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**Datasheet for the decision
of 12 May 2026**

Case Number: T 0680/24 - 3.3.05

Application Number: 17739623.1

Publication Number: 3464715

IPC: D21C7/10, D21C7/14

Language of the proceedings: EN

Title of invention:

METHOD OF PRODUCING CHEMICAL PULP AT A DIGESTER PLANT OF A
CHEMICAL PULP MILL

Patent Proprietor:

Andritz Oy

Opponent:

Valmet AB

Headword:

METHOD OF PRODUCING CHEMICAL PULP / Andritz Oy

Relevant legal provisions:

EPC Art. 56

RPBA 2020 Art. 12(5), 13(2)

Keyword:

Inventive step main request - (no)
Admittance of auxiliary request 1 - requirements of Art. 12(3)
RPBA 2020 met (yes)
late filed objections against auxiliary request 1 - not
admitted

Decisions cited:

T 1006/21, T 1732/10, T 1919/17, T 2843/19, T 1652/21,
T 1776/18

Catchword:



Beschwerdekammern

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Case Number: T 0680/24 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 12 May 2026

Appellant: Valmet AB
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted/electronically transmitted on 19 March 2024 rejecting the opposition filed against European patent No. 3464715 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chair R. Winkelhofer
Members: R. Elsässer
T. Burkhardt

Summary of Facts and Submissions

I. The opponent's appeal is directed against the opposition division's decision to reject the opposition.

II. Claim 1 as granted reads as follows:

" A method of producing chemical pulp in a continuous digester plant, which method comprises the following steps:

a) leading a slurry formed of comminuted cellulosic fibrous material and liquid into a digester (1) and treating the material with a treatment chemical at a temperature of over 130°C for producing treated material and black liquor;
b) extracting at least one black liquor stream from the digester (1) and leading the black liquor into an indirect heat exchange relationship with steam in a heat exchanger (8) for heating the black liquor; and
c) leading the heated black liquor into a flashing vessel (9), wherein flash steam and flashed black liquor are generated, characterized by the step of
d) using flash steam from step c) for heating the fibrous material in the digester (1) in step a)."

III. In their grounds of appeal, the appellant argued *inter alia* that claim 1 as granted lacked an inventive step over D1 (US 2015/0284909). They further stated that *"...for the dependent claims and their lack of novelty or inventive step, we refer to the Grounds of opposition filed on 26 April 2022"*.

IV. In their reply to the appeal, the proprietor/respondent refuted the objections and filed auxiliary request 1.

V. After having received the communication with the board's preliminary opinion of 12 December 2025, which stated *inter alia* that the appellant had not raised any objections against auxiliary request 1, the appellant filed two further submissions, on 19 December 2025 and 29 April 2026, in which they argued that auxiliary request 1 should "*not [be] admitted into the proceedings [as] it was not substantiated*" and/or should "*be rejected*" as not being novel over D3 (US 3,258,390), when taking account of the information relating to "high pressure steam" disclosed in D5 (Creslow Pusteinik, Jerzy Protect; "The mechanical-Chemical Pulping of Straw According to the Aronovsky Method", published 1964), or as not being inventive over D3, D4 (US 2010/0236733 A1) or D1.

On 22 April 2026 the respondent, in turn, filed an additional auxiliary request 2.

VI. Oral proceedings were held on 12 May 2026.

The appellant requested that the decision under appeal to reject the opposition be set aside and amended such that the patent be revoked.

The respondent requested to dismiss the appeal or to maintain the patent in amended form based on auxiliary request 1, filed with the reply to the appeal, or auxiliary request 2, filed on 22 April 2026.

Reasons for the Decision

1. Main request - inventive step
- 1.1 Claim 1 as granted does not involve an inventive step, and the main request is thus not allowable. The reasons are as follows.
- 1.2 The invention relates to a method for producing chemical pulp in a continuous digester plant of a chemical pulp mill.
- 1.3 D1 is directed to similar subject-matter and it is not disputed that it is a suitable starting point for the assessment of inventive step. Within D1, the most appropriate springboard is the embodiment shown in figure 1, read in combination with paragraph [0040], in which the steam generated in the flash tank is used as heat energy in the digester 12.
- 1.4 While the respondent correctly pointed out that paragraph [0040] also envisages other ways to use the flash steam, it also discloses an embodiment where it is used in the digester. Since this embodiment comes closest to the claimed invention, it is appropriate to use it as the starting point for the assessment of inventive step. The fact that other, less promising starting points are also disclosed in D1 is not relevant.
- 1.5 While the patent addresses a plurality of problems, the respondent focused on the one set out in paragraph [0010] of the patent, namely improving the overall energy economy of the chemical pulp mill.

- 1.6 As a solution to this problem, claim 1 as granted proposes a method characterised in that the black liquor stream extracted from the digester is led to an indirect heat exchange relationship with steam in a heat exchanger for heating, before being flashed in a flashing vessel.
- 1.7 According to the respondent, the problem mentioned above is successfully solved by the process of claim 1. In this context, they referred to the example and comparative example described in paragraphs [0031] and [0032] of the patent from which it could be derived that less fresh steam was used in the process of the example compared to a prior art process. This was because the prior art process relied solely on direct heat transfer brought about by live steam injected into the digester, whereas the process of the invention employed (some of) the live steam to indirectly heat up a black liquor stream before flashing. In doing so, 50 kg/adt of live steam were consumed in the heat exchanger but 110 kg/adt of live steam were saved by injecting the flash stream into the digester.

However, as rightly pointed out by the appellant, this comparison is flawed since the data provided in the patent does not allow the energy balances of the entire process to be meaningfully compared between the inventive and the comparative examples.

Indeed, in the process of the example, some of the energy used to heat the digester comes from the black liquor itself, since a quantity of 3.0 m³/adt of black liquor having a temperature of 169°C is initially fed into the process step of heating and flashing, but exits the flashing tank having a temperature of 158°C. Thus, the energy contained in this black liquor stream

is (also) used to heat the digester, but its contribution is not properly accounted for.

It is important to note that, in the comparative example, the energy contained in the black liquor is not lost. While, according to the comparative example, the energy of the entire black liquor stream extracted from the digester is recovered and used to steam the chips, there is no information about how the chips are steamed in the process of the example. Since some of the heat energy has already been recovered and used elsewhere, see above, it is not clear whether the remaining energy is sufficient to steam the chips (if the energy is used at all for this purpose). For instance, it may well be that additional fresh steam (or any other heating means) is needed in the steaming step because less energy can be recovered from the black liquor. However, the relevant information is not provided.

This analysis is merely illustrative of a more general problem with the disclosure of the example and the comparative example, namely that insufficient information is provided to come to a conclusion with regard to a comparison of the overall energy balances of the entire processes.

Thus, the example is not suitable evidence to conclude that the problem relied upon by the respondent has been solved.

In this context, the respondent also referred to paragraph [0018] of the patent, but this passage does not deal with the overall energy economy of the process but only the energy economy of one part of the process, namely the digester. Hence, this passage does not

contradict the finding that if heat is provided at one location of the process it can no longer be provided elsewhere. In any case, mere statements in the description of a patent are generally not sufficient as evidence for the occurrence of a technical effect in the context of the assessment of inventive step, at least when the effect is disputed, as is the case here.

- 1.8 It follows that the problem has to be formulated in a less ambitious way, namely as providing a process where the requirement for fresh steam (or any other external heating means) in the digester is reduced. This formulation of the problem is in line with paragraph [0018] of the patent.

The appellant contested this formulation on the grounds that the reduced requirement for fresh steam was the technical effect and as such part of the claimed solution, not the problem.

This is however not convincing. As set out above, the *solution* that causes the effect is providing an indirect heat exchanger and heating the black liquor before flashing. These process steps have *the effect* that more flash steam is generated and, as a consequence, less fresh steam is needed to heat the digester. Therefore, the problem of providing a process that requires less fresh steam in the digester does not contain elements of the solution.

- 1.9 *This* problem is indeed solved by the process of claim 1.

- 1.10 The claimed solution is, however, obvious.

For a given chemical process, it is a routine measure

for the skilled person to carry out heat integration that combines the available heat sinks and sources in a satisfactory way. Accordingly, paragraph [0040] of starting document D1 already teaches use of the flash steam generated by flashing the black liquor extracted from the digester to heat the digester.

Faced with the problem to be solved, namely that of reducing the amount of fresh steam needed to heat the digester, the skilled person would take into account the teaching of paragraph [0023] of D1 according to which heat exchange equipment can optionally be installed in conduits 26 which connect the digester and the flash tank(s) 10. While said paragraph does not specify whether the heat exchanger is used for heating or cooling, the skilled person knows from common general knowledge that a heat exchanger can be used for heating and that, if applied to the embodiment mentioned above, the heated black liquor will produce more flash steam to be used to heat the digester. In view of the problem to be solved, using the optional heat exchanger, which is explicitly disclosed in D1, for heating the black liquor is therefore the obvious choice.

The respondent contested that the skilled person would have known that heating the black liquor before flashing would generate more steam. This is not a convincing argument though, since it follows from the operating principle of a flash tank that a liquid having a higher temperature will generate more steam than the same liquid having a lower temperature, at least if they are both flashed to the same target pressure.

Concerning the features "indirect" and "steam", D1 does

not teach which type of heat exchanger and which heating medium should be used, but the skilled person can fill these gaps with common general knowledge. Indirect heat exchangers are known and the selection of either option is an arbitrary measure.

Similar considerations apply to the selection of steam as heating medium. As correctly argued by the appellant in the context of novelty, steam is a ubiquitous heating medium in a pulp mill (and steam as a heat source is already used in D1 itself), so that its selection is likewise an obvious measure. Even in the event of other, equally suitable heating media being available, selecting one of them, namely steam, would be an arbitrary measure.

It follows that the skilled person, starting from D1 and faced with the above-mentioned problem to be solved, will arrive at the claimed subject-matter without having to exercise any inventive skill.

The main request is therefore not allowable.

2. Auxiliary request 1

Claim 1 of auxiliary request 1 combines the features of claims 1 and 3 as granted.

2.1 Admission and consideration of auxiliary request 1

The appellant's request not to admit this request cannot be accepted.

2.1.1 Notwithstanding the question as to how far substantiation of auxiliary requests is a formal requirement subject to the rules of Articles 12 and 13

RPBA (cf. the case law relating to the belated substantiation of requests, Case Law of the Boards of Appeal of the EPO, 11th edition, 2025, V.A.4.2.3h; T 1919/17; T 1006/21), it is not possible to concur with the appellant's allegation in the reply to the appeal that auxiliary request 1 was not properly substantiated upon filing.

In particular, the appellant argued that the respondent failed to sufficiently substantiate the request when submitting it with the reply to the appeal. While the appellant acknowledged that the respondent provided adequate substantiation with regard to Article 123(2) and (3) EPC, they argued that the substantiation with regard to the objections under Article 54 and 56 EPC was not sufficient.

This is not convincing. In the reply to the appeal, the respondent submitted the following with regard to the (then sole) auxiliary request:

"The amendment further restricts claim 1 against the prior art. None of the cited prior art documents discloses or hints at the use of live steam in the indirect heat exchange to which the extracted black liquor is subjected, the live steam being intermediate pressure steam having a pressure of 6-17 bar (g)."

The respondent thus did indicate, albeit briefly, that the auxiliary request was novel and inventive and why this was the case, namely because it included a feature that was neither disclosed in nor hinted at by the prior art at hand.

The appellant further submitted to the contrary that D4, which had been cited against the novelty of the

main request, already disclosed the newly added feature, meaning that the respondent's statement was wrong, at least with regard to D4. Moreover, it had not been argued during the opposition proceedings that the feature was linked to a technical effect and none was provided in the patent in suit.

This is not relevant to the question of substantiation, however. A claim request is sufficiently substantiated with regard to novelty if the proprietor identifies at least one feature that is not disclosed in the prior art at hand. Whether or not this feature does in fact distinguish the claimed subject-matter from the prior art is a substantive issue that is not relevant to the question of substantiation. It is also not necessary for a claim request to be substantiated to the extent that the potentially distinguishing feature is linked to a technical effect, since such an effect is not an absolute prerequisite for an inventive step.

The appellant referred finally in this context to T 1732/10, where it was found, at least under the circumstances of that case, that requests should be considered as submitted only on the date of their substantiation. Since auxiliary request 1 was sufficiently substantiated, as outlined above, this decision is not relevant to the case in hand.

- 2.1.2 Moreover, the filing of auxiliary request 1 in a sufficiently substantiated fashion is not an amendment within the meaning of Article 12(4) RPBA, as it corresponds to auxiliary request 2 filed at the earliest stage of the opposition proceedings, namely with the reply to the opposition.

2.1.3 Also against this backdrop, there is no reason to disregard auxiliary request 1.

2.2 Admission and consideration of the appellant's objections against auxiliary request 1 as to novelty and inventive step

The appellant's objections cannot be considered (Article 13(2) RPBA).

2.2.1 Such objections were raised, for the first time, in the appellant's submissions of 19 December 2025 and 29 April 2026.

As can be derived from the appellant's submission of 19 December 2025, they deliberately refrained from objecting to auxiliary request 1 in the expectation that the board would note that the auxiliary request *"could not have a hope of succeeding without such substantiation"*.

The appellant thus did not respond to the respondent's filing of auxiliary request 1 with their reply to the appeal. This runs counter to the parties' procedural obligation to conduct appeal proceedings diligently and expeditiously, so ensuring fairness to the other parties, and to bring the proceedings to an end within a reasonable time (T 2843/19; T 1692/21; T 1776/18; Case Law of the Boards of Appeal of the EPO, 11th edition, 2025, V.A.4.1.2).

It was only after the board had issued the preliminary opinion that the appellant formally objected to the request.

The admittance of these objections is governed by the

strict criteria of Article 13(2) RPBA and there are no exceptional circumstances which would justify their consideration.

- 2.2.2 The appellant argued that they had already attacked auxiliary request 1 in the grounds of appeal, which contained a reference to the objections against the dependent claims raised during the opposition proceedings.

However, according to established case law, mere references to submissions made in the first instance proceedings are not sufficient to substantiate an objection in the appeal proceedings (Case Law of the Boards of Appeal of the EPO, 11th edn., 2025, V.A. 4.3.5a).

Moreover, the inventive step objection over D3 raised against claim 3 as granted in the opposition could only be understood, if at all, in the context of the corresponding objection against claim 1 as granted, which, inconclusively, is not reiterated in the grounds of appeal. Furthermore, there are two "versions" of this objection in the opposition, depending on which feature of claim 1 as granted the opposition division might regard as distinguishing (*q.v.*). While this way of drafting an objection may be feasible for an opponent before the opposition division, it is not for the opponent as appellant, who is aware of the opposition division's position on the matter and needs to address it specifically in the appeal (see Article 12(2) and (3) RPBA).

It is for this reason that the case law does not allow for substantiation by way of reference to objections raised at first instance, because these cannot, by

their very nature, take into account the reasoning of the decision under appeal, and it is not for the board to determine which specific objections an appellant also wishes to rely on in the appeal.

2.2.3 The appellant's reference to T 1006/21, which held that procedural requests can be made at any time since they are not amendments within the meaning of Articles 12(4), 13(1) and 13(2) RPBA, does not help in this context. Contrary to the appellant's opinion, substantive objections against auxiliary requests, including the question of their "rejection" for insufficient substantiation, do not constitute such procedural requests.

2.2.4 Thus, the appellant's objections against auxiliary request 1 cannot be considered.

2.3 In the absence of an admissible objection against auxiliary request 1, the patent is to be maintained on the basis of this request.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of auxiliary request 1 as submitted with the reply to the appeal and the description to be adapted.

The Registrar:

The Chair:



C. Vodz

R. Winkelhofer

Decision electronically authenticated