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Datasheet for the decision of 19 December 2024

Case Number: T 2194/22 - 3.2.03

Application Number: 12155832.4

Publication Number: 2508830

IPC: F28D7/00, F25J1/00

Language of the proceedings: EN

Title of invention:
Vertical heat exchanger configuration for lng facility

Patent Proprietor:
ConocoPhillips Company

Opponent:
Linde GmbH

Headword:

Relevant legal provisions:
EPC Art. 56, 111(2), 123(2)
RPBA 2020 Art. 12(2), 12(4)

Keyword:
Inventive step - ex post facto analysis - non-obvious combination of known features - main request (yes)
Appeal decision - binding effect of appeal decision
Amendment to case - objection - suitability of amendment to address issues (no)
Late-filed objection - admitted (no)

Decisions cited:
T 0449/15, T 0436/95, T 0167/93, J 0003/95, T 0153/93, T 1666/14, T 0689/19, T 0956/19, T 0843/91, T 0383/11, T 1238/22, T 0796/02, T 2310/22, T 0934/91, G 0001/86, G 0001/97, G 0007/93, T 0694/01, T 1545/08, T 0308/14, R 0006/22, T 0960/15, T 2197/11, T 0858/17, T 0572/14, T 1209/05, T 0617/16, T 2049/16, T 0467/15

Catchword:

1. The admittance of a substantively identical request in post-remittal proceedings is not excluded pursuant to Article 111(2) EPC if the facts underlying the Board's earlier decision for not admitting that request are not the same because a new objection was introduced in post-remittal proceedings (see 2.4).

2. When exercising the discretion to admit a party's request in post-remittal proceedings, the opposition division must take into account the framework defined in the appeal proceedings (see 2.5.1), as the prosecution of a case after remittal should in principle build upon the situation that existed at the end of the appeal proceedings that led to the remittal (see 2.5.2).

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Case Number: T 2194/22 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 19 December 2024

Appellant: (Opponent)	Linde GmbH Dr.-Carl-von-Linde-Straße 6-14 82049 Pullach (DE)
Representative:	Imhof, Dietmar Linde GmbH Intellectual Property EMEA Dr.-Carl-von-Linde-Straße 6-14 82049 Pullach (DE)
Respondent: (Patent Proprietor)	ConocoPhillips Company 925 N. Eldridge Parkway Houston, Texas 77079 (US)
Representative:	Hyden, Martin Douglas Marks & Clerk LLP Alpha Tower Suffolk Street Queensway Birmingham B1 1TT (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 22 July 2022 concerning maintenance of the European Patent No. 2508830 in amended form.**

Composition of the Board:

Chairman	C. Herberhold
Members:	R. Baltanás y Jorge
	J. Hoppe

Summary of Facts and Submissions

I. European patent No. 2 508 830 B1 relates to a method of transferring heat from a cooled fluid to a refrigerant.

II. The appeal of the opponent lies from the interlocutory decision of the opposition division dated 22 July 2022 in which the European patent was found to meet the requirements of the EPC in view of the amendments made in auxiliary request 1 as filed with the letter dated 10 February 2022 (received on 11 February 2022, in the following, "auxiliary request 1 filed on 11 February 2022").

This interlocutory decision was issued following the remittal of the case to the opposition division according to the outcome of a first appeal (see the Board's earlier decision T 2371/18), which had been lodged by the opponent and the proprietor against a first interlocutory decision issued by the opposition division. The Board decided in the Board's earlier decision T 2371/18 that auxiliary requests I and II "old" - both filed on 28 November 2018 - did not satisfy the requirements of Article 76(1) EPC, that auxiliary request II "new" - filed during oral proceedings before the Board on 28 April 2021 - was not to be admitted under Article 13(1) RPBA 2007 because it would have been detrimental to procedural economy, and that the case was to be remitted for further prosecution as the proprietor had filed further auxiliary requests (auxiliary requests III to V of 28 November 2018).

III. The interlocutory decision of the opposition division dated 22 July 2022 (in the following, "the contested decision") was appealed by the opponent (in the following, "the appellant").

IV. In a communication pursuant to Article 15(1) RPBA, the Board indicated its preliminary opinion.

Oral proceedings were held on 19 December 2024.

V. Requests

At the end of the oral proceedings, the requests were as follows.

The appellant requested that the decision under appeal be set aside, that the patent be revoked and that the appeal fee be reimbursed.

The patent proprietor (in the following, "the respondent") requested as its main request that the appeal be dismissed (i.e. that the patent be maintained based on auxiliary request 1 filed on 11 February 2022 as found to meet the requirements of the EPC in the appealed decision and re-filed with the reply) or, as an auxiliary measure, that the patent be maintained in amended form based on one of auxiliary requests 2 to 10, filed with the reply.

VI. Claim 1 of auxiliary request III as referred to in the earlier decision (T 2371/18, point X and Reasons 5; the amendments compared to granted claim 1 have been marked in bold) reads as follows:

"*A method of transferring heat from a cooled fluid to a refrigerant* ***in a process for liquefying a natural gas stream****, said method comprising:*

(a) providing a heat exchanger comprising: a shell defining an internal volume, said internal volume having a maximum height (H) and a maximum width (W), said internal volume having a H/W ratio greater than 1; and

at least one plate-fin core disposed in the internal volume, said core being spaced from the top, bottom, and sides of the shell,
said shell comprising a substantially cylindrical sidewall, a normally-upper end cap, and a normally-lower end cap, said upper and lower end caps being disposed on generally opposite ends of the sidewall,

said sidewall defining a fluid inlet for receiving a shell-side fluid into the internal volume,
said normally-upper end cap defining a vapor outlet for discharging gas-phase shell-side fluid from the internal volume,
said normally-lower end cap defining a liquid outlet for discharging liquid phase shell-side fluid from the internal volume

(b) introducing the refrigerant into an internal volume defined within said shell;

(c) introducing the cooled fluid into said plate-fin core disposed within the internal volume of the shell; and

(d) transferring heat from the cooled fluid in said core to the refrigerant in said shell via indirect heat exchange, including vaporizing at least a portion of said refrigerant, causing a thermosiphon effect in the core; and

(e) maintaining the level of liquid-phase refrigerant in said shell at an elevation such that the core is partially submerged, at least ***~~50~~ 75-95*** *% of the height of the core is submerged in the liquid-phase refrigerant,* ***step (b) including introducing said refrigerant into the internal volume at a location above the level of the liquid-phase refrigerant in the shell;***

said core defining a plurality of core-side passageways and a plurality of shell-side passageways, said core-side and shell-side passageways are fluidly isolated from one another, said shell-side passageways present a normally-lower inlet and a normally-upper outlet, said shell-side passageways extending from the normally-lower inlet to the normally-upper outlet, and wherein the space between the bottom of the core and the bottom of the internal volume is provided in order to ensure proper availability of the liquid shell-side fluid to the normally lower inlets of the shell side passageways."

VII. Claim 1 of former auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021) not admitted in the Board's earlier decision (see T 2371/18, point VIII and Reasons 3) reads as follows (the labelling added by the Board is marked in bold):

"*A method of transferring heat from a cooled fluid to a refrigerant, said method comprising:*

(a) providing a heat exchanger (10) comprising:

a shell (12) defining an internal volume (24) for receiving a core (14) and a shell-side fluid (A), said internal volume (24) having a maximum height (Y1), and a maximum width (X1), said internal volume (24) having a Y1/X1 ratio greater than 1; and
at least one plate-fin core (14) disposed in the internal volume (24), said core (14) being spaced from the top, bottom, and sides of the shell,
said shell (12) comprising a substantially cylindrical sidewall (16) that extends along a central sidewall axis (22), said central sidewall axis (22) being substantially upright,
wherein the maximum height (Y1) is measured parallel to the direction of extension of the central sidewall axis (22) in the range 2-60 ft. (0.6-18.3 m); and the maximum width (X1) measured perpendicular to the direction of extension of the central sidewall axis (22) in the range 1-30 ft. (0.3-9.2 m),
a normally-upper end cap (18), and a normally-lower end cap (20), said upper and lower end caps (18, 20) being coupled to generally opposite ends of the sidewall (16),
said sidewall (16) defining a shell-side fluid inlet (26) for introducing a shell side fluid stream (Ain) into the internal volume (24),
said normally-upper end cap (18) defining a vapor outlet (28) for discharging gas-phase shell-side fluid (Av-out) from the internal volume (24),
said normally-lower end cap (20) defining a liquid outlet (30) for discharging liquid-phase shell-side fluid (AL-out) from the internal volume (24);

(b) introducing the refrigerant (A) into the internal volume (24) defined within said shell (12);

(c) introducing the cooled fluid (B) into said plate-fin core (14) disposed within the internal volume (24) of the shell (12); and

(d) transferring heat from the cooled fluid (B) in said core (14) to the refrigerant (A) in said shell (12) via indirect heat exchange, including vaporizing at least a portion of said refrigerant (A), causing a thermosiphon effect in the core (14); and

(e) maintaining the level (46) of liquid-phase refrigerant (A) in said shell (12) at an elevation such that the core (14) is partially submerged, wherein

the ratio of the height (Y6) of the core (14) submerged in the liquid-phase refrigerant (A) to the maximum height (Y2) of the core (14) is in the range 0.5-0.98;

said core (14) comprising a plurality of spaced-apart plate/fin dividers 40 defining a plurality of alternating core-side passageways (42a,b) and shell-side passageways (44a,b) that extend in a direction that is substantially parallel to the direction of extension of the central sidewall axis (22),

said core-side and shell-side passageways (42,44) being fluidly isolated from one another,

said shell-side passageways (44) including opposite open ends that provide for fluid communication with the internal volume (24), and presenting a normally-lower inlet and a normally-upper outlet, said shell side passageways (44) extending from the normally-lower inlet to the normally-upper outlet,

and wherein the maximum space (Y3) measured parallel to the direction of extension of the central sidewall axis (22) between the bottom of the core (14) and the bottom of the internal volume (24) is greater than 2 ft. (0.6 m), and the ratio Y3/Y1 is greater than 0.15 in order to ensure proper availability of the liquid shell-side fluid (A) to the normally lower inlets of the shell side passageways (44),
wherein:

F *the core (14) has a maximum height (Y2) measured parallel to the direction of extension of the central sidewall axis (22) in the range 1-40 ft. (0.3-12.2 m), and a minimum width (X2) measured perpendicular to the direction of extension of the central sidewall axis (22) in the range 0.5-20 ft. (0.15-6.1 m), and having a Y2/X2 ratio in the range 0.25-4, a Y2/X1 ratio of less than 0.95, and a Y2/Y1 ratio of less than 0.75;*

G *a core-side fluid inlet (32) extending through the sidewall (16) is fluidly coupled to an inlet header (34) to provide for introduction of a core-side fluid feed stream (Bin), and a core side fluid outlet (36) is fluidly coupled to an outlet header (38) and extends through the sidewall (16) to provide for discharge of the core-side fluid (Bout), the core-side passageways (42) receiving the core-side fluid (B) from the inlet header (36) and discharge core-side fluid into the outlet header (38); and*

H *the maximum space (Y4) measured parallel to the direction of extension of the central sidewall axis (22) between the top of the core (14) and the top of the internal volume (24) is greater than 2 ft. (0.6 m), and the ratio Y4/Y1 is greater than 0.15 in order to ensure proper disengagement of the entrained liquid-phase shell-side fluid in the gaseous shell-side fluid exiting the vapor outlet (28); and*

I *wherein the ratio of the height Y5 of the fluid inlet (26) from the bottom of the core 14 to the maximum height Y2 of the core is 0.5-1."*

VIII. Claim 1 as admitted and found to be allowable in the contested decision (i.e. auxiliary request 1 filed on 11 February 2022 and the main request in the current appeal proceedings) reads as follows (the labelling added by the Board is underlined) (the amendments compared to former auxiliary request II "new" - filed during oral proceedings before the Board on 28 April 2021 - are marked in bold):

"*A method of transferring heat from a cooled fluid to a refrigerant, said method comprising:*

(a) providing a heat exchanger (10) comprising: a shell (12) defining an internal volume (24) for receiving a core (14) and a shell-side fluid (A), said internal volume (24) having a maximum height (Y_1) and a maximum width (X_1), said internal volume (24) having a Y_1/X_1 ratio greater than 1; and

at least one plate-fin core (14) disposed in the internal volume (24), said core (14) being

spaced from the top, bottom, and sides of the shell~~,~~

said shell (12) comprising a substantially cylindrical sidewall (16) that extends along a central sidewall axis (22), said central sidewall axis (22) being substantially upright, wherein the maximum height (Y_1) is measured parallel to the direction of extension of the central sidewall axis (22) in the range 2-60 ft. (0.6-18.3 m); and the maximum width (X_1) measured perpendicular to the direction of extension of the central sidewall axis (22) in the range 1-30 ft. (0.3-9.2 m),

a normally-upper end cap (18), and a normally-lower end cap (20), said upper and lower end caps (18, 20) being coupled to generally opposite ends of the sidewall (16),

said sidewall (16) defining a shell-side fluid inlet (26) for introducing a shell-side fluid stream (A_{in}) into the internal volume (24),

said normally-upper end cap (18) defining a vapor outlet (28) for discharging gas-phase shell-side fluid (A_{v-out}) from the internal volume (24),

said normally-lower end cap (20) defining a liquid outlet (30) for discharging liquid-phase shell-side fluid (A_{L-out}) from the internal volume (24),

(b) *introducing the refrigerant (A) into the internal volume (24) defined within said shell (12);*

(c) *introducing the cooled fluid (B) into said plate-fin core (14) disposed within the internal volume (24) of the shell (12); and*

(d) ***(d1)*** *transferring heat from the cooled fluid (B) in said core (14), to the refrigerant (A) in said shell (12) via indirect heat exchange,*

(d2) *including vaporizing at least a portion of said refrigerant (A),*

(d3) *causing a thermosiphon effect in the core (14); and*

(e) ***(e1)*** *maintaining the level (46) of liquid-phase refrigerant (A) in said shell (12) at an elevation such that the core (14) is partially submerged, wherein*

(e2) *the ratio of the height (Y_6) of the core (14) submerged in the liquid-phase refrigerant (A) to the maximum height (Y_2) of the core (14) is in the range 0.5-0.98;*

(e3) *said core (14) comprising a plurality of spaced-apart plate/fin dividers (40) defining a plurality of alternating core-side passageways (42a,b) and shell-side passageways (44a,b) that extend**ing*** ~~***in***~~ *a direction that is substantially parallel to the direction of extension of the central sidewall axis (22),*

(e4) *said core-side and shell-side passageways (42,44) being fluidly isolated from one another,*

(e5) *said shell-side passageways (44) including opposite**s*** *open ends that provide for fluid communication with the internal volume (24), and presenting a normally-lower inlet and a normally-upper outlet, said shell-side passageways (44) extending from the normally-lower inlet to the normally-upper outlet,*

(e6) *and wherein the maximum space (Y_3) measured parallel to the direction of extension of the central sidewall axis (22) between the bottom*

of the core (14) and the bottom of the internal volume (24) is greater than 2 ft. (0.6 m), and the ratio Y_3/Y_1 is greater than 0.15 in order to ensure proper availability of the liquid shell-side fluid (A) to the normally lower inlets of the shell side passageways (44), wherein:

F1 *the core (14) has a maximum height (Y_2) measured parallel to the direction of extension of the central sidewall axis (22) in the range 1-40 ft. (0.3-12.2 m), and a minimum width (X_2) measured perpendicular to the direction of extension of the central sidewall axis (22) in the range 0.5-20 ft. (0.15-6.1 m), and having a Y_2/X_2 ratio in the range 0.25-4, a Y_2/X_1 ratio of less than 0.95, and a Y_2/Y_1 ratio of less than 0.75;*

G1 *a core-side fluid inlet (32) extending through the sidewall (16) is fluidly coupled to an inlet header (34) to provide for introduction of a core-side fluid* ***feed fees*** *stream (B_{in}), and a core-side fluid outlet (36) is fluidly coupled to an outlet* ~~***header***~~ *(38) and extends through the sidewall (16) to provide for discharge of the core-side fluid (B_{out}), the core-side passageways (42) receiving the core-side fluid (B) from the inlet header (36) and discharge core-side fluid into the outlet header (38);* ~~***and***~~

H1 *the maximum space (Y_4) measured parallel to the direction of extension of the central sidewall axis (22) between the top of the core (14) and the top* ***of the core (14) and the top*** *of the internal volume (24) is greater than 2 ft. (0.6 m), and the ratio Y_4/Y_1 is greater* ~~***than***~~ *0.15 in*

order to ensure proper disengagement of the entrained liquid-phase shell-side fluid in the gaseous shell-side fluid exiting the vapor outlet (28); and ~~***wherein***~~

I1 *the ratio* ***(Y_5/Y_2)*** *of the height (Y_5) of the* ***shell-side*** *fluid inlet (26)* ~~***from***~~ ***above*** *the bottom of the core (14) to the maximum height (Y_2) of the core* ***(14) measured parallel to the direction of extension of the central sidewall axis (22)*** *is 0.5-1."*

IX. Prior art

The following documents have been cited, both in the statements setting out the grounds of appeal and during the opposition proceedings, and are relevant to this decision:

E1: H. Hausen and H. Linde, "Tieftemperaturtechnik", Springer Verlag, 1985, pages 187 to 189, 319 and 477 to 479

E2: US 3,590,909 A

E5: Akchurin R.I. et al., "Improvement in designs of condenser-evaporators of air-separating units", Khimicheskoe i Neftyanoe Mashinostroenie, 1980, English abstract together with article in Russian

X. The appellant's arguments relevant to this decision can be summarised as follows.

(a) Binding effect of the earlier decision

Once the Board had decided in the earlier decision on the non-admittance of auxiliary request II "new", this

became *res judicata*, and the matter could not be reconsidered again.

Auxiliary request 1 filed in the opposition proceedings following the remittal (i.e. the main request of the current appeal proceedings) corresponded to the non-admitted auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021). The opposition division was therefore bound by the earlier decision under Article 111(2) EPC and was not entitled to admit this request into the proceedings. It would be against the principle of procedural economy and the purpose of appeal proceedings if decisions on admittance of requests were not binding on the opposition division after remittal since the discussions would not move forward but start again from a point which had already been overcome in the preceding appeal proceedings. The aim of the Board's decision in T 2371/18 not to admit auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021) was to ensure that the assessment of allowability was not to be based on this request. This needed to be ensured also in the subsequent opposition proceedings as otherwise the proceedings would go in circles.

The objection in point 11 of the opposition division's summons dated 15 October 2021 against remitted auxiliary request III did not introduce a new fact or a new objection since the issue of added subject-matter in relation to the core's submersion rate had already been the object of discussion in the earlier decision. What the opposition division presented in the summons was a mere new argument which could not justify a reconsideration of what had been already decided. A new argument was not a new fact, in particular when it

related to a straightforward objection of added subject-matter, and this was not justification for re-filing a request essentially identical to one not admitted by the Board in earlier decision T 2371/18.

(b) Main request (auxiliary request 1 filed on 11 February 2022), added subject-matter

The subject-matter of claim 1 extended beyond the content of the originally filed application.

Concerning the objection related to the omitted feature "for liquefying natural gas", the reasoning of the earlier decision T 2371/18 - finding the omission of this feature an allowable amendment - was not *res judicata* since the facts were not the same. This was because the maintained auxiliary request 1 (main request of the appeal proceedings) was a different request from auxiliary requests I and II "old" dealt with in the earlier decision T 2371/18. The crucial point in this case was that Table 1 of the originally filed application disclosed an embodiment specifically intended for liquefying natural gas. The skilled person would not derive from the originally filed application that such an embodiment was also intended for other applications since each gas required an individual adaptation of the multiple parameters defined in Table 1. Therefore, the omission of the use for liquefying natural gas from the claim incurred an unallowable intermediate generalisation.

The further objection related to the omitted feature "bottom curved downwards" and raised in the statement of grounds of the current appeal was merely a new argument in the already open discussion about added subject-matter. It had to be taken into account that

claim 1 comprised a high number of added features, this justifying that this objection was only discovered when the appeal was filed against the contested decision. In any case, the *prima facie* relevance of the objection justified that the Board had exercised its discretion under Article 12(4) RPBA to admit it.

Indeed, the value of the maximum space measured parallel to the direction of extension of the central sidewall axis between the bottom of the core and the bottom of the internal volume defined in step e6) was only meaningful if the bottom of the shell was curved downwards. If the bottom of the shell were curved in the opposite direction, the parameter defined in claim 1 would not make technical sense. Even if the originally filed application disclosed the range defined in step e6) in the description, the combination of this range with the rest of the features of contested claim 1 only had a basis in the embodiment comprising a bottom curved downwards. The omission of this feature thus resulted in an unallowable intermediate generalisation.

(c) Main request, inventive step

Claim 1 defined extremely broad ranges for the parameters in claim 1. The skilled person faced with E2 would recognise that the dimensions of the device of Figure 1 - which could indeed be roughly determined from this figure - had to fall within the defined ranges since they covered the whole scope of dimensions which made technical sense. This entailed that the skilled person faced with E2 concluded that the subject-matter of claim 1 differed from this document only in that:

- the heat exchanger comprised a normally-upper end cap defining a vapour outlet for discharging gas-phase shell-side fluid from the internal volume (step a))
- the maximum space measured parallel to the direction of extension of the central sidewall axis between the bottom of the core and the bottom of the internal volume is greater than 2 ft (0.6 m) (step e6))
- the ratio of the height of the core submerged in the liquid-phase refrigerant to the maximum height of the core is in the range 0.5 to 0.98 (step e2))

The technical problems for each distinguishing feature could be defined as follows:

- optimising the available space when the integrated column device of E2 was too high
- increasing stability by arranging a bent bottom for the device of E2
- achieving a desired submersion rate for the core of the device of E2

The distinguishing features and their corresponding problems were independent and had no synergistic effect. Thus, an analysis based on partial problems was justified.

Concerning the first distinguishing feature (upper end cap defining a vapour outlet), the skilled person willing to separate the heat exchanger section from the low-pressure section arranged above it in E2 would simply provide a separate vessel for the heat exchanger and would channel the oxygen stemming from the heat exchanger section through a suitable piping to the

separated low-pressure section. The separate vessel of the heat exchanger section had to have an upper end cap with a vapour outlet as this was usual in the technical field. This was confirmed by the figure of E5, which disclosed different condensers arranged in a separate vessel comprising such an upper end cap defining a vapour outlet. The skilled person was well aware of the fact that condensers were one of the most important components of a device such as the one disclosed in E2 (see E1, first paragraph of point 9.4.2.5 on page 477), such that they would have considered isolating this heat exchanger in the device of E2 in an obvious manner.

Alternatively, if the upper end cap disclosed in Figure 1 of E2 was considered to be an upper end cap within the meaning of claim 1, it would be obvious for the skilled person that the gas produced at the top of the column had to go out. A straightforward solution for providing such an outlet according to the common general knowledge of the skilled person was to arrange it at the upper end cap, as disclosed by Figure 4.23 of E1.

Concerning the second distinguishing feature (maximum space between the bottom of the core and the bottom of the internal volume), the skilled person willing to implement a curved bottom instead of the flat one disclosed in E2 would arrive at this feature in an obvious manner since the liquid shell-side fluid had to circulate around the edges of the heat exchangers and the defined range falls within what is technically sensible.

Finally, the third distinguishing feature (submersion rate of the core) was a usual feature in heat

exchangers of this technical field, as evidenced by the manual E1 (see Figure 9.37). The skilled person would thus implement this feature in view of their common technical knowledge.

XI. The respondent's arguments relevant to this decision can be summarised as follows.

(a) Binding effect of the earlier decision

The concept of *res judicata* was limited to what a board decided under the reasons provided, i.e. only for what concerns the allowability of a request, and did not apply to considerations purely related to admittance. The earlier decision T 2371/18 did not adopt any decision on auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021) in substance, not even in view of *prima facie* allowability. It merely did not admit it into the first appeal proceedings since it was considered to be detrimental to procedural economy of the appeal proceedings. This did not constitute a decision on the content of the request, and it only concerned the procedural framework of the appeal proceedings, not the possible subsequent opposition proceedings after the remittal. The reasons provided in the earlier decision T 2371/18 were purely procedural and only related to the proceedings before the Board. The order given in the earlier decision was "for further prosecution" without any limitations. The opposition division was thus free to consider requests which had not been considered unallowable according to the reasoning of the earlier decision, as was the case for auxiliary request 1 (filed on 11 February 2022) corresponding to auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021).

In any case, the facts within the meaning of Article 111(2) EPC were not the same for substantial reasons and also because different rules for admittance applied in opposition and appeal proceedings.

Auxiliary request III had not been the subject of examination before the remittal (see Reasons 5. of the earlier decision T 2371/18). This request had been pursued as the main request of the proprietor after the remittal (i.e. during the subsequent opposition proceedings). The Annex to the summons of the opposition division raised for the first time an objection on grounds of added subject-matter against the feature related to the core's submersion rate added to this request. The objection raised by the opposition division thus formed a new factual basis as it was not identical to the Board's objection under Article 76 EPC against the former auxiliary requests considered in the first appeal proceedings.

The respondent replied to this new fact by filing auxiliary request 1 (filed on 11 February 2022) corresponding essentially to auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021). This addressed the newly raised objection of the opposition division and also followed the indication in the earlier decision of the Board that all the features deriving from Table 1 of the originally filed application had to be defined in combination to avoid a problem of added subject-matter. The amendment followed in this way the *ratio decidendi* of the earlier decision when addressing the newly posed objection.

The opposition division applied its discretionary power in a correct manner when admitting auxiliary request 1 (filed on 11 February 2022), which was filed within the Rule 116(1) EPC period. The new factual basis justified reconsidering the admittance of a request which corresponded to auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021) not admitted by the Board in the earlier decision T 2371/18.

(b) Main request, added subject-matter

The objection relating to the omitted feature "for liquefying natural gas" had the same factual basis as the corresponding objection decided upon in the earlier decision T 2371/18. The opposition division and also the Board in a subsequent appeal was thus bound by the *ratio decidendi* of T 2371/18 in accordance with Article 111(2) EPC, thus preventing the objection from being reconsidered.

Concerning the objection relating to the omitted feature "bottom curved downwards", this had never been raised before the opposition division and was an amendment of the appellant's case which would require a detailed examination, contrary to the principle of economy of proceedings. The objection could and should have been raised prior to the second appeal proceedings.

In any case, the features defined in step e6) were disclosed in page 9, lines 8 to 10 of the originally filed description. No bottom curved downwards was defined there, the lower end cap (i.e. the "bottom") being defined in general terms within the context of the embodiment on originally filed page 7, lines 1

to 4. The skilled person with a mind willing to understand would simply exclude embodiments where the bottom was shaped so that it would jeopardise the distance to be kept between the bottom of the core and the bottom of the internal volume.

(c) Main request, inventive step

The analysis of the appellant was based on an artificial separation of the features of claim 1, which, however, together had a technical effect, namely to avoid that droplets be entrained downstream.

The device of E2 comprised an upper end cap (see Figure 1) that did not define a vapour outlet, contrary to contested claim 1. E2 explicitly disclosed that oxygen might be withdrawn through a conduit not shown (see the passage joining columns 3 and 4). The skilled person had no reason to believe that this conduit had to be defined by the upper end cap since this was intentionally not disclosed in Figure 1. In any case, the low-pressure section (14), the heat exchanger ("oxygen reboiler section") and the high-pressure section (12) of E2 were disclosed in a functionally and structurally linked construction, and no motivation for separating any of these elements was present in this document.

No motivation could be found either to provide the oxygen outlet precisely at the upper end cap, either in the arrangement of Figure 1 of E2 or even if the skilled person came across the idea of splitting the condenser from the rest of the low-pressure section.

E2 provided no mention of the size of the disclosed device, let alone any motivation for splitting the condenser from the rest of the device.

Concerning the feature "*maximum space between the bottom of the core and the bottom of the internal volume*", the reasoning of the appellant was purely based on an *ex-post* analysis.

All in all, the appellant did not prove that the skilled person would carry out all the necessary amendments but just argued that they could.

Reasons for the Decision

1. *Introductory remarks and summary of the Board's conclusions*

1.1 The question as to what extent the Board's earlier decision in T 2371/18 has a binding effect for the impugned decision of the opposition division and for this decision is decisive for deciding whether the current main request - which is identical to auxiliary request 1 filed on 11 February 2022 during the opposition proceedings - is admissible. To aid understanding, an overview of the requests that form the basis for the decisions of the Board and the opposition division is provided:

Earlier decision of the Board in T 2371/18:

- main request: for the setting aside of the impugned decision and remittal based on the patent as granted
- auxiliary requests I and II "old", both filed on 28 November 2018
- auxiliary request II "new", filed during oral proceedings before the Board on 28 April 2021 and not admitted
- auxiliary requests III, IV and V, filed on 28 November 2018

Decision of the opposition division (22 July 2022):

- main request: identical to auxiliary request III, filed on 28 November 2018

- auxiliary request 1, filed on 11 February 2022 (not identical but corresponding to auxiliary request II "new", filed during oral proceedings before the Board on 28 April 2021)

Present decision of the Board in T 2194/22:

- main request: identical to auxiliary request 1 filed on 11 February 2022 (not identical but corresponding to auxiliary request II "new" filed during oral proceedings before the Board on 28 April 2021 in case T 2371/18)

1.2 In the current decision the Board has come to the following conclusions.

The current main request (identical to auxiliary request 1 filed on 11 February 2022) is not inadmissible for procedural reasons even though it corresponds (see 2.1.1) to auxiliary request II "new", which was filed during the oral proceedings before the Board in T 2371/18 and not admitted in the earlier decision of the Board for procedural reasons.

In the case on file, the Board's earlier decision in T 2371/18 not to admit this request was not absolutely binding pursuant to the principle of *res judicata* (see 2.2). Despite Article 111(2) EPC being applicable (contrary to the respondent's view, see 2.3, in particular 2.3.2 and 2.3.3), the admittance of auxiliary request 1 filed on 11 February 2022 was not excluded pursuant to Article 111(2) EPC because the facts for not admitting that request were not the same after the opposition division had introduced a new objection (see 2.4).

Moreover, the admittance of this request did not compromise the principles to be applied in post-remittal proceedings when deciding on the admittance of a new request (see 2.5) as the request built on the framework of the previous appeal proceedings in T 2371/18, nor did it prejudice procedural economy (see 2.5.4).

The main request was also found to be allowable, considering the objections pursuant to Article 123(2) EPC (see 3.1) and - in as far as it was binding for the assessment of Article 123(2) EPC - the *ratio decidendi* of the Board's earlier decision T 2371/18 (see 3.1.1), a new objection under Article 123(2) not being admitted (see 3.2). The objection pursuant to Article 56 EPC was not found to be convincing (see 3.3). Hence, there was no reason to set the impugned decision aside or to reimburse the appeal fee (see 4. and 5.).

2. Admissibility of the main request

2.1 *Binding effect for non-identical but equivalent requests*

2.1.1 The main request is identical to auxiliary request 1 filed on 11 February 2022. The parties do not dispute that auxiliary request 1 filed on 11 February 2022, which was admitted and found to be allowable by the opposition division, is in substance identical to auxiliary request II "new" filed during oral proceedings before the Board on 28 April 2021 and not admitted in the Board's earlier decision T 2371/18, even though auxiliary request 1 filed on 11 February 2022 contains minor formal amendments.

These amendments are:

- a mere literal repetition of a feature (feature I.1 repeating the definition of Y2 "*measured parallel to the direction of extension of the central sidewall axis (22)*" already present in feature F1)
- the addition of labelling in some features which does not add any substantial information to the claim (see labels (d1) to (d3) and (e1) to (e6))
- evident typing or formatting errors (see "extending" instead of "extend in" in step (e3); "opposites" instead of "opposite" in step (e5); "fees" instead of "feed" and "outlet" instead of "outlet header" in feature G1; repetition of "top of the core" and omission of "than" in feature H1)

Hence, although the wording is not identical, the subject-matter of claim 1 of the respective requests has not changed in substance.

2.1.2 To determine whether the Board's decision prior to remittal is binding for the deciding body in the subsequent proceedings, the requests do not have to be literally identical (T 449/15, Reasons 2.4; T 436/95, Reasons 2.1). Mere redundant inclusions or linguistic or cosmetic amendments that do not impact the claimed subject-matter cannot overcome the binding effect of the earlier decision.

2.1.3 Consequently, and as correctly argued by the appellant, the finding of the opposition division under point II. 6.3.2 of the impugned decision that the facts pursuant to Article 111(2) EPC were not the same as "*auxiliary*

request 1 did not correspond to a request rejected by the Board" is not convincing.

2.1.4 Hence, in view of auxiliary request 1 (filed on 11 February 2022) and auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021 and not admitted in the first appeal proceedings) being substantively identical, it was necessary to assess whether the findings in the Board's earlier decision T 2371/18 on auxiliary request II "new" (filed on 28 April 2021) were binding for the examination of the admissibility of auxiliary request 1 (filed on 11 February 2022).

2.2 *Binding effect of res judicata*

2.2.1 The Board does not share the appellant's view that a Board's decision not to admit a request is in any case *absolutely binding* in post-remittal proceedings as *res judicata* even if the facts underlying the decision are not the same.

2.2.2 The principle of *res judicata* is not expressly mentioned in the EPC but is a generally recognised principle in the contracting states pursuant to Article 125 EPC (see for more details: T 167/93, Reasons 2.2 to 2.7; J 3/95 (28.02.1997), Reasons 6; T 449/15, Reasons 2.2). Under the principle of *res judicata,* final decisions issued by the competent court are no longer open to appeal (formal *res judicata*), and their final conclusions become binding. I.e. issues finally settled are precluded from reconsideration (substantive *res judicata*) such that the matter is conclusive as to the rights of the parties. This means that the final judgment is an absolute obstacle to a further action of the parties or to the issue of a new decision that

concerns the same legal matter, i.e. the same claim, demand or cause of action (T 153/93, Reasons 2; T 843/91 (05.08.1993), Reasons 3.4.2; T 934/91, Reasons 3, 4; T 1666/14, Reasons 2.2; T 449/15, Reasons 2.2; T 689/19, Reasons 4.3).

2.2.3 Decisions of the Boards of Appeal have the same status as court judgments (G 1/86, Reasons 14). Their decisions become final when they are issued (G 1/97, Reasons 2(a)) and therefore, in principle, can have *res judicata* effect for the parties within the jurisdiction of the EPO (Case Law of the Boards of Appeal of the EPO, 10th edition, V.A.10 with further references, see in particular: T 153/93, Reasons 2; T 694/01, Reasons 2.8 and 2.10; T 167/93, Reasons 2; T 1666/14, Reasons 2.2; J 3/95 (28.02.1997), Reasons 4; for the *res judicata* effect with respect to the intervener, see: T 689/19, Reasons 4.6 to 4.9; T 694/01, Reasons 2.20; for interlocutory decisions pursuant to Article 8(2) RPBA, see: T 956/19 of 28 February 2024, Reasons 3 and 4; see also: travaux préparatoires MR/2/00 of 13 October 2000, Explanatory Remarks to Article 112a EPC, page 139, point 11, referring to "the force of res judicata" of the decisions of the Boards of Appeal; Special edition no. 4 to OJ EPO 2007: Revision of the European Patent Convention (EPC 2000), Synoptic presentation EPC 1973/2000 - Part I: The Articles, Article 112a EPC, pages 128-130, points 10. and 19.).

Also in proceedings subsequent to a remittal ordered by a board, the board's final conclusions are binding for the department of first instance in the resumed proceedings and for the board in a potential subsequent appeal (Case Law of the Boards of Appeal of the EPO, 10th edition, V.A.10.1 to 10.6; T 694/01, Reasons 2.8 and 2.10). Therefore, in the case law of the Boards of

Appeal, the principle of *res judicata* has also been found to be applicable in proceedings subsequent to appeal proceedings. In this respect, the binding effect following from the principle of *res judicata* is not always clearly distinguished from the binding effect of the *ratio decidendi* pursuant to Article 111(2) EPC in the case law of the Boards of Appeal, and the decisions are sometimes not consistent as to which principle applies in specific circumstances (see, for example, T 1545/08, Reasons 11 and 12 compared to T 308/14, Reasons 1.2 and 1.3). The differences between the binding effect of these principles are examined in the following (see points 2.2.4 and 2.2.5 below) for the case at hand.

2.2.4 The order of a board's decision provides a first point of reference for establishing the extent to which the principle of *res judicata* applies. As a second point, the order has to be seen in the context of the reasons for the decision as a whole to determine the extent to which the matter is finally settled (T 449/15, Reasons 2.3; T 689/19, Reasons 4.3). Thus, the effect of the *res judicata* is not limited to the order, but also includes the findings and conclusions that were decisive for the Board's decision on a specific request. Such final conclusions (see point 2.2.6 below on whether the non-admittance decision on auxiliary request II new in T 2371/18 is to be considered a "final conclusion" as meant above) are not open to reconsideration even if new facts are adduced (T 843/91 (5 August 1993), Reasons 3.4.2; T 694/01, Reasons 2.8; T 153/93, Reasons 2; T 689/19, Reasons 4.5). Hence, the principle of *res judicata* implies that the conclusive decision on a specific request is an absolute bar for reconsideration, i.e. irrespective of whether the facts are the same (see T 449/15, Reasons 2.5).

2.2.5 The effect of *res judicata* has to be distinguished from the binding effect of the *ratio decidendi*, i.e. "*the point in a case which determines the outcome of the judgement*" (T 689/19, Reasons 4.4; T 449/15, Reasons 2.5), pursuant to Article 111(2) EPC. The binding effect of the *ratio decidendi* is on the one hand narrower as it is limited to proceedings on the same application or patent following a remittal of the case and as it only applies in so far as the facts are the same. However, on the other hand, it is broader in so far as it is related to matters not covered by the *res judicata* but encompassed by the underlying reasoning (*ratio decidendi*) in the remittal decision. This means that only matter which is *not* covered by the *res judicata*, i.e. which is *not* finally settled, is open for reconsideration in post-remittal proceedings in as far as the facts are not the same (T 689/19, Reasons 4.5; T 449/15, Reasons 2.5). In contrast, matter which is *finally* settled is *absolutely* binding also in post-remittal proceedings, i.e. irrespective as to whether the facts are the same.

2.2.6 Against this background, the strict application of the principle of *res judicata* is not adequate for decisions on the non-admittance of the parties' submissions, such as a late-filed claim request, in as far as such decisions are intermediate conclusions based on a specific procedural situation.

The Board concedes that for admitting a request, the Board needs to exercise its discretion to determine which of the several possible legally correct outcomes to choose. This is more than the mere conclusion following an assessment of admissibility or allowability because it requires a selective

"decision" (compare also R 6/22, Reasons 5, referring to a "decision on admittance") among several possible options. Nevertheless, the "decision" of admittance or non-admittance is usually not reflected in the order and usually remains an intermediate step in reaching the final decision. Therefore, if the circumstances that were relevant for the decision change in the course of the proceedings, it seems appropriate that the "decision" of admittance remains open for reconsideration. This is also acknowledged for intermediate decisions to take evidence (see Benkhard/ Küssen, EPÜ, 4th edition, Article 111, point 132). Extending the principle of *res judicata* strictly also to decisions based on a specific procedural situation would exclude any reconsideration in this respect, even if the relevant facts did not remain the same. This could be detrimental to the flexibility necessary to respond to the relevant factual and procedural circumstances of the case to guarantee fair proceedings.

For example, a new request might not have been admitted pursuant to Article 13(2) RPBA at the beginning of the oral proceedings in appeal for the sole reason that there was no justification for filing it only at that stage. But if subsequently, in the course of the oral proceedings, new objections or new documents from the opposing party (that were not previously on file) are admitted, the new request might become a legitimate reaction to this new procedural situation. As set out in Article 13(3) RPBA and also based on the right to be heard, the other party would be entitled to submit its observations on the amendment and could respond by re-filing the request which was previously not admitted but which is at that advanced stage of the proceedings a legitimate response to the new procedural situation

caused by the admittance of new objections or documents.

Accordingly, the Board's "decision" not to admit auxiliary request II "new" filed on 28 April 2021 in the earlier appeal proceedings which was only based on procedural reasons is not an absolute bar for reconsideration of an identical or equivalent request in proceedings subsequent to remittal.

2.3 *Binding effect of the ratio decidendi (Article 111(2) EPC)*

2.3.1 The fact that in the case on file the Board's decision in T 2371/18 not to admit auxiliary request II "new" filed before the Board on 28 April 2021 is not an absolute bar for reconsidering an identical or equivalent request in post-remittal proceedings does not exclude the applicability of the binding effect of the *ratio decidendi* pursuant to Article 111(2) EPC. The latter allows reconsidering the Board's findings in as far as the facts the previous decision is based upon are not the same. The binding effect under Article 111(2) EPC is not, therefore, detrimental the flexibility needed to respond to a change of the relevant factual and procedural circumstances of the case and to guarantee fair proceedings. Thus, it is also suitable for assessing as to whether a "decision" not to admit a party's submission in the earlier decision for procedural reasons is binding in post-remittal proceedings.

Hence, the binding effect of the *ratio decidendi* as set out in Article 111(2) EPC does apply to the Board's earlier decision in T 2371/18 not to admit auxiliary

request 1 filed 11 February 2022 but only in so far as the relevant facts remain the same.

2.3.2 In the current appeal proceedings, the respondent argued that although auxiliary request 1 filed on 11 February 2022 corresponded to auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021), the opposition division had not been bound by the *ratio decidendi* in the Board's earlier decision T 2371/18 because the binding principle as set out in Article 111(2) EPC only applied if the Board's decision considered the technical content of the request, at least as regards *prima facie* allowability. As this assessment had not been made in the Board's earlier decision T 2371/18, the decision was not binding in the respondent's opinion.

2.3.3 The Board is not convinced by this argument. Contrary to the respondent's opinion, the binding effect of Article 111(2) EPC with respect to a decision on admittance of a submission is not limited to decisions or conclusions of a Board based on the examination of the substance of a party's request. Rather, the decision of a Board not to admit a request for procedural reasons is indeed covered by the principles set out for the binding effect in Article 111(2) EPC even if the content of the claimed subject-matter (*prima facie* allowability) was not considered in the reasoning. Thus, a party's submission, such as a claim request that was not admitted for procedural reasons in the appeal proceedings, in particular for being late filed, is inadmissible under Article 111(2) EPC in post-remittal proceedings if the relevant facts for non-admittance remain the same.

The reason for this is that the purpose of the binding effect as set out in Article 111(2) EPC is to ensure that the subsequent proceedings build on the findings in the appealed decision. This is intended to prevent the final decision of the case from being delayed, which would be the case if the legal dispute constantly shifted back and forth between two different instances. The binding effect of the *ratio decidendi* also serves to guarantee legal certainty by excluding inconsistent conclusions in the proceedings after remittal. Hence, the procedural obligations in Article 111(2) EPC serve the general interest of the public and the parties that legal disputes be terminated as soon as possible.

Considering this purpose of the binding effect of Article 111(2) EPC, it is clear that the examination after remittal should in principle not restart in an unlimited manner but needs to build on the framework set out in appeal.

Also, the decision of a board not to admit late-filed submissions of the parties serves the purpose of avoiding delays and ensuring fair, concentrated and brief proceedings. Moreover, in *inter partes* proceedings, the limitation of the overall duration of the proceedings is also required to ensure the interest of the other party to achieve a final decision in a reasonable time (see T 383/11, Reasons 1.4). This purpose cannot be considered separately for the appeal proceedings and the proceedings subsequent to the remittal. Rather, the interest to have brief and concentrated proceedings covers the entire proceedings conducted to reach a final decision. Therefore, non-admittance of a party's submission, such as a claim request, in appeal proceedings also serves to define

the framework for subsequent proceedings by limiting the subject-matter to be examined.

Hence, if the facts underlying the Board's reasoning for non-admittance of a late-filed claim request remain the same, the re-filed request is inadmissible for procedural reasons under Article 111(2) EPC, i.e. its admittance is not subject to the discretion of the opposition division as the inadmissibility under Article 111(2) EPC is absolute and not a matter of discretion.

2.3.4 Thus, to determine whether the binding effect of Article 111(2) EPC applied in the case on file, it is decisive whether the facts for not admitting auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021) in the earlier decision of the Board (T 2371/18) remained the same in the opposition proceedings subsequent to the remittal.

2.4 Alteration of the relevant facts under Article 111(2) EPC

2.4.1 The opposition division admitted auxiliary request 1 filed on 11 February 2022 since it was considered to be a legitimate response to the Board's earlier decision T 2371/18 in which an objection relating to Article 76(1) EPC had been raised against the previous auxiliary request I (filed on 28 November 2018) (see point 6.1.2.2 of the impugned decision).

2.4.2 The Board does not support the findings underlying the opposition division's conclusion (see 2.4.6 below), although the Board also concludes that auxiliary request 1 filed on 11 February 2022 was not inadmissible. This is, however, for a different reason,

namely because the facts that had led to the non-admittance of auxiliary request II "new" (filed during the oral proceedings before the Board on 28 April 2021) in the Board's earlier decision T 2371/18 changed in the subsequent opposition proceedings (see 2.4.7 below) such that the binding effect pursuant to Article 111(2) EPC did not exclude reconsidering the admittance of the substantially identical request (auxiliary request 1 filed on 11 February 2022).

2.4.3 As set out above, Article 111(2) EPC provides for a binding effect of the *ratio decidendi* only "in so far as the *facts* are the same". Contrary to the appellant's argument, the term "fact" is not to be interpreted narrowly. This is confirmed by the French term "*les faits de la cause*" and the German term "*Tatbestand*", the latter being the technical term for the part of a court's decision that defines the factual *and* procedural circumstances underlying the judgment. Therefore, if it is assessed whether the non-admittance of a request in the earlier decision is binding, the "facts" within the meaning of Article 111(2) EPC can also encompass new procedural developments such as the raising of a new objection.

Hence, depending on the particular circumstances of the case and the reasoning for non-admittance in the earlier decision, the raising of a new objection in post-remittal proceedings may eliminate the binding effect of the *ratio decidendi* (Article 111(2) EPC) of the decision not to admit a request for procedural reasons.

2.4.4 However, the Board wishes to stress that the mere fact that the opposition proceedings are not identical to post-remittal proceedings and that the Rules of

Procedure of the Boards of Appeal are not directly applicable in opposition proceedings cannot as such be regarded as "facts which are not the same" that would suspend the binding effect under Article 111(2) EPC. Rather, as set out above, the purpose of Article 111(2) EPC to ensure brief proceedings and legal certainty requires considering the overall duration of the proceedings. The convergent approach underlying the appeal proceedings is not to be ignored after remittal. Rather, "*the prosecution of the case after remittal must in some way follow on the way from the situation that existed at the end of the appeal procedure, and that led to the remittal*" (T 383/11, Reasons 1.4; compare also: T 1238/22, Reasons 1.3.3; T 796/02, Reasons 5 to 13; for a seemingly diverging approach, nevertheless as a mere *obiter dictum*: T 2310/22, Reasons 44 and 45).

Thus, what needs to be assessed as regards the binding effect of the Board's decision of non-admittance in the earlier decision T 2371/18 is whether the developments after remittal changed the factual or procedural circumstances in such a way that the Board's reasoning for non-admittance is no longer applicable. Whether this is the case depends on the particular reasoning in the Board's decision, e.g. whether it is of a mere procedural nature (as is frequently the case for non-admittance under Article 13(2) RPBA) or whether it also takes into account the content of the claim request (for example, as regards *prima facie* allowability or its convergence with higher-ranking requests).

2.4.5 In the case at hand, the reasoning (*ratio decidendi*) in the Board's earlier decision T 2371/18 (points 3.4 and 3.5) for not admitting auxiliary request II "new" (filed on 28 April 2021) merely related to the

procedural situation at that stage of the proceedings. In the Board's earlier decision, it was held that the proprietor had been made aware of the particular objection under Article 123(2) EPC at an early stage with the opponent's grounds of appeal, and therefore the proprietor could and should have filed the new request (auxiliary request II "new") already with its reply, whereas filing the request only in the oral proceedings before the Board was detrimental to procedural economy.

2.4.6 The facts underlying the decision not to admit auxiliary request II "new" during oral proceedings were not altered by the subsequent written reasoning in the Board's earlier decision T 2371/18. Hence, contrary to the findings of the opposition division in the contested decision (point 6.1.2.2), the new request was not a legitimate reaction to objections made by the Board in T 2371/18 because the objections underlying the decision had not been raised by the Board for the first time in the written decision. Rather, as correctly argued by the appellant and also stated under point 3.4 in the Board's earlier decision T 2371/18, the "*objection under Article 123(2) EPC with regard to feature Y5/Y2 was already made in the opponent's statement of grounds of appeal (see point 8.4)*" and thus before the Board's decision to remit the case. Moreover, the proprietor had already responded to this objection by filing auxiliary request II "new" in the oral proceedings before the Board in appeal proceedings T 2371/18. Hence, the objections in the earlier proceedings T 2371/18 to the higher-ranking requests cannot be regarded as a change of facts *after* remittal pursuant to Article 111(2) EPC and therefore cannot eliminate the binding effect of the r*atio decidendi* of the Board's decision not to admit auxiliary request II

"new" (filed on 28 April 2021 during the oral proceedings before the Board).

2.4.7 However, in the opposition proceedings subsequent to remittal, the procedural and factual circumstances within the meaning of Article 111(2) EPC indeed changed in so far as the opposition division issued a preliminary opinion on 15 October 2021 in which it presented a new objection under Article 123(2) EPC against the then pending auxiliary request III. This request had previously been filed on 28 November 2018 with the proprietor's statement of grounds of appeal in T 2371/18. Auxiliary request III filed on 28 November 2018 was not assessed in the Board's decision T 2371/18 but formed the basis for the remittal. In pursuing this request when re-entering opposition proceedings, the proprietor did indeed follow on from the situation that existed at the end of the first appeal proceedings.

With the communication of 15 October 2021, the opposition division raised, under point 11.2, objections under Article 123(2) EPC against this auxiliary request III.

As discussed in the oral proceedings of the current appeal proceedings, the objections raised in the communication of the opposition division were *not identical* to the objections referred to in the Board's earlier decision T 2371/18 under points 1.2, 2.4, 3.4 and 4.

(a) The Board considered in the earlier decision T 2371/18 that the main request dealt with in that decision was not allowable on grounds of added subject-matter. The particular objection reasoned

by the Board was that claim 1 defined a range of submersion of the core "equal or more than 50% and less than 100%", this range lacking a basis in the original disclosure (see point 1.2 of the earlier decision).

Moreover, the Board considered in the earlier decision T 2371/18 that auxiliary requests I and II "old" were not allowable either on grounds of added subject-matter. The objection in this case was that the omission of the ratio Y5/Y2 in claim 1 - representing the height of the liquid fluid inlet on the sidewall of the shell from the bottom of the core (Y5) divided by the total height of the core (Y2) - resulted in an unallowable intermediate generalisation (see points 2.4 and 4 of the earlier decision T 2371/18).

(b) In contrast, the opposition division's new objection on grounds of added subject-matter against auxiliary request III in the communication of 15 October 2021 was based on the fact that the interaction between the wording "at least" and the definition of an upper range limit in the amended feature "*at least 75-95% of the height of the core is submerged in the liquid-phase refrigerant*" rendered this upper limit moot since the feature encompassed ranges like 75 to 96%, 76 to 97% and 75 to 98% (see point 11.2.2 of the summons). Since the originally filed application did not disclose ranges comprising such endpoints, the opposition division concluded that the amendment contravened Article 123(2) EPC.

2.4.8 The objection raised by the opposition division after remittal was thus different from the objections raised

and considered before since the new objection focused on the interaction between the feature "at least" and the definition of an upper value of the range, this interaction causing the upper limit to be *de facto* not limiting. Consequently, this new objection changed the relevant circumstances compared to what was discussed in the earlier decision, even if it concerned the same ground for opposition or even the same parameter as in the case of the main request dealt with in the earlier decision.

2.4.9 Contrary to the appellant's argument, in the current case the raising of the new objection is not to be regarded as a mere argument irrelevant for the assessment of admittance. Rather, in line with the established case law of the Boards of Appeal, a new development in the proceedings, such as the raising of a new objection, can justify the admittance of a new request filed to overcome this objection, even at a very late stage of the appeal proceedings (Case Law of the Boards of Appeal of the EPO, 10th edition, V.A. 4.5.4 a)), and there is no reason to apply a stricter standard in proceedings before the opposition division post-remittal.

Moreover, the Board's reasoning (*ratio decidendi*) in the Board's earlier decision T 2371/18 for the non-admittance of auxiliary request II "new" (filed during oral proceedings before the Board on 28 April 2021) was based on the fact that the proprietor was aware of the previous objection under Article 123(2) EPC (see point 3.4 of the Reasons in T 2371/18). However, this reasoning did not encompass the new objection under Article 123(2) EPC made only at a later stage by the opposition division in the proceedings subsequent to remittal. As the Board in T 2371/18 could not consider

this aspect when exercising its discretion, the new objection changed the circumstances relevant for the assessment of the admittance of this substantially identical request.

Thus, in the case on file, the facts with respect to admittance of auxiliary request 1 (filed on 11 February 2022 and corresponding in substance to auxiliary request II "new" not admitted in the Board's earlier decision T 2371/18) within the meaning of Article 111(2) EPC were not the same in the post-remittal proceedings. Hence, the binding effect of Article 111(2) EPC did not apply. Re-filed auxiliary request 1 (filed on 11 February 2022) was therefore not inadmissible for procedural reasons (Article 111(2) EPC) such that its admittance was subject to the discretion of the opposition division.

2.5 Criteria for admitting a request in opposition proceedings subsequent to remittal

2.5.1 When exercising the discretion in post-remittal proceedings, the opposition division must take into account the framework defined in the appeal proceedings that led to the remittal to ensure the legitimate interests of the other party and the general public in having some degree of legal certainty about the existence and scope of the European patent within a reasonable time span (T 383/11, Reasons 1.4). This may also apply if the facts are not the same such that the binding effect of the *ratio decidendi* (Article 111(2) EPC) does not directly apply (compare T 796/02, Reasons 4 and 5 to 13).

2.5.2 In proceedings subsequent to remittal, a proprietor is not, in principle, precluded from filing new claim

requests if they are in accordance with the principle of *res judicata* and the *ratio decidendi* of the Board's decision that led to the remittal. However, the Board agrees with decision T 1238/22 (Reasons 1.3.3) and T 383/11 (Reasons 1.3 to 1.5; see also: T 796/02, Reasons 5 to 13) that the proprietor does not have *carte blanche* to file amended claim requests in opposition proceedings subsequent to remittal without limitations to their number, convergence and complexity. Even if the raising of a new objection might justify that the proprietor is entitled to a fair and legitimate response, the admittance of requests with subject-matter broader than that assessed in the previous appeal proceedings is usually not justified. Rather, as set out above, the prosecution of a case after remittal should in principle build upon the situation that existed at the end of the appeal proceedings that led to the remittal (T 383/11, Reasons 1.4). This principle needs to be considered in post-remittal proceedings when deciding on the admittance of a party's submission.

2.5.3 In decision T 383/11, the Board found that this principle had been undermined, and the Board decided to disregard a request that had previously been admitted by the opposition division in post-remittal proceedings (see T 383/11, Reasons 1.3 and 1.4). Hence, in this decision, the Board assessed whether the opposition division's decision to admit the request was correct. However, the case law of the Boards of Appeal is not uniform on whether a Board is indeed competent to review such a (positive) decision of admittance in the same manner as a (negative) decision *not* to admit, i.e. whether the correct principles for exercising the discretion were applied in a reasonable way (G 7/93, Reasons 2.6). A review on the correct exercise was

carried out in some decisions (T 960/15, Reasons 4 to 7; T 2197/11, Reasons 3.2.2 to 3.2.3; T 858/17, Reasons 2.4 to 2.6; T 572/14, Reasons 2.4 to 2.5; T 1209/05, Reasons 2.2 to 2.4), while others disregarded a review *per se* (T 617/16, Reasons 1.1.1; T 2049/16, Reasons 3.2; open in: T 467/15, Reasons 3.1; see also Case Law of the Boards of Appeal of the EPO, 10th edition, V.A. 3.4.4). However, this discrepancy does not become relevant if - as in this case (see point 2.5.4 below) - the admittance of the request was justified when applying the correct principles.

2.5.4 In the current case, the Board finds that the opposition division's decision to admit auxiliary request 1 (filed on 11 February 2022) was justified because it does not impinge on the relevant procedural principles. Rather, that request was a legitimate response to the new objection raised for the first time by the opposition division (see above 2.4.8), and it does not prejudice procedural economy.

As regards convergence, some features in auxiliary request III (filed on 28 November 2023) were omitted in auxiliary request 1 (filed on 11 February 2022), such that this request was not strictly convergent with the higher-ranking requests in the Board's earlier decision T 2371/18. However, while convergence can be relevant (see above 2.5.2), it is not an absolute criterion but serves to ensure procedural economy. Thus, if procedural economy is not negatively affected, a request might exceptionally be admitted in post-remittal proceedings despite a lack of convergence.

This applies to auxiliary request 1 (filed on 11 February 2022), whose subject-matter builds upon the findings in the Board's earlier decision T 2371/18 such

that - despite the lack of convergence - the amendments are not detrimental to procedural economy for the following reasons.

(a) The features omitted in auxiliary request 1 (filed on 11 February 2022) compared to the higher-ranking requests on file in the Board's earlier decision T 2371/18 were either substituted by other features or their omission - in particular the omission of a restriction to LNG - had been considered not to violate the requirements of Article 123(2) EPC (see T 2371/18, Reasons 1.1 and 2.2) Moreover, the omission of the restriction to LNG ("*in a process for liquefying a natural gas stream*") and the specific location for introducing the refrigerant ("*step (b) including introducing said refrigerant into the internal volume at a location above the level of the liquid-phase refrigerant in the shell*") had no impact on the analysis of inventive step, as proved by the unamended objections of the appellant. The respondent therefore took into account the substantive findings in the Board's earlier decision T 2371/18 and relied on the same arguments for inventive step as for its previous requests.

(b) When discussing the objection of added subject-matter against the then pending auxiliary request I (filed 28 November 2018) in T 2371/28, the Board reasoned why the skilled person would understand that the parameter Y5/Y2 - the only parameter left out after having incorporated in amended claim 1 of that request all other parameters and dimensions defined in Table 1 - was inextricably linked to the rest of the features added to claim 1 (see point 2.4.4 in T 2371/18). There the Board considered in

particular that "[t]*he description thus indicates that there is an interaction between the specific parameters and dimensions of Table 1 which allows the simultaneous achievement of all the advantages*".

(c) The objected to submersion range was amended according to the originally disclosed values in Table 1 (see step (e2) of contested claim 1 and Table 1 of the originally filed application, last row). According to the *ratio decidendi* of the Board's earlier decision T 2371/18, the original disclosure consisted of the simultaneous provision of all parameters of Table 1 due to the interaction among them. Thus, adding the submersion range defined in Table 1 required - according to T 2371/18 - that all other parameters be included as well in claim 1.

2.5.5 This is exactly what the respondent did. By following the *ratio decidendi* of T 2371/18 and responding to the new objection set out by the opposition division in post-remittal proceedings, the amendments resulted in a claim which corresponded to claim 1 of auxiliary request II "new" (filed during oral proceedings before the Board on 28 November 2018) which complies with the requirements of the EPC (see below point 3.1 and 3.3).

2.5.6 In view of the above, auxiliary request 1 filed on 11 February 2022 complies with the criteria to be applied when assessing the admittance of a request in opposition proceedings subsequent to a remittal.

3. Allowability of the main request

3.1 Main request (auxiliary request 1 filed on 11 February 2022), added subject-matter - Article 123(2) EPC

3.1.1 Binding effect of the ratio decidendi (Article 111(2) EPC) as regards the omission of the feature "for liquefying natural gas" for the assessment of Article 123(2) EPC

3.1.2 The appellant argued that the reasoning of the earlier decision on the allowability of the omission of the feature "for liquefying natural gas" was not binding pursuant to Article 111(2) EPC since the facts were not the same. This was because the maintained auxiliary request 1, filed on 11 February 2022 (main request of the current appeal proceedings), was a different request from auxiliary requests I and II "old" (filed on 28 November 2022) which were dealt with in the Board's earlier decision T 2371/18. Table 1 of the originally filed application disclosed an embodiment specifically intended for liquefying natural gas, this feature having been omitted in claim 1 of current auxiliary request 1 (filed on 11 February 2022).

3.1.3 This is not persuasive.

The binding effect of Article 111(2) EPC encompasses the entire post-remittal proceedings, including subsequent appeal proceedings ("self-binding" effect, see: Case Law of the Boards of Appeal of the EPO, 10th edition, V.A.10.4).

Although the main request in the pending appeal proceedings (corresponding to auxiliary request 1 filed on 11 February 2022) is not identical to the main request and auxiliary request I (as considered under points 1 and 2 of the Board's earlier decision in T 2371/18), the respective amendments have no bearing on the *ratio decidendi* as set out under points 1.1 and 2.2. of the earlier decision such that the respective conclusion still applies.

3.1.4 The Board decided in its earlier decision T 2371/18 on the then pending main request (patent as granted) and auxiliary request I "old" (filed on 28 November 2018) that the omission of the feature "for liquefying natural gas" did not represent an unallowable extension of subject-matter, this in particular in connection with the parameters of Table 1 (see considerations 1.1.1, 1.2.2 and 2.2.1, 2.2.2 of T 2371/18). The Board considered that there was no inextricable link between the values of the embodiment defined in Table 1 and the use of the method "for liquefying natural gas".

As this is exactly the objection raised by the appellant against claim 1 of the current main request in the present appeal (i.e. auxiliary request 1 filed on 11 February 2022), the *ratio decidendi* as set out under points 1.1.2 and 2.2.2 of the Board's earlier decision in T 2371/18 is binding for the decision of the Board in the pending appeal proceedings pursuant to Article 111(2) EPC.

3.1.5 The appellant argued as well in its written submissions that it was entitled to reopen the discussion on this matter since the opposition division counteracted the reasoning in the earlier decision by admitting auxiliary request 1 filed on 11 February 2022.

3.1.6 This is not persuasive since the admittance of auxiliary request 1 filed on 11 February 2022 cannot justify a deviation from the *ratio decidendi* as set out in the earlier decision T 2371/18 under points 1.1.2 and 2.2.2 for the then pending main request (patent as granted) and auxiliary request I "old" (filed 28 November 2018). This would indeed be contrary to the binding effect of the earlier decision T 2371/18 enshrined in Article 111(2) EPC as the relevant facts to be considered in this respect (omission of the feature "for liquefying natural gas") remained the same despite the amendments made in auxiliary request 1 filed on 11 February 2022.

3.1.7 In view of the above, the objection based on the omitted feature "for liquefying natural gas" cannot prejudice the allowability of the main request pursuant to Article 123(2) EPC in the pending appeal proceedings.

3.2 Omitted feature "bottom curved downwards"

3.2.1 The objection based on the alleged unallowable intermediate generalisation caused by the omission of the feature "bottom curved downwards" was submitted for the first time with the statement setting out the grounds of appeal of the current case, as also acknowledged by the appellant. This is not a mere new argument in an already existing open discussion as argued by the appellant but a completely new objection to be regarded as an amendment pursuant to Article 12(4) RPBA. The admittance of this amendment of the appellant's case is therefore subject to the discretion of the Board under Article 12(4) and (6) RPBA.

3.2.2 Under Article 12(4) RPBA, third paragraph, the Board shall exercise its discretion in view of, *inter alia*, the need for procedural economy, which can be undermined if an objection is *prima facie* not relevant. Here, the objection is *prima facie* not relevant for the following reasons.

The appellant acknowledges that the dimensions defined in step (e6) of contested claim 1 are disclosed on page 9 of the originally filed application (see rows Y3 and Y3/Y1 in column "Preferred range" of Table 1 and also lines 8 to 10 of page 9). The description of the corresponding embodiment does not disclose any inextricable link between the parameter Y3 and the downwardly curved bottom of the shell (12) shown in Figure 1. The description only refers to the lower end cap (20) forming the bottom in general terms without specifying any shape but just disclosing its technical role (see page 7, first paragraph).

Figure 1 of the originally filed application is merely schematic, and the skilled person understands that its purpose is to graphically explain the parameters for which some values are disclosed in the description. Given its schematic nature, the skilled person would not think that details not explicitly disclosed as playing a role in the invention - such as the shape of the lower end cap (20) - were inextricably linked to the dimensions defined in the preferred embodiment (see Table 1).

3.2.3 Moreover, the appellant could and should have filed its objection already in the post-remittal opposition proceedings as the request under consideration was filed at an early stage on 11 February 2022 (Article 12(6) RPBA).

3.2.4 In view of the above, the Board exercised its discretion not to admit the new objection into the appeal proceedings pursuant to Article 12(4) and (6) RPBA.

3.3 Main request (auxiliary request 1 filed on 11 February 2022), inventive step - Article 56 EPC

3.3.1 Initial remarks

For the sake of argument, the Board will accept the reasoning of the appellant concerning the distinguishing features and the applicability of an approach based on partial problems to analyse inventive step. This is done to prove that even if the appellant were right in its considerations in this respect, the skilled person would still not arrive at the subject-matter of claim 1 in an obvious manner.

3.3.2 The appellant argued that the subject-matter of claim 1 differed from the embodiment in Figure 2 of E2 in that:

- the heat exchanger comprised a normally-upper end cap defining a vapour outlet for discharging gas-phase shell-side fluid from the internal volume (step a))
- the maximum space measured parallel to the direction of extension of the central sidewall axis between the bottom of the core and the bottom of the internal volume is greater than 2 ft (0.6 m) (step e6))
- the ratio of the height of the core submerged in the liquid-phase refrigerant to the maximum height of the core is in the range 0.5 to 0.98 (step e2))

3.3.3 The technical problems for each distinguishing feature were defined by the appellant as follows:

- optimising the available space when the integrated column device of E2 was too high
- increasing stability by arranging a bent bottom for the device of E2,
- achieving a desired submersion rate for the core of the device of E2

3.3.4 Obviousness of the feature "a normally-upper end cap defining a vapour outlet"

3.3.5 The appellant argued that the skilled person, being aware of the fact that condensers are one of the most important components of devices such as the one disclosed in E2 (see E1, first paragraph of point 9.4.2.5 on page 477), would contemplate separating the heat exchanger section from the low-pressure section arranged above it in E2 by providing a separate vessel for the heat exchanger section from which the oxygen would be channelled through a suitable piping towards the correspondingly separated low-pressure section. This separate vessel would necessarily have an end cap at the location of reference sign 14 in Figure 1 of E2, where the heat exchanger ended and the low-pressure column located above began (see statement of grounds of appeal, page 10, first paragraph). This is the reference point the appellant used to determine the relative dimensions of the heat exchanger section from Figure 2 using a ruler (statement of grounds, point 5.1.3).

3.3.6 This reasoning is tainted by an unallowable *ex-post facto* approach since E2 does not disclose any details

(including dimensions) of the "fractionating column 10" - only schematically represented in Figure 1 - which could suggest a problem with its allegedly excessive height. The arguments of the appellant are merely unsubstantiated allegations, as is the alleged common general knowledge consisting of splitting such devices into different independent units. E2 discloses the fractionating column (10) as a working unit with a very particular construction which ensures a certain circulation of the oxygen and nitrogen. Indeed, the low-pressure section (14), the heat exchanger ("oxygen reboiler section") and the high-pressure section (12) are disclosed in a functionally and structurally linked construction. Gaseous nitrogen from the high-pressure section (12) enters the plate type oxygen reboiler heat exchanger via conduits (27, 29, 26), cools down and condenses while vaporising the liquid oxygen in the lower part of the low-pressure column (14), the condensed nitrogen being transferred back from the heat exchanger to the high-pressure section (12) via conduits (28) and through openings in the bottom of the reboiler section (16). The skilled person would not modify such an interlinked construction without motivation for doing so since this would imply major modifications to compensate for the different flow of oxygen and nitrogen towards the (then separated) low-pressure section (14). The precise location of the high-pressure section (12) after the alleged separation of the condenser of E2 has not been specified by the appellant, even if such a location may imply major modifications in the disclosed "core-side fluid outlet" extending through the lower end cap (see Figure 1; remark feature G1 of contested claim 1).

Consequently, the skilled person would not contemplate, in an obvious manner, separating the condenser unit of

Figure 1 of E2 from the rest of the fractionating column (10). The arguments of the appellant based on this assumption thus fail for this reason alone, independently of the content of the schematic figures of E5.

3.3.7 The appellant has argued in the alternative that assuming that Figure 1 of E2 disclosed the upper end cap, it would be obvious for the skilled person to provide an outlet in that upper end cap to let the gas produced at the top of the column out, according to the common general knowledge of the skilled person as proved by Figure 4.23 of E1.

3.3.8 This is not persuasive either for the following reasons.

3.3.9 According to the appellant, the presence of a low-pressure section (14) above the oxygen reboiler section (16) implies that the fractionating column (10) would extend vertically much further beyond the oxygen reboiler section (16). Even though no precise dimensions are provided in E2 (see point 3.3.6 above), it can be assumed that the disclosure of a low-pressure section (14) above the oxygen reboiler section (16) implies some extra height above the latter.

Consequently, considering the upper end cap shown in Figure 1 as the upper end cap within the meaning of claim 1 implies that the reasoning/measurements of the appellant concerning the ratios involving the maximum height of the shell (Y1 in the wording of claim 1) have to be revised. In particular, measuring the shell height at reference 14 of Figure 1 makes no sense if the end cap is actually to be seen at an undefined distance above, at the end of the low-pressure section.

Indeed, if Y1 is no longer restricted to the height strictly necessary for housing the oxygen reboiler section (16) (plus a "usual" distance between the heat exchangers (18) and the shell) - as argued by the appellant when measuring height Y1 from Figure 1 of E2 in the context of an allegedly obvious separate heat exchanger isolated from the low- and high-pressure sections of the Figure 1 embodiment (see point3.3.5 above) - it cannot be assumed as disclosed or obvious that the ratio between, on the one hand, the distance between the bottom of the core and the bottom of the internal volume (i.e. the shell) and, on the other hand, Y_1 is greater than 0.15. In fact, in such a situation, the opposite would be true, thus resulting in a method not comprising the features defined in step (e6).

Consequently, even if a fluid outlet were provided in the cap disclosed in Figure 1 of E2, the appellant has not shown that the resulting device would fall under the subject-matter defined in claim 1 since the calculations provided taking into consideration a cap located at reference sign (14) of Figure 1 would not be applicable any more.

3.3.10 *Obviousness of the feature "maximum space measured parallel to the direction of extension of the central sidewall axis between the bottom of the core and the bottom of the internal volume is greater than 2 ft. (0.6 m)"*

3.3.11 The appellant argued that the skilled person - to increase the stability of a separated out heat exchanger comprising part of the column of E2, Figure 1 - would implement a curved bottom instead of the flat

one disclosed and would thus arrive at this distinguishing feature in an obvious manner since the liquid shell-side fluid had to circulate around the edges of the heat exchangers and the defined range falls within what is technically sensible.

3.3.12 This is not persuasive since no motivation is disclosed in any document provided for the skilled person to modify the flat bottom disclosed in Figure 1 of E2. Furthermore, the alleged motivation, i.e. increasing stand stability, only arises if in a first step the person skilled in the art had contemplated splitting up the column of E2, Figure 1. This would be a second step, following a first one, without there being any motivation in the prior art for either (see point 3.3.6 above).

Moreover, the flat bottom disclosed in Figure 1 of E2 provides some distance between the heat exchangers (18) and the bottom (see location of conduit (24)), the nitrogen outlet conduits (28) extending through the flat bottom on their way towards the high-pressure section (12) (see feature G1 of contested claim 1, which requires the outlet to extend through the sidewall). Replacing the flat bottom of Figure 1 of E2 with a curved bottom would therefore imply other modifications of the elements arranged in and around the bottom of the fractionating column (10) and would not be contemplated by the skilled person without motivation in this direction.

3.3.13 *Obviousness of the feature "the ratio of the height of the core submerged in the liquid-phase refrigerant to the maximum height of the core is in the range 0.5-0.98"*

Since the analysis of the first two (groups of) distinguishing features already results in the non-obviousness of the corresponding modifications which the skilled person would have to undertake when starting from E2 to arrive at the subject-matter of claim 1, there is no need to analyse the obviousness of the third group of features identified by the appellant in its analysis of inventive step (i.e. the submersion ratio of the core) since, even if these features were the result of an obvious modification, the subject-matter as a whole would still involve an inventive step.

3.3.14 *Conclusion on inventive step*

In view of the above, the objection raised by the appellant - irrespective of the question of admittance - cannot explain how the skilled person starting from E2 would arrive in an obvious manner at a method comprising at least the first and second acknowledged distinguishing features. The subject-matter of claim 1 thus implies an inventive step (Article 56 EPC).

4. *Conclusion*

It follows from the foregoing that the Board cannot accede to the appellant's requests to set the impugned decision aside and to revoke the patent.

5. Reimbursement of the appeal fee - Rule 103(1)(a) EPC

Since the appeal is not allowable, the request for reimbursement of the appeal fee must fail already for this reason as at least one of the necessary conditions set in Rule 103(1)(a) EPC is not fulfilled.

Order

For these reasons it is decided that:

The appeal is dismissed.

The request for reimbursement of the appeal fee is refused.

The Registrar: The Chairman:

A. Wille C. Herberhold

Decision electronically authenticated