

**Internal distribution code:**

- (A)  Publication in OJ  
(B)  To Chairmen and Members  
(C)  To Chairmen  
(D)  No distribution

**D E C I S I O N**  
of 20 January 2003

**Case Number:** T 0410/99 - 3.3.6

**Application Number:** 91903366.2

**Publication Number:** 0468016

**IPC:** D21C 3/02

**Language of the proceedings:** EN

**Title of invention:**  
Process for preparing kraft pulp

**Patentee:**  
Metso Chemical Pulping Oy

**Opponent:**  
Kvaerner Pulping AB

**Headword:**  
Kraft pulp preparation/METSO

**Relevant legal provisions:**  
EPC Art. 84, 54

**Keyword:**  
"Clarity (main request, first and second auxiliary request) - no: wording of amended claim 1 not clear itself"  
"Novelty (third and fifth auxiliary request) - no: all features of the claimed process are directly and unambiguously derivable from the cited prior art"

**Decisions cited:**  
T 0227/88, G 0009/91, T 1129/97, T 0728/98, T 0511/92,  
T 0412/91, T 0464/94

**Catchword:**

"If there is no evidence or reason for considering the explicit teaching of a prior art document as incomplete or wrong or giving rise to doubts about the results obtained, a party's allegation that a skilled person would have understood additional but undescribed features to be a necessary part of such prior art teaching cannot be accepted (point 3.2.6 of the Reasons for the Decision) "



Case Number: T 0410/99 - 3.3.6

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.6  
of 20 January 2003

**Appellant:**  
(Proprietor of the patent) Metso Chemical Pulping Oy  
PL 34  
FI-28101 Pori (FI)

**Representative:**  
Zumstein, Fritz, Dr.  
Zumstein & Klingseisen  
Patentanwälte  
Bräuhausstrasse 4  
D-80331 München (DE)

**Respondent:**  
(Opponent) Kvaerner Pulping AB  
P.O. Box 1033  
S-65115 Karlstad (SE)

**Representative:**  
Becker, Eberhard, Dr.  
Patentanwälte  
Becker, Kurig, Straus  
Bavariastrasse 7  
D-80336 München (DE)

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 2 February 1999  
revoking European patent No. 0 468 016 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** P. Krasa  
**Members:** L. Li Voti  
C. Rennie-Smith

## Summary of Facts and Submissions

- I. The present appeal is from the decision of the Opposition Division to revoke the European patent No. 0 468 016 relating to a process for preparing kraft pulp.
- II. A notice of opposition was filed against the patent, wherein the Appellant (Opponent) sought revocation of the patent on the grounds of Article 100(a) EPC, in particular because of an alleged lack of novelty of the claimed subject-matter.

The opposition was based *inter alia* upon the following document:

(9): "Process chemistry and control of rapid-displacement heating" by P.O. Tikka et al.;  
Tappi Journal, February 1988, pages 51 to 58.

- III. The most relevant findings in the decision of the Opposition Division were that

- the subject-matter of claim 1 as granted lacked novelty, *inter alia*, in the light of the teaching of document (9) which disclosed a process for preparing kraft pulp comprising the steps of impregnating and heating the cellulosic material with black liquor at temperatures in accordance with those required by the patent in suit and delignifying the treated cellulosic material after addition of white liquor;
- the amended claim 1 according to the auxiliary requests did not fulfil the requirements of Article 84 EPC.

IV. An appeal was filed against this decision.

The Appellant filed with the statement of grounds of appeal a main request and two auxiliary requests.

A new second auxiliary request and three additional requests were filed with the letter of 20 December 2002. The fourth auxiliary request was withdrawn and the third and fifth auxiliary requests were modified during the oral proceedings held before the Board on 20 January 2003.

Claim 1 of the **main request** reads as follows:

"1. A process for the preparation of kraft pulp from lignin-containing cellulosic material comprising impregnating said cellulosic material with spent alkaline cooking liquor, heating said impregnated cellulosic material and delignifying said heated cellulosic material with fresh alkaline cooking liquor, characterized in that impregnating the material is carried out by an impregnation step at a temperature of between 20 and 100 °C, followed by a step of heating at a temperature of between about 135 and 155 °C before the reaction environment is rendered strongly alkaline by the addition of fresh or white liquor."

This claim differs from claim 1 as granted insofar as it specifies that the heating step follows the impregnation step and that the heating step is carried out before the reaction environment is rendered strongly alkaline by the addition of fresh or white liquor.

Claim 1 of the **first auxiliary request** differs from that of the main request insofar as it specifies that the pH of the spent alkaline cooking liquor impregnated

into the cellulosic material in the heating step is decreased to between about 9 and 11.

Claim 1 of the **second auxiliary request** differs from that of the first auxiliary request insofar as it specifies that the heating step is carried out for a period of about 10 to 30 minutes.

Claim 1 of the **third auxiliary request** reads as follows:

"1. A process for the preparation of kraft pulp from lignin-containing cellulosic material comprising impregnating said cellulosic material with spent alkaline cooking liquor, heating said impregnated cellulosic material and delignifying said heated cellulosic material with fresh alkaline cooking liquor, characterized in that the cellulosic material before delignifying is pretreated by the step of impregnating the material at a temperature of between 20 and 100 °C and the step of heating at a temperature of between about 135 and 155 °C, wherein the pretreatment is carried out with spent alkaline cooking liquor."

Claim 1 of the **fifth auxiliary request** differs from that of the third auxiliary request insofar as it specifies that the heating step is carried out for a period of about 10 to 30 minutes and the used spent alkaline cooking liquor has a residual sodium hydroxide content of between about 4 to 20 grams of sodium hydroxide per litre.

All these requests contain dependent claims relating to specific embodiments of the process of the respective claim 1.

V. As regards the clarity of the amended claims the Appellant submitted in writing and in the oral proceedings before the Board that:

- wording already contained in the granted claims could not be objected to on the grounds of Article 84 EPC in opposition proceedings;
- the skilled person would have understood the wording of the claims by making use of his common general knowledge in the technical field of kraft pulp preparation;
- claim 1 of the main request contained all the essential features for carrying out the claimed process;
- in particular, the wording "before the reaction environment is rendered strongly alkaline by the addition of fresh or white liquor" in claim 1 of the main request would have been understood by the skilled person as bringing the environment in the digester to a pH suitable for starting the delignification, i.e. to a pH of around 14 and in any case above the upper limit of the range considered in the patent in suit to be suitable for the black liquor, i.e. above about 13.5 or 20 g NaOH/l; therefore a preliminary addition of small amounts of white liquor for adjusting the pH of the black liquor without providing such a strongly alkaline environment was encompassed by the wording of the claim.

The Appellant further submitted that:

- the amended claims according to all the requests did not contravene the requirements of Article 123(2) EPC;

- the invention could be performed across its whole scope by a skilled person following the teaching of the description;
- the subject-matter of the claims according to all the requests was novel over the cited prior art, since none of the cited documents disclosed directly and unambiguously a process comprising the three distinct steps of (a) impregnating the cellulosic material, (b) heating the impregnated cellulosic material and (c) delignifying, wherein the impregnating and heating steps were carried out within a specific temperature range in the presence of spent alkaline cooking liquor and white liquor was added after the heating step (b) in order to reach the alkalinity necessary for delignification;
- in particular, the process disclosed in document (9) required the simultaneous use of black and white liquor during heating as suggested by the passage "...pH increases slightly before the outlet is closed, and the cooking phase starts, followed by mixing of the hot white liquor" on page 56. Furthermore, the curve of Figure 8 (pH development) had to be different if the process were to be carried out as required in the patent in suit with the addition of white liquor following the heating step with black liquor.

VI. The Respondent argued in writing and in the oral proceedings that:

- amended claim 1 according to each of the main and first to fifth auxiliary requests contravened the requirements of Article 123(2) since there was no explicit support in the application as filed for



the combination of features required by these claims;

- amended claim 1 according to the main, first and second auxiliary requests lacked clarity since the wording "before the reaction environment is rendered strongly alkaline by the addition of fresh or white liquor" did not clearly identify the pH to be reached by the addition of white liquor and did not specify if this addition of white liquor belonged to the delignification step in the preamble of the claim;
- claim 1 according to all the requests lacked essential features of the claimed process, for example the pH reached or used in the various process steps;
- the skilled person would have been unable to perform the invention across the whole scope claimed since the claims did not specify all the features necessary for carrying out the invention;
- the claimed subject-matter lacked novelty, *inter alia*, over document (9) which disclosed all the distinct steps of the claimed process.

VII. The Appellant requests that the decision of the first instance be set aside and that the patent be maintained on the basis of the main request or alternatively of the first auxiliary request, both as filed with the statement of grounds of appeal, or on the basis of the second auxiliary request, filed with its letter of 20 December 2002, or of the third or fifth auxiliary requests filed during the oral proceedings.

The Respondent requests that the appeal be dismissed.

VIII. At the end of the oral proceedings, the chairman announced the decision of the Board.

### Reasons for the decision

#### 1. *Procedural issues*

The Board is satisfied that the second, third and fifth auxiliary requests, filed after the statement of the grounds of appeal (see point IV above), are admissible as they were filed either as a response to objections raised by the Respondent or to correct evident mistakes in the wording of the claims of previously filed requests.

Since these requests fail on other grounds further details are unnecessary.

#### 2. *Main request and first and second auxiliary requests*

##### 2.1 Article 123(2) EPC

The Board is satisfied that the amended claims according to each one of these requests comply with the requirements of Article 123(2) EPC.

Since these requests fail on other grounds further details are unnecessary.

##### 2.2 Article 84 EPC (main request).

2.2.1 Claim 1 of the main request contains the wording "before the reaction environment is rendered strongly alkaline by the addition of fresh or white liquor", which was not comprised in the corresponding claim as granted.

It is established jurisprudence of the Boards of Appeal of the EPO that amendments to a granted claim must comply with all the requirements of the EPC and thus *inter alia* with the requirements of Article 84 EPC (T 227/88, OJ EPO 1990, 292, point 3 of the reasons for the decision and G 9/91, OJ EPO 1993, 408, point 19 of the reasons for the decision).

The Board finds that the wording "strongly alkaline" does not identify precisely the range of pH to which the reaction environment must be brought by the addition of the fresh or white liquor ("fresh" or "white" liquor being considered herein to be synonymous).

It must therefore be decided in the present case whether, because of this wording, claim 1 complies with the requirement for clarity (Article 84 EPC).

2.2.2 The Appellant stated during oral proceedings that the skilled person, making use of his common general knowledge in the technical field of kraft pulp preparation, would at the priority date of the patent in suit have understood the words "strongly alkaline" as meaning a pH of around 14, i.e. the pH at which the delignification step is usually started, or in any case as meaning a pH greater than the greatest pH indicated to be suitable for the black liquor in the patent in suit, i.e. a pH of above about 13.5 or more than about 20 g/l NaOH.

No evidence was, however, submitted to support this interpretation.

2.2.3 The Board agrees that the skilled person, because of his common general knowledge in this technical field, would have expected the pH of the environment to drop during the heating step because of the reaction between

the hydroxide ions present in the black liquor and the cellulosic material (dependent claim 5 of the main request and claim 1 of the first and second auxiliary requests specified e.g. a pH after this reaction of about 9 to 11). However, even if one accepts that the pH of the black liquor after the heating step would necessarily be outside the "strongly alkaline" range, there remain still several possible interpretations of the words in question:

- the pH can be that used at the start of the delignification step, which could be of around 14 as stated by the Appellant, but which could also be less, as the same Appellant conceded during the oral proceedings; delignification can in fact be carried out at lower pH's, for example at a pH of 13.5, provided that the temperature is adjusted accordingly to guarantee delignification (the Board also notes that claim 1 does not require any specific temperature for the delignification step);
- the pH can be greater than the greatest pH possible for the black liquor, which according to the Appellant's interpretation is of about 13.5 or about 20 g NaOH /l; this interpretation, however, does not allow a distinction between a value of about 13.5, which allowing for approximation could be interpreted to extend to e.g. 13.7, and a value of "above about 13.5", which could still encompass the value 13.7;
- the pH reached after addition of the white liquor can simply be greater than that of the used black liquor; in this case, since very low alkaline black liquor can be used in the claimed process, the pH can be any alkaline pH which would be

understood by a skilled person to be strong; the range of possible pH's is thus undetermined since there is no generally accepted precise interpretation of "strong" alkalinity and this relative term would be interpreted differently depending on the particular circumstances of the case; therefore, the pH reached could be in the range of e.g. 12 to 12.5;

- furthermore, in the case of such a pH of around 12 to 12.5, some more white liquor would have to be added in order to start delignification; this possibility is in fact not excluded from the wording of claim 1 wherein the step of adding some white liquor after the heating step in order to render the environment "strongly alkaline" is not necessarily identical to the start of the delignification step and allows for further white liquor to be added at a separate further stage for starting the delignification.

The Board concludes therefore that the wording used in claim 1 does not unambiguously identify either the pH to be reached by the addition of the white liquor or, as a result, the quantity and the alkalinity of the white liquor to be added or, moreover, the number of steps in which white liquor can be added.

This wording contravenes therefore the requirements of Article 84 EPC (see the decision T 1129/97, OJ 2001, 273, point 2.1.2 of the reasons for the decision, relating to the expression "lower alkyl"; see also the decision T 728/98, OJ EPO 2001, 319, point 3.1 of the reasons for the decision, underlining the principle of legal certainty).

Therefore the main request must be dismissed.

2.3 Article 84 EPC (first and second auxiliary requests)

Since both claims 1 according to the first and the second auxiliary request contain the same wording "before the reaction environment is rendered strongly alkaline by the addition of fresh or white liquor" as claim 1 of the main request, these claims also do not comply with the requirements of Article 84 EPC for the same reasons put forward in point 2.2.3 above.

2.4 Since the main request, as well as the first and second auxiliary requests, are to be rejected for the reasons above there is no need to discuss the other objections raised against them by the Respondent.

3. *Third Auxiliary Request*

3.1 Articles 83, 84 and 123(2) EPC

The Board is satisfied that the claims of this request comply with the requirements of Articles 84 and 123(2) EPC and that the claimed invention is sufficiently disclosed.

Since this request fails on other grounds there is no need to give further details in respect.

3.2 Novelty

3.2.1 Claim 1 of this request relates to a process for preparing kraft pulp characterized by the steps of pre-treating the cellulosic material with black liquor before delignification with white liquor, wherein the pretreatment comprises an impregnation step at a temperature of between 20 and 100°C and a heating step at a temperature of between about 135 and 155°C.

According to the established jurisprudence of the Boards of Appeal, a prior art disclosure is novelty destroying if it discloses directly and unambiguously the subject-matter in question when also taking account of a skilled person's common general knowledge at the publication date of the cited document in the case of prior art cited under Article 54(2) EPC, or at the priority date of the cited document in the case of an Article 54(3) document (see e.g. T 511/92, unpublished in OJ EPO, point 2.2 of the reasons for the decision).

Moreover a prior art disclosure must be read giving the information it contains the meaning that a skilled person would have given it at its publication date and disregarding information which would be understood by a skilled person to be wrong; however, any teaching which would not be recognized as wrong by a skilled person has to be accepted as state of the art (see T 412/91, unpublished in the OJ EPO, point 4.6 of the reasons for the decision).

- 3.2.2 Document (9) discloses a kraft batch cooking process known as a rapid displacement heating (RDH) process, which can also be used according to the patent in suit (see page 3, lines 54 to 56). This well known process comprises an impregnation step, a heating step and a delignification step (see document (9), page 51, left-hand column, lines 24 to 27; page 52, right-hand column, lines 12 to 24; page 55, right-hand column, last two lines to page 56, left-hand column, line 5 in combination with Figure 6 on page 54; page 58, left-hand column, lines 4 to 12 below the heading "Conclusions").

The Board finds that the particularities of the specific RDH process disclosed in document (9) can be understood by referring to

- the flow scheme of the used digester house, reported in Figure 5 (page 54) and described on page 55, left-hand column, lines 1 to 18 below the heading "RDH digester house", according to which the liquors used in the process were a warm black liquor at 90°C, a hot black liquor at 135°C and a hot white liquor at 135°C;
- the passages from page 55, right-hand column, heading "Process at liquor charge" till page 56, right-hand column, line 13 below the heading "Progress at cooking phase" describing a warm liquor charge (the impregnation step), a hot liquor charge (the heating step) and the delignification step, and
- the Figures 6 to 8 on page 54, referred to in the above mentioned passages on pages 55 and 56, which figures show curves obtained by measuring different properties of the incoming and outgoing liquors during the warm liquor charge and the hot liquor charge.

The teaching of this document in respect to the three process steps of impregnation, heating and delignification, is discussed in detail herein below.

### 3.2.3 Warm liquor charge (impregnation)

The digester, filled with cellulosic chips, is filled with a warm black liquor, originally at 90°C (see Figure 5; page 55, lines 1 to 4 below the heading "Progress at liquor charge" and the passage bridging pages 55 and 56) and the warm liquor charge lasts 25 minutes (see Figures 6 to 8).



By comparing the points at which the warm liquid entering the digester is analysed and the corresponding points for the outgoing liquid (see upper and lower curves in Figures 6 and 7 and page 55, right-hand column, lines 1 to 4 below the heading "Progress at liquor charge"), it is readily apparent that the incoming liquor leaves the digester after approximately 10 to 15 minutes, i.e. the digester is completely filled with warm liquid in about 10 to 15 minutes (this fact has also been conceded by the Appellant during oral proceedings).

After the digester has been filled with warm black liquor, originally at 90°C, the warm liquid charge is continued for another 15 minutes; the impregnation step with black liquor is thus carried out at a temperature between 20 and 100°C as required in the patent in suit.

#### 3.2.4 Hot liquor charge (heating)

- (a) When the warm liquor charge is terminated, the digester is filled with a hot liquor having an initial temperature of 135°C in order to displace the cooler warm black liquor and to heat up the cellulosic material; the hot liquor charge lasts 30 minutes (see Figures 6 to 8).

The Appellant argued that this step was carried out by using a mixture of black and white liquor and referred especially to the passage "...pH increases slightly before the outlet is closed, and the cooking phase starts, followed by mixing of the hot white liquor" (page 56, left-hand column, last paragraph below the heading "pH during liquor charge for softwood"), implying in its view that the white liquor had to be added together with the black liquor during the heating

step; furthermore, it alleged, without however providing any evidence, that the curves in Figure 8 would have to be different if the hot liquor charge was carried out only with black liquor.

The Board finds, conversely, that the text of document (9) unambiguously teaches that **only black liquor** is used during the hot liquor charge and that white liquor is added at a separate step of the process after termination of the hot liquor charge.

On page 56 (left-hand column, lines 14 to 17) it is stated:

"...no delignification occurs during the liquor charge. However, the temperature **after the hot black liquor charge** (130-140 °C) would enable lignin dissolution..." (emphasis added).

This passage does not mention at all the addition of white liquor (which would increase alkalinity) and its wording does not give rise to the assumption that such an addition would be implicitly intended. This follows from the explicit statement that no delignification takes place in this stage, despite the fact that the temperature after the hot black liquor charge would be sufficiently high for such a reaction.

This conclusion is confirmed by the further statement in document (9) on page 56 (right-hand column, lines 6 to 13 below the heading "**Progress at cooking phase**") reading:

"At the beginning of the cooking phase...effective alkali concentration is close to 40 g Na<sub>2</sub>O/l... **Delignification starts immediately after the white liquor charge, when the alkali concentration increases in the hot-black-liquor soaked chips....**" (emphasis added).

This passage shows in fact that delignification is dependent on the addition of the white liquor (which brings about the required alkalinity) and is therefore further proof of the absence of significant amounts of white liquor during the hot black liquor charge.

Therefore, there is no support in the text of document (9) for the Appellant's assertion that alkaline white liquor was also added in a significant amount together with the hot black liquor.

On the contrary, a third passage corroborates that the addition of hot black liquor and of hot white liquor are two separate steps in the process disclosed in document (9) and that the addition of white liquor "follows" the hot black liquor charge:

"...A rapid drop in pH can be observed when **the hot black liquor charge reaches the outlet. This indicates another wave of rapid alkali-consuming reactions following the exposure of wood material to hot black liquor. After the first reaction front, pH increases slightly before the outlet is closed, and the cooking phase starts, followed by mixing of the hot white liquor.**" (emphasis added), (page 56, left-hand column, lines 7 to 13 under the heading "pH during liquor charge for

Therefore, in the absence of any evidence, there is no reason to assume that the text of document (9) is wrong or incomplete and that the curve of Figure 8 proves the simultaneous addition of black and white liquor. Consequently, the Board cannot accept that the text of document (9) should be understood by a skilled person in the manner put forward by the Appellant.

In respect to the hypothetical possibility that insignificant minor amounts of hot white liquor could be added during the hot liquor charge of the process disclosed in document (9), the Board notes that the Appellant has accepted during the oral proceedings that the addition of small amounts of white liquor during the heating step, for adjusting the pH of the black liquor but insufficient to provide the alkalinity necessary for delignification, was not excluded from the claimed invention (see fifth paragraph of point V above). Therefore, such a process step still falls under the wording of the claims of the patent in suit and the addition of minor amounts of white liquor (which is, however, not explicitly disclosed or even suggested in document (9)) could not distinguish the process of document (9) from that of present claim 1.

- (b) In an RDH process, as also conceded by the Appellant during oral proceedings, the hot liquor charge displacing the cooler "warm" liquor is in contact with the first liquid only at the interface; therefore, during the hot liquor charge there is practically no mixing of the two liquids; this has as a consequence that during the hot liquor charge the chips at the bottom of the digester are in a hotter environment than those at

a higher point of the digester still immersed in the cooler liquid.

In the process of document (9) the hot black liquor entering the digester reaches the outlet after about 10 minutes (40 minutes' point of Figures 6 to 8), i.e. at this point the digester is completely filled with hot black liquor (see page 56, left-hand column, lines 7 to 8 below the heading "**pH during liquor charge for softwood**": "...when the hot black liquor charge reaches the outlet..."); thereafter, the hot liquor charge is continued for 15 minutes (see Figures 6 to 8).

After some slight initial cooling of the liquid because of the contact of the warmer liquid with the cooler chips, which cooling is moderated by the high 5:1 liquid-to-wood ratio in the digester (see page 55, right-hand column, lines 10 to 13 below the heading "**Quality of recirculated liquors**") and a slight warming up of the liquid as a consequence of the exothermic reaction occurring within the chips corresponding with the drop of pH, the temperature of the liquor reaches according to the teaching of document (9) a value within the range of 130 and 140°C (see page 56, left-hand column, lines 15 to 17), which means that the outgoing liquor necessarily has a temperature within this range, which largely overlaps with the range of about 135 to 155°C of claim 1.

Since the hot liquor charge is continued for 15 minutes after the first incoming liquor has reached the outlet, the Board finds that this process also involves a step of heating for at

least ten minutes the impregnated cellulosic material at a temperature of between about 135 and 155°C as it is required by claim 1 of the third auxiliary request without, however, specifying the duration of the heating; (see point IV above).

### 3.2.5 Delignification

Since the process of document (9) discloses the use of black liquor alone during the hot liquor charge, the addition of the white liquor in an amount sufficient to reach the alkalinity necessary for the delignification step can occur only after the hot liquor charge is terminated, as can be understood from the following passages:

- "After the first reaction front, pH increases slightly before the outlet is closed, and the cooking phase starts, followed by mixing of the hot white liquor." (emphasis added) (left-hand column, lines 7 to 13 below the heading "pH during liquor charge for softwood") and
- "At the beginning of the cooking phase...effective alkali concentration is close to 40 g Na<sub>2</sub>O/l...Delignification starts immediately after the white liquor charge, when the alkali concentration increases in the hot-black-liquor soaked chips..." (emphasis added) (right-hand column, lines 6 to 13 below the heading "Progress at cooking phase").

Therefore document (9) also describes the addition of white liquor and the delignification step as required in claim 1.

3.2.6 The Appellant submitted that a skilled person could have considered that additional steps were involved in the process of document (9) but not described in this citation and that there were therefore other possible interpretations of its text. Therefore, the claimed subject-matter was not directly and unambiguously derivable from the teaching of this document, such as was found e.g. in the decision T 464/94, unpublished in the OJ EPO, point 16 of the reasons for the decision.

For example, so the Appellant argued, there was not a direct connection between the temperatures indicated in Figure 5 of document (9) and those actually present in the digester wherein additional heating means could have been used or white liquor could have been added together with black liquor during the heating step (see point 3.2.4(a) above).

The Board finds, however, that in the present case there is no evidence or reason for considering the explicit teaching of document (9) as incomplete or wrong since it clearly describes all process steps and the influence of each process step upon the quality of the product thereby obtained.

Moreover, its teaching, unlike case T 464/94, does not raise any doubt about the results obtained by the claimed process as mentioned in the text (see page 58, left-hand and right-hand columns, passages following the heading "Conclusion"); therefore its teaching cannot be considered either hypothetical or contrary to the common general knowledge in the relevant technical field. Since therefore the facts of the case are distinguished from those underlying the decision T 464/94, the latter cannot be applied to the present case.

3.2.7 The Board concludes that document (9), for the reasons put forward in paragraphs 3.2.2 to 3.2.4 above, discloses directly and unambiguously all the features of the process of claim 1 and that the subject-matter of claim 1 thus lacks novelty.

4. *Fifth auxiliary request*

Claim 1 of the fifth auxiliary request differs from that of the third auxiliary request insofar as it specifies that the step of heating is carried out for a period of about 10 to 30 minutes and the used spent alkaline cooking liquor has a residual sodium hydroxide content of between about 4 to 20 grams of sodium hydroxide per litre.

These additional features of the fifth auxiliary request are also disclosed in document (9) since the hot liquor charge is continued for 15 minutes at the temperature required in claim 1 after the digester has been completely filled with hot black liquor, as explained above in point 3.2.4 (b), and the alkalinity of the black liquor used in that process is of 4.0 NaOH g/l as indicated in Table II of page 56.

Therefore the same arguments put forward in points 3.2.2 to 3.2.4 above apply *mutatis mutandis* to this request and this request must therefore be dismissed on the same grounds.



Order

For these reasons it is decided that:

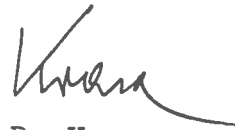
The appeal is dismissed.

The Registrar:



G. Rauh

The Chairman:



P. Krasa