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**Datasheet for the decision  
of 6 March 2023**

**Case Number:** T 1955/21 - 3.3.06

**Application Number:** 09815045.1

**Publication Number:** 2331657

**IPC:** C10G69/04, C10G69/06

**Language of the proceedings:** EN

**Title of invention:**

System and methods for producing a crude product

**Applicant:**

Chevron U.S.A. Inc.

**Headword:**

Heavy oil hydroprocessing/CHEVRON

**Relevant legal provisions:**

EPC Art. 84, 111(2), 123(2)

EPC R. 103(1) (a), 111(2)

**Keyword:**

Compliance with the requirements of Articles 84 and 123(2) EPC  
(main request) - (yes)

Remittal - (yes)

Substantial procedural violation - (yes) - decision containing  
inconsistencies as to considered documents and requests - not  
properly reasoned

Reimbursement of the appeal fee - (yes)

**Decisions cited:**

G 0002/10, T 0243/87, T 2707/16

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 1955/21 - 3.3.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.06**  
**of 6 March 2023**

**Appellant:** Chevron U.S.A. Inc.  
(Applicant) 6001 Bollinger Canyon Road  
San Ramon, CA 94583 (US)

**Representative:** Haseltine Lake Kempner LLP  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted on 15 March 2021  
refusing European patent application No.  
09815045.1 pursuant to Article 97(2) EPC.

**Composition of the Board:**

**Chairman** J.-M. Schwaller  
**Members:** L. Li Voti  
C. Heath

## Summary of Facts and Submissions

I. The applicant's appeal lies against the decision of the Examining Division refusing European patent application no. 09 815 045.1 because of not compliance with the requirements of Article 123(2) EPC.

II. With its statement of grounds, the appellant not only contested the decision but it also argued that the Examining Division had committed a substantial procedural violation and requested that the case be remitted for further examination on the basis of the main request or of one of auxiliary requests 1 to 3, all submitted with the statement of grounds of appeal. Moreover, it requested the refund of the appeal fee.

III. Claim 1 of the main request reads as follows:

*"1. A process for hydroprocessing a heavy oil feedstock, the process employing a plurality of contacting zones and separation zones, wherein the process comprises a plurality of slurry reactors for contacting zones, the process comprising:*  
*providing a heavy oil feedstock, a hydrogen containing gas, and a slurry catalyst;*  
*combining the heavy oil feedstock, the hydrogen containing gas, and the slurry catalyst in a first contacting zone under hydrocracking conditions to convert at least a portion of the heavy oil feedstock to lower boiling hydrocarbons, forming upgraded products;*  
*sending a mixture comprising the upgraded products, the slurry catalyst, the hydrogen containing gas, and unconverted heavy oil feedstock to a first separation*

*zone, whereby the upgraded products are removed with the hydrogen containing gas from the first separation zone as a first overhead stream, and the slurry catalyst, heavier hydrocracked liquid products and unconverted heavy oil feedstock are removed from the first separation zone as a first non-volatile stream;*

*sending the first non-volatile stream to a contacting zone other than the first contacting zone, which is maintained under hydrocracking conditions with additional hydrogen containing gas feed to convert at least a portion of the heavy oil feedstock to lower boiling hydrocarbons, forming additional upgraded products;*

*sending a mixture comprising the additional upgraded products, slurry catalyst, hydrogen containing gas, and unconverted heavy oil feedstock to a separation zone other than the first separation zone, whereby the upgraded products are removed with hydrogen containing gas as an overhead stream, and the slurry catalyst and the unconverted heavy oil feedstock are removed as a second non-volatile stream; and*

*wherein the slurry catalyst to the first contacting zone comprises at least a portion of the non-volatile stream from one of the separation zones as a recycled catalyst stream, and wherein the recycled catalyst stream is between 35 to 50 wt. % of the heavy oil feedstock;*

*wherein the first contacting zone is operated at a temperature of at least 10°F (5.56°C) lower than the next contacting zone."*

## **Reasons for the Decision**

1. *Main request - Compliance with the requirements of Article 123(2) EPC*

1.1 Claim 1 at issue (identical to that of the main request filed during oral proceedings before the examining division) relates to a process for hydroprocessing a heavy oil feedstock employing a plurality of contacting zones and separating zones, differing from claim 1 as filed in that:

- (a) the process comprises a plurality of slurry reactors for contacting zones;
- (b) the slurry catalyst to the first contacting zone comprises as a recycled catalyst stream at least a portion of the non-volatile stream from a separation zone;
- (c) the recycled catalyst stream is between 35 to 50 wt% of the heavy oil feedstock; and
- (d) the first contacting zone is operated at a temperature of at least 10°F (5.56°C) lower than the next contacting zone.

1.1.1 The board notes that feature (a) is not disclosed in any of the claims of the application as filed.

1.1.2 As regards feature (b), the board agrees that the wording "*the slurry catalyst to the first separation zone...*" in original claim 1 was an obvious error since the recycled catalyst stream (from a separation zone) has to be reintroduced into the contacting zone where the reaction occurs, as correctly indicated for example in the specific embodiments defined in dependent claims 6 and 7. Therefore this amendment cannot be held as infringing Article 123(2) EPC.

1.1.3 Feature (c) is disclosed in dependent claim 4, which refers back to claim 3, reciting a range of recycled catalyst stream (at least 10 weight %) broader than that of claim 4, with claim 3 referring back to claims 1 and 2, and claim 1 requiring a broader range (3 to 50

weight %) of recycled catalyst stream (in the following called "feature C"). Therefore feature (c) is disclosed in the claims as filed in combination with the other features of claim 1 and does not infringe Article 123(2) EPC.

- 1.1.4 Feature (d) is disclosed in dependent claim 11, referring back only to claims 1 and 2 and thus is disclosed in the claims as originally filed in combination with the other features of claim 1. However, the claims do not disclose its combination with feature (c) but only with the broader range of feature C. The claims per se thus do not contain a direct and unambiguous disclosure of a combination of all the features of claim 1 at issue.
- 1.2 The appellant argued that the skilled person, taking the entire disclosure of the description and claims into account, would understand that also the embodiments requiring feature (c) or (d) may be combined in order to realise the disclosed invention.
  - 1.2.1 The board notes that the description (paragraphs [0006]-[0014]), the claims (including 6 independent process claims) and figures 1-12 illustrate various embodiments of the process of the invention (with the process of paragraph [0014] being very similar to that of claim 1), with particular details of these processes being identified in the description as separate embodiments. The description also teaches (paragraph [0185]) that any aspect of the invention discussed in the context of one embodiment of the invention may be implemented or applied with respect to any other embodiment of the invention.

- 1.2.2 Feature (a) is in this respect disclosed in paragraph [0048] as one of the alternative reactors suitable for the disclosed processes, and it is manifest to the skilled person that only a few of the reactors disclosed are applicable in a process involving a gas/liquid reaction in the presence of a catalyst slurry, with one of them being obviously a slurry reactor. The skilled person would thus directly derive therefrom that slurry reactors (i.e. feature (a)) are applicable to the claimed process.
- 1.2.3 As regards features (c) and (d), the description (paragraphs [0096]-[0107]) illustrates alternative means for controlling heavy metal deposits, which is the technical problem underlying the alleged invention (see paragraph [0005]). In particular, this part of the description teaches to control heavy metal deposits with optional water injection or with reactor temperature, i.e. by lowering the temperature of the front end contacting zone (first reactor) as required by feature (d) at issue, instead of and/or in addition to the addition of water, or with recycled catalyst stream wherein the range required by feature (c) can be derived from paragraph [0107] by combining the upper limit of the broadest range C with the lowest limit of the range according to the so-called seventh embodiment.
- 1.2.4 Even though the above features may be considered to be of general application to any disclosed process - as submitted by the appellant - these parts of the description do not explicitly combine all the features of claim 1 at issue.
- 1.2.5 Example 2 however illustrates a process comprising all the features of claim 1 at issue and providing improved



control of heavy metal deposits with respect to comparative example 1, which process corresponds to the flow diagram disclosed in figure 4 (see paragraphs [0018] and [0142]). In this process, slurry reactors are connected in series, with the temperature in the first contacting zone being lowered by 20°F with respect to the next zone and the recycled part of the catalyst non-volatile stream from the last separator to the first contacting zone amounting to 40 wt.% of the heavy oil feed. Further, as disclosed in paragraphs [0169]-[0170], the features (c) and (d) provide the desired improvement over Comparative example 1, in which the temperature in all reactors is the same and the recycled part of the catalyst non-volatile stream from the last separator to the first contacting zone amounts to 30 wt.% of the heavy oil feed (feature C above).

1.2.6 Even though the process of this example includes the addition of water to the front end reactor - a feature not recited in claim 1 at issue - the addition of water is clearly optional from the teaching in paragraphs [0096]-[0107] and thus cannot be held essential for achieving the advantage shown in this example. The same conclusion applies to the other features of example 2 which are conventional hydroprocessing conditions - also found in Comparative example 1 - and thus are not essential for the desired control of heavy metal deposits.

1.2.7 Therefore example 2 represents a clear pointer towards a more generic process comprising a combination of features (c) and (d) with all other features of the process of claim 1 at issue.

1.3 The board therefore concludes that a process as defined in claim 1 at issue finds a direct and unambiguous support in the documents of the application as filed. It follows that claim 1 at issue complies with the requirements of Article 123(2) EPC.

2. *Main request - Article 84 EPC (support by the description)*

2.1 Since the appellant addressed the lack of support by the description issue discussed during oral proceedings before the examining division (minutes: page 2, third full paragraph), the board decides also to conclude on this issue before remitting the case.

2.2 As explained above, in view of the entire teaching of the description, the combination of features (c) and (d) is considered sufficient for achieving the desired reduction of heavy metal deposits also without addition of water, as disclosed in example 2, and without application of special hydroprocessing conditions, and that the achieved result might not be satisfactory in the absence of some of the process features applied in the process of example 2 rather concerns the formulation of the objective technical problem and the evaluation of inventive step, but not the support by the description within the meaning of Article 84 EPC.

2.3 Therefore in the board's view claim 1 complies with the requirements of Article 84 EPC.

3. *Remittal (Article 111(2) EPC)*

3.1 Since the decision under appeal deals only with compliance with Article 123(2) EPC, and since novelty and inventive step was not discussed before the

examining division, it is equitable to remit the case in order to discuss the further patentability requirements.

4. *Substantial procedural violation - refund of the appeal fee*

4.1 In the appellant's view, the examining division committed a substantial procedural violation because:

(A) there was an undue delay between the oral proceedings and the notification of the written decision;

(B) there are errors in the minutes and decision; and

(C) the decision is not properly reasoned as required by Rule 111(2) EPC.

4.1.1 As regards (A), the board notes that the oral proceedings before the examining division took place on 1 July 2020 and the written decision was sent out with date of 15 March 2021, i.e. 8 months and 14 days after the oral proceedings. It is to be noted that this period of time comprised the Autumn/Winter 2020 in which several precautionary measures were taken by the EPO because of the COVID pandemics, including the obligation of working exclusively or predominantly from home. Therefore, the circulation of the file within the division and thus the issuing of the final decision may have taken longer than usual. In any case, the period of time in question is much shorter than that considered to constitute an undue delay in some other decisions of the boards of appeal. In fact, all the cases addressed to by the appellant and illustrated in **T 2707/16** (point 16 of the reasons) concern delays definitely superior to one year and mostly amounting to several years, the shortest delay being that of 13

months and sixteen days in case **T 243/87**, i.e. a delay 5 months longer than in the present one.

Therefore, considering the circumstances indicated above, the delay in issuing the written decision cannot be considered in the present case to be unduly long.

- 4.1.2 As regards (B), the board notes that the minutes state (page 1, last paragraph) that the applicant submitted during oral proceedings a new main request (Annex 1 to the minutes), and after discussion (page 3, third paragraph) a new auxiliary request (Annex 2 to the minutes) and an auxiliary request 2 (Annex 3 to the minutes). Moreover (page 3), after being asked by the chairman, the applicant confirmed that the requests on file where those filed during oral proceedings and in addition thereto, auxiliary request 3 corresponded to the main request B filed on 23 June 2020 and auxiliary requests 4 to 11 corresponded to auxiliary requests 1 to 8, also filed on 23 June 2020 (i.e. those indicated in said letter as auxiliary requests 1B to 8B).

The appellant submits that it does not recall having withdrawn any of all other requests filed in writing (i.e. the main request, auxiliary requests 1 to 8 and 2A to 8A, filed with letter of 29 May 2020). In support of this statement it refers to an allegedly enclosed Annex 1 - an email sent by Ms Williamson (representing the applicant at the oral proceedings) to Mr Warzel, the applicant's patent counsel who also attended the hearing, summarising the outcome of the hearing and confirming that none of the requests previously on file had been withdrawn. The board observes that Annex 1 was not attached to the statement of grounds and it can thus not be held as having been filed.

The board further notes that the appellant did not request a correction of the content of the minutes before the examining division, so that there is no reason for the board to doubt the accuracy of the minutes.

- 4.1.3 The board also notes that by designating **G1/02** - instead of **G2/10** - the decision exposing the so-called "Gold Standard" with respect to Article 123(2) EPC, the examining division made an obvious clerical error which cannot be seen as a substantial procedural violation.
- 4.1.4 As regards reasons (B) and (C) when directed to the contested decision, the board notes that in the facts and submissions (paragraph I.10), the decision states that the appellant filed during oral proceedings a new main request C and eight additional requests (1C to 8C), whilst the applicant filed only three new requests as stated in the minutes. Moreover, none of the new requests was designated request C, a potential main request C having apparently been sent by email to the examiner (but not formally filed) and discussed only during the telephone conversation of 29 June 2020 with the examiner. The decision states also (paragraph I.11) that the claims under consideration were attached to the decision but in fact it appears that they were not.
- 4.1.5 The reasons then refer (page 3, fourth full paragraph) explicitly to point 1 of the telephone conversation of 29 June 2020, wherein the objections against the main and the eight auxiliary requests B (pending auxiliary requests 3 to 11 according to the minutes) already pending at that time are clearly stated, the wording "eight auxiliary requests 1B to 1C" in the reasons containing an obvious clerical error (1C should read 8B). The following two paragraphs complete the

reasoning as regards these requests as also discussed during said telephone conversation. However, whilst page 3 (sixth full paragraph) refers to a main request and eight auxiliary requests 1B to 8B (i.e. the auxiliary requests 3 to 11 according to the minutes), it states in the following (paragraph II.3 of the reasons) that the exposed arguments apply mutatis mutandis to all and each of the independent claim 1 of all requests on file, now listed as main request, auxiliary requests 1A to 8A and main request C, a list of requests corresponding neither with that of the minutes nor with that identified in the facts and submissions. The second part of the same paragraph refers even to more requests: main requests (main request, main request A, main request B, main request C) and auxiliary requests 1 to 8 (auxiliary requests 1A to 8A, auxiliary requests 1B to 8 B). Moreover, the final paragraph III refers to all independent claims 1 as main requests A, B and C and auxiliary requests 1A-8A, 1B-8B an 1C-8C.

The decision thus relates to requests which either were no longer pending according to the minutes or which had not been filed (C series), while it is not clear from the decision whether the three requests filed during oral proceedings (main request and auxiliary requests 1 and 2 according to the minutes) were duly considered in drafting the decision.

- 4.1.6 The decision also states (paragraph II.1 of the reasons) that the originally filed documents contain a series of 17 claims, wherein each of dependent claims 2 to 8 is dependent directly on claim 1 and each of claims 11 to 17 is dependent on claim 10. However, the application as filed contains 47 claims, wherein claim 10 is a dependent claim, not all the dependent claims 2

to 11 depend directly on claim 1, and dependent claims 13 to 16 depend on claims 1-2 and 12, claim 17 being also an independent claim.

It is thus unclear from this paragraph whether the correct documents of the application as originally filed were considered.

- 4.1.7 Further the decision (page 4, first two full paragraphs) cites decision **G 2/1989** as being that cited by the applicant in the discussion of Article 123(2) EPC, but this is a wrong number that also does not reflect the one indicated erroneously in the minutes. Furthermore, since the text of the decision neither refers to the Gold Standard nor to **G 2/10** in its discussion of compliance with the requirements of Article 123(2) EPC, it is unclear if the applicant's argument in this regard has been properly considered.
- 4.1.8 The appellant also alleged that the decision does not address a further argument presented by the patent proprietor during oral proceedings, namely the fact that the examples of the application would be a pointer towards a process having all the features of claim 1 and would thus support the argument that claim 1 complies with the requirements of Article 123(2) EPC.
- 4.1.9 The fact that the decision does not discuss the compliance of the claims with Article 84 EPC as debated during oral proceedings is however irrelevant since the decision may be based on only one ground and there is no need to discuss all other grounds possibly relevant for the final decision.
- 4.2 Summarising, the decision contains several inconsistencies as to the requests and documents

considered, which also do not correspond with the content of the minutes of oral proceedings. Further it appears that not all the arguments put forward by the applicant were sufficiently discussed.

- 4.3 Under these circumstances, it is the board's view that the decision is not properly reasoned as required by Rule 111(2) EPC and that the examining division committed a substantial procedural violation which justifies the reimbursement of the appeal fee under Rule 103(1)a EPC.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division for further examination.
3. The appeal fee is reimbursed.

The Registrar:

The Chairman:



A. Pinna

J.-M. Schwaller

Decision electronically authenticated