February 14, 2022

Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue SA
Washington, DC 20590

Re: Docket No. NHTSA-2021-0088: Van Hool's Petition for Reconsideration of FR FMVSS 227 (86FR74270)

Dear Sir,

ABC Bus Companies, Inc. ("ABC") is the exclusive distributor for Van Hool, N.V. ("Van Hool") vehicles in North America. As such, ABC fully supports Van Hool's Petition for Reconsideration dated February 14, 2022.

Accordingly, ABC hereby requests that NHTSA extend the effective date of the new FMVSS 227 to December 30, 2026, as per Van Hool's petition dated February 14, 2022.

Thank you for your consideration.

Regards,

Jay Oakman
Senior Vice President, Commercial Operations

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VAN HOOL

February 14, 2022

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Docket No. NHTSA-2021-0088 : Petition for reconsideration of FR FMVSS 227 (86FR74270)

Dear sir,

Van Hool N.V., bus and coach manufacturer, acknowledges the effort NHSTA has made to develop this Final Rule, taking into account the comments on the NPRM as published in its docket NHTSA-2014-0085. Nevertheless, we hereby petition for reconsideration with proposals to refine some points that could raise doubts or problems when applying this final rule.

1. Ballasting up to and including GVWR

The final rule has no unambiguous definition of the installation of additional loads inside a vehicle to bring the vehicle weight up to its GVWR : it is not described where and how much load packages will be installed throughout the vehicle, nor is it described where the centre of gravity of each of these load packages will be positioned. Previous parameters have a huge impact on the total energy absorption / damage of the vehicle and also on the moment of inertia of the vehicle, which is an important parameter during the rollover test. It is not known whether these load packages are firmly connected to the vehicle or are unrestrained, which has also an important influence on the total energy absorption; see Australian study mentioned in note 103 of the NPRM 79FR46106: difference between lap/shoulder belt-restrained occupant with equivalent mass 93 % versus unrestrained occupant mass 18 % effectively coupled to the vehicle structure. In case these load packages are unrestrained, it is strongly expected that these packages will shift and/or fall down during the rollover test which introduces a non-reproducible situation due to many uncertainties : coefficient of friction between load packages and vehicle construction, coefficient of friction between load packages, load package storage conditions, stability of stacked load packages, impact uncertainties of load packages during the test, size/form/hardness of the load packages, ...

Usage of unrestrained load packages throughout a vehicle goes beyond the practical and reliable use of FEA calculations in order to predict, improve and self-certify vehicles with respect to FMVSS 227. This would mean that there is no longer a possibility to support the development, optimization and self-certification in an economical and reasonable way.

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For these reasons we propose to extend the final rule in FMVSS 227 with a clear, practical and unambiguous description of how the installation of load packages throughout the vehicle will be done such that the GVWR will be achieved. In order to compensate for the fixation of the load packages with respect to unrestrained load packages in reality, we would suggest to reduce the added load package masses down to 20 % of its original mass.

2. Small parts and the 15 g criterium

Based on practical rollover tests which have been executed in the past, we believe that the criterium of having no more than 15 g objects passing into the survival space, is unrealistic at the front and end locations of the vehicle. Due to the deformation of the upper body at impact, the glazing at the front and end of the vehicle cracks diagonally due to shear forces, often ejecting greater parts of glass than allowed by the 15 g mass criterium. These phenomena are seen, especially when using the laminated glazing, which is legally required for windshield, glued to the structure.

At the same time, we would like to see the 15 g criterium be reviewed as we believe that this criterium is too severe and unbalanced with respect to real life situations. FMVSS 227 - due to its impact on concrete floor - is a very extreme test, which imposes more extreme loads to vehicle interiors than expected into real life situations, resulting in a higher risk of small objects coming off. However, due to the minimum travelling distance of these objects inside the occupant compartment and due to their initial low speed ejection, we believe that these small objects with masses of more than 15 g will cause no or minimal bodily harm to occupants. We understand that there are limitations to these masses (e.g. luggage racks, roof panels, ...), but in our opinion there is no causality between the circumstances at which small objects are travelling through vehicles at rollover impact and the circumstances which are derived from ANSI/SAE Z26.1-1996 (227 g 9.14 m ball drop impact test). The fact that e.g. a 20 g object (e.g. plastic cap) is travelling through the survival space and causes the failing of a complete rollover test, which initially is focussing on survival space and superstructure, is according to our perspective out of balance with respect to the consequences of this failure (non-compliance, remediation, new rollover test in order to comply).

For these reasons we propose to exclude the laminated glazing, as required by FMVSS, from the 15 g criterium, upscale the 15 g criterium up to a more realistic level which is still allowable for object impacts on occupants and foresee a separate test method for interior objects that have higher masses than allowed by the mass criterium and that have failed the survival space criterium during rollover impact, such that the remediation of their failure can be proven without having to repeat a complete rollover test on a full vehicle.

3. Lead time

FMVSS 227 intends to address significantly higher loads during the rollover test in comparison to ECE R66 (e.g. full passenger load lap/shoulder belt-restrained occupant versus half passenger load lap/shoulder belt-restrained occupant or full passenger load belt restrained occupant; fluids in tanks versus no fluids in tanks; GVWR versus curb weight with restrained occupants), which causes even the European based manufacturers to start a new development process, on the one hand.

Moreover this process is not able to start due to the absence of a non ambiguous definition for the installation of additional loads inside a vehicle to bring the vehicle weight up to its GVWR (see point 1), on the other hand.

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The motorcoach industry and their operators also have suffered severely under the COVID epidemic. Sales have plummeted at the start of the pandemic while transportation by coaches came to a stand still. The figures as shown by ABA report show a slight revival of sales for new vehicles, but are still not near normal practices (https://www.buses.org/assets/images/uploads/pdf/Coachbuilder_Report_2021Q3.pdf).

As a consequence the industry suffers financially from the pandemic and given the now known FMVSS 227 requirements, the development costs are high in relation to the yearly income of the industry. As manufacturers are required to reassess their vehicles and redesign, several components will be needed to be changed or reengineered. Due to the pandemic prices of materials have risen and the supply chain suffers from delays. Also under the covid pandemic, operators had to seize their transportation by coaches, and were given some aid through the Covid Relief. But as they suffered financial hardship, the possibility to buy new vehicles has become limited and as such creates financial hardship for the vehicle manufacturers.

For these reasons we propose to extend the implementation of FMVSS 227 on new vehicles up to 5 years counting from the date of publication of the final rule. In this way FMVSS 227 developments can be synchronized with traditional development cycles of new OTRBs, especially in case of more vehicle models (single deckers, double deckers) in order to avoid excessive development peaks (capacity, costs, remediations, ...) during the next years.

4. Privately owned non-OTRB equivalent to transit buses

Non-OTRBs that are equivalent to transit buses (layout, application, ...) but that are privately owned (e.g. on campus traffic) do not respond to the criteria of public transportation provided by a State or local government and are therefore – according to the actual FMVSS 227 regulation – not excluded from FMVSS 227. Due to the low floor construction of these non-OTRBs and the fact that many passengers are standing inside the vehicle instead of lap/shoulder belt-restrained (beyond the practical and reliable use of FEA calculations in order to predict, improve and self-certify vehicles with respect to FMVSS 227), we see a lot of complications in order to have FMVSS 227 fulfilled. At the same perspective, we see less need for these transit bus equivalent non-OTRBs to comply FMVSS 227, as their usage is fully comparable to transit buses.

For these reasons we propose to exclude privately owned non-OTRBs equivalent to transit buses from FMVSS 227 and mention: this standard does not apply to '(1) School buses, school bus derivative buses, transit buses, **transit bus derivative buses** and prison buses; and (2) ...'

We thank you for reconsidering the points as outlined above.

Yours sincerely,

Van Hool N.V.

Pascale Reyntjens

Chief compliance and regulations

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