REMARKS

Status of Claims

Claims 1-14 are pending in the present Application.

Claims 1, 5, 10, and 11are currently amended. Specifically, the Claims 1 and 10 are amended to specify that an operation of the electric generation device is modified by initiating an electric generation device control action when at least one electric generation device predetermined operating limit is exceeded and an ABS braking event is triggered, wherein the electric generation device control action comprises decreasing torque to decouple the electric generation device from the energy storage device. Support for this amendment can be found in claim 6 as originally filed and paragraph [0053] of the as filed specification.

Accordingly, Claims 6, 7 and 13 have been cancelled.

No claims have been newly added.

Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Objections

The Office Action, on page 2, objects to claim 7 because of the limitation "a control action". For examination purpose, the limitation is broadly interpreted as "the electric generation device control action". Claim 7 has been cancelled.

Further, the Office Action, on page 2, objects to claim 10 because of the limitation "the at least one predetermined operating limit". For examination purpose, the limitation is broadly interpreted as "the at least one electric generation device predetermined operating limit". Appropriate correction is required."

In response, claim 10 has been amended to rephrase the term "the at least one predetermined operating limit" to read as "least one electric generation device predetermined operating limit".

Furthermore, the Office Action, on page 2, objects to claim 11 because of the limitation "a predetermined operating limit". For examination purpose, the limitation is broadly interpreted as "the at least one electric generation device predetermined operating limit". Appropriate correction is required.

In response, claim 11 has been amended to rephrase the term "a predetermined operating limit" to read as "the at least one electric generation device predetermined operating limit".

Therefore, at least in view of the above, Applicant respectfully requests that the rejection of claims 7, 10 and 11 be withdrawn.

Claim Rejections – 35 U.S.C. § 112

Claims 6-7 and 10-14 are rejected under 35 U.S.C. 112(b).

The Office Action, on page 3, asserts claim 6 recites the limitation "the at least one of a predetermined operating limit"and that there is insufficient antecedent basis for this limitation in the claim.

In response, Applicant respectfully submits that while the Claim 6 is now suitably merged in Claim 1, the limitation "the at least one of a predetermined operating limit" of the Claim 6 is now read as "at least one electric generation device predetermined operating limit".

The Office Action, on page 3, asserts claims 7 and 13 recite the limitation "the current operating condition"and there is insufficient antecedent basis for this limitation in the claim.

Claims 7 and 13 have been cancelled, rendering the rejection moot.

Further, the Office Action, on page 3, asserts claim 10 recites the limitations "the at least one measured operating condition" and "the measured operating condition"and that there is insufficient antecedent basis for these limitations in the claim. For examination purpose, the limitation is broadly interpreted as "the operating condition".

In response, Applicant respectfully submits that claim 10 has been amended to provide proper antecedent basis. In particular, amended claim 10 has been amended to read as:

> "*comparing with the energy controller, the at least one electric generation device predetermined operating limit to ~~the~~ at least one measured operating condition;*
> *determining whether the at least one measured operating condition exceeds the at least one electric generation device predetermined operating limit; and*

performing a control action when the at least one measured operating condition exceeds the at least one electric generation device predetermined operating limit;"

Also, the dependent claims 11-14, by virtue of their dependency on the amended independent claim 10, comply with the requirements.

Therefore, at least in view of the above, Applicant respectfully requests that the rejection of claims 10-14 under 35 U.S.C. 112(b) be withdrawn.

Claim Rejections – 35 U.S.C. § 103

Claim(s) 1-14 are rejected under 35 U.S.C. 103 as being unpatentable over WO Publication No. 2018/134634 (hereafter "Ducher") in view of U.S. Patent Application Publication No. 2008/0174174 A1 (hereafter "Burns").

Applicant respectfully traverses these rejections. Nevertheless, without acknowledging the propriety of the Section 103 rejection and solely to expedite prosecution, the claims have been amended to clarify aspects of the invention. Ducher and Burns, alone or in combination, **fail** to teach or suggest all of the features recited in independent claims 1, and 10. For example, independent claim 1 recites, *inter alia*, the following features, which are not described in Ducher and Burns:

"A transport refrigeration system comprising:
a trailer system connected to a vehicle, and comprising a transport container;
an electric generation device operably coupled to a wheel axle of the trailer system, the electric generation device configured to generate electrical power from rotational energy of the wheel axle to charge an energy storage device when the electric generation device is activated;
an energy management system for providing power to a transportation refrigeration unit of the trailer system, the energy management system comprising an energy controller in communication with at least one of the electric generation device, the energy storage device, and an electronic braking unit; and
an anti-lock braking system (ABS) comprising the electronic braking unit in communication with the energy controller, wherein at least one of the electronic braking unit and ***the energy controller is configured to modify an operation of the electric generation device by initiating an electric generation device control action when at least one electric generation device predetermined operating limit is exceeded and an ABS braking event is triggered, wherein the electric generation device control action comprises decreasing torque to decouple the electric generation device from the energy storage device****".*

Independent claim 10 recites similar features.

At the outset, it is noted that, for an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

Having said that, with respect to previously presented dependent claim 6, the Office Action, on page 6, asserts "*Ducher discloses at least one of the electronic braking unit and the energy controller is configured to initiate an electric generation device control action when the at least one of a predetermined operating limit is exceeded ([0047]: the CIM 310 is configured to activate the electric generation device 340 when deceleration is greater than a selected deceleration, thus control action initiated) and an ABS braking event is triggered.*"

Ducher is generally related to a transport refrigeration system comprising a vehicle integrally connected to a transport container, an engine configured to power the vehicle, a refrigeration unit configured to provide conditioned air to the transport container, a battery configured to provide electrical power to the refrigeration unit, and **an electric generation device operably connected to the engine and configured to engage the engine and generate electrical power from the engine to charge the battery when the electric generation device is activated**. Ducher further describes a sensor system configured to detect at least one of a deceleration of the vehicle, a downward pitch of the vehicle, and a high-efficiency rotational speed of the engine, and a communication interface module configured to activate the electric generation device when the sensor system detects at least one of the deceleration of the vehicle, the downward pitch of the vehicle, and the high-efficiency rotational speed of the engine ***(refer, e.g., Abstract of Ducher).***

Ducher describes "vehicle deceleration sensor 364 is configured to detect a deceleration of the vehicle 102. The vehicle deceleration sensor 364 is in operative

association with the vehicle 102 and may detect when a brake 103 of the vehicle 102 is being applied to slow the vehicle 102 and/or the vehicle 102 is decelerating without the brakes 103 being applied. The vehicle deceleration sensor 364 is in operative communication with the communication interphase module 310 and the communication interphase module 310 controls the operation of the vehicle deceleration sensor 364. **The communication interface module 310 is configured to activate the electric generation device 340 when the deceleration is greater than a selected deceleration, which may indicate that some engine 320 rotation is no longer needed to drive the vehicle 102 and it is a good time to bleed off some rotational energy of the engine 320 to charge the battery 350 using the electric generation device 340**." ***(refer, e.g., paragraph [0047] of Ducher).***

The Office Action, on page 6, presumably equates the claimed electric generation device control action to "activating the electric generation device 340" of Ducher when the deceleration is greater than a selected deceleration. It is respectfully submitted that the electric generation device control action, as described in amended independent claim 1 is to **modify the operation of the electric generation device when at least a predetermined operating limit is exceeded and an ABS braking event is triggered**. Further, we respectfully submit that Ducher does not describe that an **electric generation device control action includes decreasing torque to decouple an electric generation device from an energy storage device**, as recited in amended independent claim 1.

For example, the Specification, in paragraph [0032], recites "[w]hen an ABS braking event occurs, it can cause the electric generation device to experience sudden changes or fluctuations in torque or rotational velocity, which may result in excessive torque loading or torque spikes. Rapid changes in torsional force may be damaging to electric generation device, including connected components which may include bearings and other connected components such as a gear box. Additionally, when a wheel experiences slippage prior to an ABS braking event, the wheel axle may rotate at an undesirably high speed, which can also damage the electric generation device. Erratic variations in torque and/or rotational velocity that can occur during an ABS braking event may also provide a dampening effect that reduces frequency and amplitude of load variations that act on the electric generation device, including a gear box and other connected components. It is desirable then, to modify the operation of the electric generation device when excessive or erratic changes in torque or rotational velocity occur."

In Ducher, the communication interface module operates to engage the electric generation device 340 under specific conditions, particularly when the vehicle experiences deceleration surpassing a predetermined threshold. Thus, Ducher **describes bleeding off some rotational energy of the engine 320 to charge the battery 350 using the electric generation device 340, when the vehicle experiences deceleration surpassing a predetermined threshold**. In other words, Ducher describes optimizing engine efficiency by diverting excess rotational energy to charge the battery during vehicle deceleration.

In contrast, amended independent claim 1 describes **modifying the operation of the electric generation device** which includes **decreasing torque to decouple the electric generation device from the energy storage device** to reduce the damage to the electric generation device. Hence, Ducher's activation of the electric generation device differs from the electric generation device control action, as claimed in amended independent claim 1.

Therefore, Ducher ***fails*** to teach or suggest "*an anti-lock braking system (ABS) comprising the electronic braking unit in communication with the energy controller, wherein at least one of the electronic braking unit and* ***the energy controller is configured to modify an operation of the electric generation device by initiating an electric generation device control action when at least one electric generation device predetermined operating limit is exceeded and an ABS braking event is triggered, wherein the electric generation device control action comprises decreasing torque to decouple the electric generation device from the energy storage device***" as recited in the amended independent claim 1.

Amended independent claim 10 recites some or all subject matter similar to independent claim 1, therefore, Applicant respectfully submit that all the remarks made for independent claim 1 above, apply equally to the amended independent claim 10.

Further, Burns does not overcome the deficiency of Ducher. The Office Action does not allege otherwise. Therefore, Ducher and Burns, either alone or in combination, do not teach or suggest all of the features of amended independent claims 1 and 10.

For at least these reasons, the rejections of independent claims 1 and 10 under 35 U.S.C. § 103 should be withdrawn.

In addition, the dependent claims 2-5, 7-9 and 11-14 are also allowable at least by virtue of their dependency on the amended independent claim 1 or the amended independent claim 1, which has been shown to be allowable above, and as well as for their additional claimed features.

For at least these reasons, the rejections of independent claims 2-5, 7-9 and 11-14 under 35 U.S.C. § 103 should also be withdrawn.

It is respectfully submitted that the Applicant may not have addressed each rejection of the dependent claims. However, any rejection of a dependent claim not specifically addressed is not to be construed as an admission by Applicants of the correctness of that rejection. Rather, Applicants believe that the independent claims are patentably distinguishable over the cited references for the reasons noted above, so that the rejection of the dependent claims need not be addressed at this time. Applicants reserve the right to address the rejection of any dependent claim at a later time should that become warranted.

CONCLUSION

The Commissioner is hereby authorized to charge any fee required under 37 C.F.R. §§ 1.16 or other applicable rule to Deposit Account 030835.

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Respectfully submitted,

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