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Design requirements versus performance requirements

- Report of the 8th ad-hoc GRRF meeting on EVSC in Paris

Dear Prof. Palkovics!

The secretary of the EVSC Group, Mr. Péter Koleszár, has asked for comments to the draft proposal "EVSC05-38 Rev3".

If the envisaged Frankfort meeting should take place on the 22nd May I will not be able to participate due to other duties. Therefore, I would like to make some comments on the report of the last EVSC meeting in Paris.

Between October 2001 and 2003 extensive discussions took place in Germany in our national FKT-Special Committee on Braking System to find suitable requirements for making stability enhancement system mandatory for vehicle which present a great danger (e.g. ADR vehicles and busses) in traffic.

At that time we faced the same problem as we face today. We could not offer suitable test procedures due to the complexity of these safety systems and the enormous physical variety of the vehicles.

Thus, as the second best solution the German industry proposed high design requirements to justify the renunciation of test procedures.

By this it was assumed that a manufacturer who met these high design standards would also bring into the market a system that reflected the state of art. On this condition we gave up the necessity of performance tests.

Although, principally, I am of the opinion that we should aim at performance requirements I supported this approach because no one – at least for the time being - can offer suitable performance requirements which have the chance to be put into practice. ⇒ "A bird in the hand is worth two in the bush!"

Thus, in Germany the principle

"High design requirements – No performance tests"

was backed up unanimously by all technical braking experts (Industry as well as Technical Services).

Now I read in the minutes of the last report:

Excerpt from the report of the 8th ad-hoc GRRF meeting on EVSC

"Justification: the described proposal contains no performance criteria at the moment, and the group has to stick to minimal design requirement. Starting now with low-end description ..."

I am very astonished that the principle of high design requirements is given up. By this we are robbing ourselves of our strongest argument do justify the renunciation of test procedures.

For me this argument (high design requirements) was the foundation to defend the position not to insist on performance tests.

If now the main goal is that the performance of the stability systems must only show a better driving behaviour than without such a system than we do not know what kind of improvement we are speaking of. We have not defined a standard by we can judge.

If I run with racing shoes instead of my normal walking shoes than I will definitely improve my running. However, whether this improvement is enough to compete with the good runners of the world is another matter. For my part I can definitely say (although at my age I am pretty fast still today) that this improvement would be not enough to reach the level of the "state of the art".

In the past I did several assessments for a roll-over control stability system of semi- and full trailers of two European system manufacturers.

In the various test manoeuvres, all of the tested systems used the full braking performance of the wheels of all axles.

I did not had until know the chance to assess the behaviour of a roll-over control stability system of a vehicle when – by design - only the braking force of one axle could be used.

However, by the observations of the many test I carried out myself I assume that a heavy vehicle which can by design only make use of the braking performance of the wheels of only one axle has not the braking potentiality as a vehicle with all wheel braking capability in dangerous situations.

Thus I support the proposal of Mr. Adam that in Annex 21 it should be required that at least the wheels of at least two axles (except in the case of a single-axle semi-trailer) can be braked.

Excerpt from the report of the 8th ad-hoc GRRF meeting on EVSC

"Mr. Adam: he does not agree to have only one axle braked during roll-over situation – this would mean only one wheel on the ground, since the wheel on the other side is in the air. Thus the one available wheel on the ground has to brake the whole combination. He would like to have at least two axles in the proposal."

However, to avoid that ECE-R13 is design restrictive a braking system which cannot meet the high design requirements should be allowed when certain defined minimal performance requirements are met.

If the industry is of the opinion that on a heavy vehicle the braking capability of only the wheels of one axle is enough than the industry should propose adequate minimum performance requirements.

To my understanding it is a contradiction when the industry puts so much emphasis on the need to improve the safety of certain vehicle when the performance of such a safety system is of little relevance.

If we have robbed us of our strongest argument than it will be difficult to persuade countries like France, Japan etc. and Mr. Lesage to change their opinions.

Excerpt from the report of the 8th ad-hoc GRRF meeting on EVSC

"Mr. Lesage thinks the EVSC proposal is not so urgent, so he would rather wait for the performance criteria...."

My hope is that we return to Mr. Ross withdrawn proposal (see file "EVSC05-49 Comments Colin Ross.DOC") and stick to our original principal in demanding high design requirements to justify the renunciation of test procedures.

To my understanding it makes no sense (for e.g. dangerous goods vehicle) only to prescribe stability enhancement system irrespective what this system is capable of performing.

If the industry is not willing to accept that such a system must be capable of braking all wheels (or at least the wheels of two axles) than the industry should define suitable minimum performance levels for such a vehicle.

How should the Technical Service know what performance level is acceptable and what is not if the industry itself cannot answer this question?

Again, changing the racing shoes against the normal walking shoes may improve the running but does not guarantee a good runner. Whether he is really a good runner he has to show that by fulfilling an objective test criterion (in this case by a time measurement).

Kind regards

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