27 [...]. **Alternatively, it is possible** to generate additional DME within the process by feeding additional water to column 22 in either feed stream 40 or reflux stream 56."

18. The description of the patent thus suggests that returning stream 66 (all or in part) to column 22 already leads to the formation of DME, independently of the possible further step of feeding additional water to column 22. This understanding is in line with the claims as granted: such addition of water is referred to only in dependent claims 6, 19 and 36, but not in the independent claims. Nor does claim 1 of auxiliary request 3 recite this step.

19. Thus, from an objective point of view, the Board's conclusion on this point cannot be regarded as so surprising as to create an obligation to disclose it in advance to the parties. The Board was also not obliged to explicitly deal in the reasons for the decision with

the alleged difference following from the feeding of additional water, since this argument was based on an optional feature and could therefore be regarded as irrelevant. No violation of the petitioner's right to be heard can be established in this respect.

Reducing the loss of methyl iodide as a bonus effect

20. A further point closely connected to the previous one is raised by the petitioner's complaint (see section IV(c) above) that it was not given sufficient opportunity to argue against the Board's view that the reduction of the amount of methyl iodide lost to waste treatment was an inevitable consequence of combining the teachings of documents (2) and (1) and could not, as a mere bonus effect, contribute to inventive activity.

21. Grounds or evidence within the meaning of Article 113(1) EPC need not emanate from the board. It is sufficient if another party raises the objection (see point 9 above). Where the reason given in a decision corresponds to an argument put forward by the other party, the petitioner was aware of it and thus not taken by surprise, unless the board clearly indicated that it regarded those arguments as not convincing.

22. With respect to its specific complaint, the petitioner submits (see point 4.3 of the petition) that "the Board had merely adopted the argumentation of Appellant" [i.e. the opponent]. The petitioner thereby acknowledges that the point was raised and argued by the other party. This is sufficient to conclude that no fundamental

violation of the petitioner's right to be heard has occurred in this respect.

23. The petitioner's argument that the Board's reasoning is apparently based on the assumption of a "bonus effect" and that the Board failed to examine this in accordance with the relevant jurisprudence of the boards of appeal does not alter the fact that the decisive issues underlying that assumption, namely the inevitable realisation of claim feature g) and its impact on inventive step, were known to the petitioner. Whether or not the Board closely followed the lines of reasoning of established case law is of no relevance in the context of the present petition. In fact, the petitioner's complaint on this point is not concerned with a **surprising** argument, but with an allegedly **missing** argumentation, i.e. arguments which, in the opinion of the petitioner, ought to have been raised and examined in the decision (and therefore, by implication, ought to have been discussed at the oral proceedings). Thus, the criticism formulated in the petition in relation to the presumably deficient "bonus effect" reasoning (see the detailed references to the case law in point 4.3 of the petition) can only be considered as a criticism of the substantive merits of the decision. However, this is clearly beyond the scope of a petition for review (see already point 13 above).

Problem of providing a stable process not solved over the whole range of the claim

24. The petitioner finally maintains (see section IV(d) above) that the written reasons for the decision revealed that the Board surprisingly found the problem

of providing a stable process not to be solved over the whole range of the claim, although this inventive step objection had not been discussed during the oral proceedings.

25. However, it is apparent from the file that the issue had been explicitly argued by the opponent, which stated in its grounds of appeal (on page 7):

> "It is noted that the opposed patent is entirely silent on the sizes of the portion to be recycled to the reactor and the portion to be recirculated to the second distillation column. However, [...] these sizes appear to be critical [...]. It is self-evident that a very minor amount of recycle to the reactor (e.g. 1% or less) will not solve the alleged problem of pressure increase in column 22."

26. Thus, the reason given in the reviewed decision corresponds to an argument put forward by the other party, and so the petitioner was aware of it and not taken by surprise. No violation of the petitioner's right to be heard has occurred in this respect.

27. In addition, according to the established case law of the Enlarged Board, a violation of Article 113 EPC can only be considered fundamental within the meaning of Article 112a(2)(c) EPC if there is a causal link between the alleged violation and the final decision (see R 1/08, *supra*, Reasons 3; R 11/09 of 22 November 2010, Reasons 8; R 19/09 of 24 March 2010, Reasons 9.2).

The Enlarged Board understands the passage on page 20, lines 7-17, of the decision as giving a further separate reason for the Board's view that the "portion" feature of the claimed invention does not contribute to inventive step, namely that the skilled person would not automatically recycle all of the extracted second overhead 66 to column 22, since the actual amount depends on the subjective requirements of the skilled person regarding the desired purity of the acetic acid. Thus, the decision is based on two lines of argument, whereas the petitioner alleges not to have been heard only with respect to one of them. Therefore, no causal link between the alleged procedural violation and the outcome of the appeal proceedings can be established.

Limited amount of time for discussion of decisive issues

28. In its arguments presented orally before the Enlarged Board (see section VII above) the petitioner furthermore complained that the oral proceedings before the Board had been imbalanced since only comparatively little time was provided for the discussion of those issues which finally turned out to be decisive. However, the petitioner did not argue that this imbalance amounted to a fundamental violation of its right to be heard. If it had, the petition would be inadmissible in this respect as the petitioner did not raise any objection under Rule 106 EPC in the appeal proceedings (see point 4 above).

Conclusion

29. Since the Enlarged Board is not able to identify a fundamental violation of the right to be heard with respect to any of the complaints made by the petitioner, the petition is considered to be clearly unallowable within the meaning of Rule 109(2)(a) EPC. It also follows that the fee for the petition cannot be reimbursed.

Order

For these reasons it is decided that:

The petition for review is unanimously rejected as clearly unallowable.

The Registrar: The Chairman:

C. Eickhoff T. Bokor