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**Datasheet for the decision
of 25 October 2013**

Case Number: T 0158/12 - 3.2.06

Application Number: 07799034.9

Publication Number: 2038526

IPC: F01N11/00

Language of the proceedings: EN

Title of invention:

DIESEL EXHAUST TREATMENT SYSTEM CATALYST MONITORING

Applicant:

BASF Catalysts LLC

Headword:

Relevant legal provisions:

RPBA Art. 12(4), 13(1)
EPC Art. 82, 84, 94(1), 123(2)
EPC R. 137(3)

Keyword:

Violation of right to be heard - no.
Main request - withdrawn during examination proceedings and relates to searched subject-matter which was not initially chosen to be the subject of examination (after non-unity objection)
Auxiliary request 1 - no change of subject-matter with respect to claim 1 of the main request; prima facie not allowable - not admitted
Auxiliary requests 2 and 3 - claim 1 prima facie lacks clarity - not admitted

Decisions cited:

G 0002/92

Catchword:

For one application, only one examination is to be carried out as the result of the single examination fee which has been paid. Having once chosen one invention (or one group of inventions) to be made the subject of examination, this choice cannot be altered once examination of that invention has commenced (reasons 2.7 and 2.8).



**Beschwerdekammern
Boards of Appeal
Chambres de recours**

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0158/12 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 25 October 2013

Appellant: BASF Catalysts LLC
(Applicant) 100 Campus Drive
Florham Park, NJ 07932 (US)

Representative: Altmann, Andreas
Herzog Fiesser & Partner
Patentanwälte
Isartorplatz 1
80331 München (DE)

Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 11 July 2011 refusing European patent application No. 07799034.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman: M. Harrison
Members: G. de Crignis
W. Sekretaruk

Summary of Facts and Submissions

- I. The Examining Division refused European patent application No. 07799034.9 holding that claims 1 to 8 of the main request lacked clarity (Article 84 EPC).
- II. Claim 1 read as follows:
"A diesel exhaust system comprising:
a diesel oxidation catalyst (111) including a precious metal component and an oxygen storage component on a substrate, the oxygen storage component having a pre-selected deactivation temperature range that coincides with a deactivation temperature range of the precious metal component at which the hydrocarbon conversion of the precious metal component decreases below a preselected value; and
a first lambda sensor (113) located upstream of the diesel oxidation catalyst and a second lambda sensor (114) located downstream from the diesel oxidation catalyst."
- III. The appellant (applicant) filed an appeal against this decision and paid the appeal fee. In its statement setting out the grounds of appeal the appellant filed a main request and two auxiliary requests.
- IV. In a communication sent as an annex to a summons to oral proceedings the Board indicated that when considering the provisions of Article 12(4) of the Rules of Procedure of the Boards of Appeal (RPBA) it was minded not to admit the main request as this was identical to a request withdrawn during the prosecution of the application. Additionally, the clarity objection raised by the examining division was considered correct with regard to the first auxiliary request, which request was identical to the main request before the

examining division. Moreover, concerning the second auxiliary request, the objections concerning the main request applied equally.

- V. With letter of 25 September 2013, the appellant maintained the main request filed with the grounds of appeal (corresponding to its request filed during examination on 6 May 2011) and submitted amended first to third auxiliary requests.
- VI. Oral proceedings were held before the Board on 25 October 2013. The appellant requested that the decision under appeal be set aside and that the case be remitted to the examining division for continuation of the examination proceedings on the basis of the main request of 6 May 2011 or on the basis of one of auxiliary requests 1 or 2, filed 25 September 2013 (all dependent claims deleted) or on the basis of auxiliary request 3, filed 25 October 2013.

Claim 1 of the main request reads as follows:

"A diesel exhaust system comprising:
a diesel catalyst (111) selected from a diesel oxidation catalyst and a catalyzed soot filter;
a first lambda sensor (113) located upstream of the diesel catalyst and a second lambda sensor (114) located downstream from the diesel catalyst; and
an oxygen storage component located between the sensors."

Claim 1 of auxiliary request I differs from claim 1 of the main request by the inclusion of the following feature at the end of claim 1:

"wherein the first lambda sensor and the second lambda sensor are in communication with an on board diagnostic system."

Claim 1 of auxiliary request II reads as follows:

"A diesel exhaust system comprising:
a diesel oxidation catalyst (111) including a precious metal component on a substrate and an oxygen storage component on a substrate, the oxygen storage component having a pre-selected deactivation temperature range that coincides with a deactivation temperature range of the precious metal component at which the hydrocarbon conversion of the precious metal component decreases below a preselected value; and
a first lambda sensor (113) located upstream of the diesel oxidation catalyst and a second lambda sensor (114) located downstream from the diesel oxidation catalyst;
wherein the first lambda sensor and the second lambda sensor are in communication with an on board diagnostic system."

Claim 1 of the auxiliary request III includes the features of claim 1 of auxiliary request II and additionally the following features:

"wherein the diesel oxidation catalyst is prepared by: dispersing silica-doped alumina having a surface area of $100 \text{ m}^2/\text{g}$ in water and acetic acid and milling the slurry to a particle size of 10 micrometer and then sequentially adding zeolite H-Beta, ceria containing oxygen storage component (OSC), and zirconyl acetate as a binder to the slurry which is subsequently mixed, and then coating the slurry onto a carrier monolith substrate, drying the coated monolith at 110°C in air, and calcining the coated monolith at 450°C in air to form a bottom washcoat layer containing $1.5 \text{ g}/\text{in}^3$ of silica-doped alumina, $0.5 \text{ g}/\text{in}^3$ of zeolite H-Beta, $0.5 \text{ g}/\text{in}^3$ of ceria and $0.1 \text{ g}/\text{in}^3$ ZrO_2 , followed by

impregnating silica-doped alumina having a surface area of 100 m²/g with an aqueous solution of Pt to fill part of the pore volume, then impregnating the Pt-impregnated alumina with an aqueous solution of Pd to fill the pores of the alumina support by incipient wetness, and subsequently forming a slurry by dispersing the Pt-Pd-impregnated alumina in water and stirring, adding zirconyl acetate to the slurry and milling the resulting slurry for reducing the particle size of the alumina, adding ceria containing oxygen storage component (OSC) to the slurry which is subsequently mixed, coating the slurry over the bottom washcoat layer, drying the coated monolith at 110°C in air, and calcining the coated monolith at 450°C in air to form a top washcoat layer containing 1.5 g/in³ of silica-doped alumina, 0.5 g/in of zeolite H-Beta, 0.5 g/in³ of ceria and 0.05 g/in³ ZrO₂, wherein Pt and Pd are contained in a ratio of 2:1."

VII. The arguments of the appellant were essentially the following:

Claim 1 according to the main request should be admitted. The previous withdrawal of such a claim 1 (which previously had been submitted with letter of 6 May 2011 in the examining proceedings) had been considered necessary in view of the communication of the examining division which had announced an "immediate" refusal of the application if the request were not withdrawn. Accordingly, further requests including such subject-matter during the examining proceedings would clearly have been refused. There was no requirement in the EPC that examination of an application had to be limited to one group of searched inventions. Decision G 02/92 did not apply in that it

referred exclusively to the search procedure. The applicant's right to be heard was also violated in that there had been no possibility for the applicant to defend such a request.

Concerning claim 1 of auxiliary request I, the same arguments as for the main request applied. Claim 1 additionally specified that the lambda sensors were in communication with an on-board diagnostic system, which amendment was supported by paragraph [0013] of the description and was included as a reaction to the preliminary opinion expressed by the Board in its annex to the summons. However, the feature did not add anything in substance since such feature was implicit to the skilled person.

With respect to auxiliary request II, its claim 1 was based on claim 1 as originally filed and referred to a product which was disclosed in the description; the provisions of Article 123(2) EPC were met. The skilled person clearly understood the meaning of the feature "the oxygen storage component having a pre-selected deactivation temperature range that coincides with a deactivation temperature range of the precious metal component at which the hydrocarbon conversion of the precious metal component decreases below a preselected value". Such wording described the principle of the system and was independent of any particular use. The skilled person could select the kind of oxygen storage component for example on the basis of a graph such as shown in Figure 3 where oxygen storage capacity was demonstrated in dependence on light-off temperature. No lack of clarity was present because such feature did not concern a result to be achieved since all information to understand it was known and included. The pre-selected deactivation temperature range of the

oxygen storage component (OSC) and the deactivation temperature range of the precious metal component (PMC) were simply known and pre-defined attributes of the components themselves. Merely using the word "pre-selected" did not imply a selection of properties, but simply that the component had that particular property and the component had merely been selected. Moreover, an on-board diagnostic system was already inherent in the claimed article including lambda sensors since such sensors would be useless without an on-board diagnostic system; this structural interrelationship was clear to the skilled person. Hence, the addition of this feature did not represent a change of case.

With respect to auxiliary request III, claim 1 was amended to limit it specifically to the disclosed specific embodiment. All features concerning the preparation of example 1 were included in claim 1 and hence no problem with the requirement of Article 123(2) EPC arose. Also, the components were exactly defined so that no lack of clarity was present. Additionally, a highly specific product was claimed which could not lead to complexity; although the wording of the claim was lengthy, it was highly specific, and moreover, it could have been expected in view of the objections raised against the previous requests. Therefore, the request should be admitted into the proceedings.

Reasons for the Decision

1. *Remittal to the department of first instance (Article 11 RPBA) - alleged violation of the right to be heard (Article 113(1) EPC)*
- 1.1 In general, a Board shall remit a case to the department of first instance if fundamental deficiencies are apparent in the first instance proceedings. However, no such deficiency is present.
- 1.2 In the current appeal proceedings, the appellant argued that he was deprived of the right to be heard by the examining division because it had stated that any request would result in immediate refusal. This was why the Board should admit the main request. It can however be left undecided whether a violation of the right to be heard would result in an obligation of the Board to accept this request, because no such procedural violation occurred.
- 1.3 Article 113(1) EPC states that "decisions may only be based on grounds or evidence on which the parties concerned have had an opportunity to present their comments".
- 1.4 The procedure before the examining division during substantive examination is governed by Article 94 EPC and Rule 71 EPC. In particular, Article 94(3) EPC provides that "If the examination reveals that the application or the invention to which it relates does not meet the requirements of this Convention, the Examining Division shall invite the applicant, as often as necessary, to file his observations and, subject to Article 123, paragraph (1), to amend the application". Rule 71(1) EPC provides that "In any communication

under Article 94, paragraph 3, the Examining Division shall, where appropriate, invite the applicant to correct any deficiencies noted and to amend the description, claims and drawings within a period to be specified." Rule 71 (2) EPC provides that "Any communication under Article 94 EPC, paragraph 3, shall contain a reasoned statement, covering, where appropriate, all the grounds against the grant of the European patent". In this context, the applicant is thereby informed of the legal and factual reasons which are considered to lead to the conclusion that the requirements of the EPC are not met.

1.5 Scrutinizing the examination procedure of the current application in this respect reveals that the Examining Division informed the applicant at least twice (7 April 2009 and 14 October 2009) of the legal and factual reasons leading to objections, by indicating that the application lacked unity within the meaning of Article 82 EPC; raising an objection concerning the requirement of Article 123(2) EPC; inviting the applicant to limit the application to the first invention and additionally including the suggestion to make the subject-matter to be excised the subject of one or more divisional applications.

1.6 In reply to the first of these communications, the appellant commented on the objection under Article 82 EPC - which shows that he exercised his right to be heard - and filed amended claims 1 to 10. In reply to the second of these communications (30 December 2009), the appellant commented on the objections concerning Articles 123(2) EPC and 84 EPC, but did not comment on the objection concerning Article 82 EPC; it filed amended claims 1 to 7 - thereby overcoming the objections under Article 82 EPC

and, accordingly, acted in a way to make corresponding comments superfluous by intentionally excluding the objected subject-matter and filing a set of amended claims. Accordingly, it again exercised its right to be heard.

1.7 After having received the annex to the summons to oral proceedings (with letter of 8 February 2011), the applicant filed two new requests (with letter of 6 May 2011) - both including a claim 1 which corresponded to originally filed claim 8 and thus belonging to the second invention. In the accompanying letter - although indicating that claim 1 was of such nature - no comment concerning the preceding correspondence and objections related to Article 82 EPC was made.

1.8 In response to these requests, the Examining Division indicated (1 June 2011) that these sets of claims related to a different invention than the one which had been pursued before and that such invention was not the subject of the examination for which a fee had been paid. Such situation implicitly led to the fact that no valid request was present and accordingly, the Examining Division was right to point to the likely consequence of refusal of the application. The wording "count on an immediate refusal" anyway does not imply that the applicant was not permitted to make comments or amendments, but merely that - with a high degree of certainty - the application would then be refused as the next step.

1.9 In reply - with letter of 1 June 2011 - the appellant replaced the latter requests by amended main and auxiliary requests as a basis for further examination. The arguments submitted therewith concerned the

requirements of Articles 123(2) EPC, 84 EPC, 54 EPC and 56 EPC. No remark/argument was annexed concerning dissent with respect to the unity objection of the Examining Division nor an objection concerning the right to be heard, nor an attempt to maintain the requests filed with letter of 6 May 2011. At this point in time, the opportunity was again present to supply arguments. The Board thus concludes that nothing infringed the applicant's right to be heard.

- 1.10 Moreover, also during the oral proceedings before the department of first instance, no such arguments or requests were put forward - although there was a discussion concerning unity with regard to the amended requests (see minutes of the oral proceedings, page 1). Hence, also here, the applicant had the opportunity to raise such arguments or comments and observations and even to (re-)file a request in relation to such issue in order to have a corresponding decision by the Examining Division. The applicant simply did not do so.
- 1.11 Hence, throughout examination, the applicant had always been clearly informed of the essential legal and factual reasons on which the finding of non-compliance with the EPC was based. Moreover, the applicant was given several opportunities to comment on these reasons in the written and oral proceedings - and it was its own decision not to utilize them or to use them only to the extent that it did. The decision of the Examining Division was therefore issued in consistency with Article 113(1) EPC and the right to be heard was respected.

2. *Main Request - admittance*

2.1 Claim 1 corresponds to originally filed claim 8 which formed part of the second invention during search. Claim 1 with this exact wording was withdrawn during the examination proceedings after having been submitted with the applicant's response of 6 May 2011.

2.2 According to Article 12(4) RPBA, the Board can hold inadmissible facts, evidence or requests which could have been presented or were not admitted in the first instance proceedings. In order to decide how to exercise this discretionary power, the Board reviewed the course of the examination proceedings.

2.3 When entering the European phase of the proceedings, the appellant chose to base the prosecution of the application on the first invention and submitted (with letter of 25 March 2009) amended claims 1 to 10 wherein claim 1 further specified the oxygen storage component. The system of claim 8 was defined as comprising the article according to claim 1 and an on-board diagnostic system. That it was the applicant's own volition to pursue the first invention was emphasized by the arguments submitted therewith that the inventive concept related to the use of a sufficient amount of an oxygen storage component having a pre-selected deactivation temperature range that coincided with a deactivation temperature range at which the hydrocarbon conversion of the precious metal component decreased below a pre-selected value, which concept underlies the first invention. Thus, the appellant deliberately chose the first invention to be the subject of examination.

2.4 For this reason, the Board concludes that the first invention was chosen voluntarily for being the subject

of examination and therefore, a claim directed to the second invention is not to be examined in this application. Since the main request relates to the second invention, the request is therefore not admissible.

2.5 The appellant's view was that there was no Article or Rule in the EPC which would prevent the applicant from changing from one invention to another - if they were searched - during examination.

2.6 Contrary to such view, the Board considers that the Articles and Rules present in the EPC however form a statutory system which however, read together, clearly leads to this conclusion:

- Article 82 EPC requires the European patent application to relate to one invention only or to a group of inventions so linked as to form a single general inventive concept.
 - > This is a basic principle underlying the EPC.
- Rule 137(2) EPC gives the applicant a right to amend the application once of its own volition after receipt of the first communication. According to Rule 137(3)EPC, no further amendment may be made without the consent of the examining division.
 - > In such a way an application which includes various (groups of) inventions can be pursued on the basis of the desired (group of) invention.
- Article 76 EPC states the possibility to file divisional applications.
 - > In such a way the further (groups of) inventions can be pursued.

- Article 94(1) EPC states that the request for examination of the European patent application shall not be deemed to be filed until "the" examination fee has been paid.
 - > It is only possible to pay one fee for the examination.

2.7 Hence, there is no provision which would allow the payment of multiple examination fees for a patent application. This is also in line with the possibilities to

- either argue in the examination proceedings that unity exists - which should be done in reply to the first communication to the examining division;
- or to file divisional applications which allow the principle of one invention - one examination (and one examination fee for one examination proceedings) to be maintained.

Thus, it is clear that only one examination is to be carried out in respect of one application - and in respect of one examination fee being paid.

2.8 Accordingly, after having chosen one invention (or one group of inventions) to be the subject of examination, this choice cannot be altered once examination of that invention has commenced.

2.9 This systematic approach based on the statutory provisions of the EPC is, contrary to the appellant's view, confirmed in G 02/92. It is true that opinion G 02/92 primarily concerns the non-payment of further search fees and states in its Headnote that "*an applicant who fails to pay the further search fees for a non-unitary application ... cannot pursue that*

application for the subject-matter in respect of which no search fees have been paid. Such an applicant must file a divisional application in respect of such subject-matter if he wishes to seek protection for it." The opinion is based on the principle "*that in order to proceed to grant a European patent application is required to contain claims relating to one invention only*" (Reasons, item 2). However, the Enlarged Board's opinion goes on further and additionally considers the examination stage and sets out (Reasons, item 2, second paragraph) that "*At the examination stage, having regard to the requirement of unity of invention and the fact that only one examination fee can be paid for each application, clearly only one invention in each application is to be examined for conformity with the patentability and other requirements of the EPC.*"

2.10 Thus, although the appellant cited G 02/92 to support its view that this opinion exclusively concerned the prohibition of pursuing a non-unitary application in respect of subject-matter in respect of which no search fees had been paid and did not concern the examination procedure and subject-matter for which the search fees have been paid, the scope of G 02/92 extends - as explained *supra* - beyond the search stage in highlighting the principle of one fee for one procedural step also at the examining stage. Hence, the appellant's view that the examination of an application could be based on more than one invention is not supported by this opinion of the Enlarged Board of Appeal.

2.11 Further, the appellant was also of the view that the subject-matter defined in claims 1 and 8 as originally filed anyway concerned a single inventive concept since one independent claim (claim 8) encompassed the other

(claim 1) based on the premise that claim 8 as filed inherently had all the features of claim 1, in particular since the deactivation was allegedly present as a material characteristic. Additionally, according to the appellant, claims 1 and 8 as originally filed afforded alternative solutions to the problem of the invention which might not be covered by a single claim in accordance with Rule 43(2)(c) EPC, and therefore did not contravene the provisions of unity (Article 82 EPC).

2.12 Such view cannot be accepted however, since when assessing the inventive concept underlying the subject-matter of claim 1 as originally filed, it is related to a diesel engine exhaust treatment article and a selected oxygen storage component defined in relation to a precious metal component. Claim 8 on the other hand is related to an exhaust system, not just the exhaust treatment article, and does not specify any particular characteristics of the components as in claim 1, and in fact not even a precious metal component. Likewise, claim 8 requires a pair of lambda sensors, whereas claim 1 puts no such restriction on the system. It is thus evident that one claim does not encompass the other. This was indeed why two search fees were requested and paid.

2.13 The appellant further argued that it was unable to maintain the (present) main request during examination, because the examining division had stated the application would then be "immediately" refused. Reference was made to the communication of 1 June 2011.

2.14 The Board disagrees. Although the examining division stated in the above referenced communication (which was issued in preparation of the oral proceedings) that "In

the absence of any valid claims, the applicant has to count on an immediate refusal" as a consequence of pursuing the second invention, the ultimate refusal of a request - based on a reasoned decision - provides an appropriate basis for an appeal.

2.15 There were anyway several possibilities of defending such a request in the first instance proceedings in both its written phase and also during the oral proceedings. The likelihood of receiving a refusal may indeed have been high, but the applicant's withdrawal of the request prevented the examining division from taking a decision on that request. The request could have been filed as an auxiliary request for example.

2.16 For these reasons, the main request is not admitted into the proceedings as it should have been presented in the first instance proceedings such that it became the subject of a decision. Due to these reasons, the Board exercised its discretion under Article 12(4) RPBA not to admit the request into the proceedings.

3. *Procedural considerations for admittance of the further requests*

According to Article 13(1) RPBA, it lies within the discretion of the Board to allow an appellant to amend its case after filing the grounds of appeal and thus to admit such requests into proceedings. This discretion is to be exercised in view of *inter alia* the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

These criteria are relevant for the issue of admittance of claim 1 of auxiliary requests I and II, which requests were filed in reply to the communication of

the Board - albeit including dependent claims which were subsequently deleted during the oral proceedings before the Board, - and for auxiliary request III which was filed during the oral proceedings.

4. *Auxiliary request I*

4.1 Claim 1 of auxiliary request I differs from claim 1 of the main request in that the feature "wherein the first lambda sensor and the second lambda sensor are in communication with an on board diagnostic system" has been added. This amendment is based on the wording in paragraph [0013] of the description.

4.2 The appellant argued that the skilled person considered the presence and communication of the two lambda sensors with an on-board diagnostic system as being logically and inherently present already in claim 1 of the main request and, therefore, the addition of such feature had been superfluous. Therefore, in its view, the addition of these features did not change the subject-matter of claim 1 with respect to the subject-matter defined already in claim 1 of the main request.

4.3 When taking this argument into consideration, the additional feature does not change the situation as with the main request, that the Examining Division was given no opportunity to decide on the claimed subject-matter and that it is anyway directed to the second invention for which no examination fee was paid. Therefore, this claim is *prima facie* not allowable and - since the appellant filed this request after filing its grounds of appeal (and even after the communication of the Board) - the Board exercised its discretion

under Article 13(1) RPBA not to admit this request into the proceedings.

5. *Auxiliary request II*

5.1 Claim 1 of auxiliary request II differs from claim 1 of the preceding requests in that it is based on claim 1 as originally filed, amended (essentially) so as to specify the diesel catalyst as being a diesel oxidation catalyst including a precious metal component and an oxygen storage component each on a substrate, the system including two lambda sensors located upstream and downstream respectively of the diesel oxidation catalyst as well as an on board diagnostic system in communication with the sensors.

5.2 This claim includes the feature of the coinciding deactivation temperature ranges which was objected to by the Examining Division with regard to lack of clarity and which led to the refusal of the application. Additionally, the Examining Division pointed out that a monitoring program would seemingly be necessary (decision under appeal, reasons, point 7, page 3, last sentence). In the proceedings before the Examining Division, the appellant did not respond to that objection and maintained only a request including a claim 1 without a feature concerning the monitoring of the lambda sensors.

5.3 As derivable from the decision under appeal (see point 7 on page 3, second paragraph), clarity of the feature concerning the coincidental deactivation temperature ranges was discussed in detail in the first instance proceedings. The reasons in the decision under appeal (see point 7, second paragraph) relating to lack of clarity, concern *inter alia* the issue that the feature

including the coincidental temperature ranges was an attempt to define the invention by a result to be achieved (Article 84 EPC).

- 5.4 The appellant contested the clarity objection and argued that such feature did not concern a result to be achieved, as all information relevant for the skilled person to understand the feature was present in the application; the skilled person would for example select the desired oxygen storage component on the basis of a graph such as shown in Figure 3.
- 5.5 Figure 3 represents a graph showing the correlation between oxygen storage capacity of an oxygen storage component and HC light-off for five samples which were tested in a lab reactor. The samples differ in either containing no OSC (oxygen storage component) (sample A), containing OSC in the top and the bottom coat (samples C and D) or containing OSC in the bottom coat only (samples B and E). As set out in paragraph [0057], the samples in which the oxygen storage capacity was contained in the top and the bottom coat showed a detectable correlation between oxygen storage capacity and light-off. Accordingly, the appellant argued that the skilled person could choose the desired oxygen storage capacity and was aware of the light-off temperature which correlated therewith.
- 5.6 In order to clarify what should be understood by the term "coincide" in the context of the claim, the appellant referred additionally to paragraph [0033] of the description. This paragraph sets out that *"In one or more embodiments, the amount of oxygen storage component is present in an amount sufficient so that the catalyst's deterioration in its oxygen storage capacity can be correlated with the deterioration in*

diesel catalyst's ability to convert hydrocarbons and/or carbon monoxide. For example, when the diesel catalyst's ability to reduce hydrocarbons or carbon monoxide in the exhaust stream falls below a certain predetermined or pre-selected level, there is also an decrease in the delay time between the lambda signals measured upstream and downstream of the catalyst which is detected by the OBD system due to the deteriorated oxygen storage capacity. The oxygen storage component may have a pre-selected temperature range that coincides with a deactivation temperature range of the precious metal component at which the hydrocarbon conversion of the precious metal component decreases below a pre-selected value. This correlation can therefore be achieved by calibration of the deterioration of the OSC with the deterioration of the diesel catalyst performance. The OBD system can then provide a signal or alarm to the vehicle operator indicating the need for exhaust system maintenance."

5.7 However, neither this paragraph nor the Figure 3 diagram clarify the meaning of "coincide" as used in the context of the claim. To the contrary, this paragraph as well as Figure 3 can also be read and interpreted such that a correlation - consistent with paragraph [0057] - should be understood. Thus, it remains entirely ambiguous whether the term "coincides" signifies that the claimed ranges coincide (in whatever respect) or correlate. Even if "correlation" were meant by the claim wording, firstly this is not stated, but secondly it remains unclear in what way correlation is to be understood. For such reason, claim 1 at least lacks clarity.

5.8 The further amendments in relation to claim 1 as originally filed concern the lambda sensors and their

location as well as their function and are based on the wording in paragraphs [0011] and [0013] of the description. The first of these paragraphs starts with the wording "another embodiment of the invention" and concerns the location of the two lambda sensors. The second of these paragraphs starts with the phrase "according to certain embodiments, the first lambda sensor and the second lambda sensor are in communication with an on board diagnostic system."

5.9 The issue concerning Article 123(2) EPC is thus, whether there is a disclosure linking the "another embodiment" with "certain embodiments". However, it was not necessary to decide on this issue since the lack of clarity of the claim as set out above already led to the request not being *prima facie* allowable.

5.10 Consequently, claim 1 is not immediately allowable as it at least *prima facie* does not comply with the requirements of Article 84 EPC and - since the appellant filed this request after its grounds of appeal (and even after the communication of the Board) - the Board exercised its discretion under Article 13(1) RPBA not to admit this request into the proceedings.

6. *Auxiliary request III*

6.1 Claim 1 of auxiliary request III differs from claim 1 of the preceding request in that it includes, additionally, features concerning the preparation of example 1 disclosed in paragraphs [0051] to [0057] of the description.

6.2 The appellant was of the view that by defining the specific example in detail, any objection with regard

to the requirement of Article 123(2) EPC was avoided and that all clarity issues were remedied in view of such features indicating specifically all components to be selected. According to the appellant, the claimed system was thereby clearly identified, also in view of the defined coincidence of deactivation temperature ranges which resulted automatically.

6.3 However, the preparation steps disclosed in the cited paragraphs identify the involved components as including *inter alia* a "ceria containing oxygen storage component". In the description, paragraph [0052] states that "two different ceria materials were commercially available, pure ceria having a surface area of between 200 m²/g and 250 m²/g. Ceria 1 was a lower surface area ceria and Ceria 2 was a higher surface area ceria." Hence, the exact nature/structure of Ceria 1 and 2 respectively of the ceria containing oxygen storage component is not defined in the claim nor can it be deduced exactly which ceria is meant. Therefore, *prima facie* the requirements of Article 123(2) EPC and Article 84 EPC are not met.

6.4 Additionally, claim 1 still includes the wording related to the coinciding temperature ranges which, as set out above for the previous request, were held to lead to a lack of clarity. The issue on how to understand the term "coincide" or whether a correlation should be understood is not resolved by the addition of these preparation steps, since these features are not necessarily rendered meaningless by the inclusion of further features; instead these simply imply a further requirement.

6.5 The reference to the test results shown in Figure 3 - which show a graphic dependency of the oxygen storage

capacity and the light-off temperature for each tested example, also does not answer this question, even when considering that there only two undefined ceria containing oxygen storage components.

6.6 Further, claim 1 defines a "diesel exhaust system" and it is not clear whether the added preparation steps from example 1 can be identified in the resulting system. No explanation in this respect is present for example in the specification as to how to identify, in the finished diesel exhaust system, whether, in the preparation procedure of the diesel oxidation catalyst, the drying steps including exactly the claimed temperatures have been adhered to. Also, no evidence to that effect was submitted. A lack of clarity thus results here as well.

6.7 Accordingly, the insertion of the preparation steps does not overcome the clarity objection raised already for the previous request concerning the identification of a coincidence of the deactivation temperature ranges.

6.8 Thus, claim 1 is not immediately allowable as it at least *prima facie* does not comply with the requirement of clarity in Article 84 EPC nor with the requirement of Article 123(2) EPC and - since this request was submitted only during the oral proceedings and thus was filed after the grounds of appeal (and even after the communication of the Board) - the Board exercised its discretion under Article 13(1) RPBA not to admit this request into the proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated