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This document is a translation made by SHK of the original response in Swedish to the safety recommendation. In case of discrepancies between this translation and the Swedish original text, the Swedish text shall prevail in the interpretation of the response.

Your date
03/12/2015

Your designation
RO 2015:02

Statens
haverikommission
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Response of the Swedish Transport Agency to the recommendations issued by the Swedish Accident Investigation Authority with reference to the bus accident on national highway 27 outside Tranemo on 4 December 2014

The Swedish Transport Agency has reviewed SHK's investigation report and the recommendations addressed to the Swedish Transport Agency. Below follow the Swedish Transport Agency's responses after each recommendation.

The Swedish Transport Agency is recommended to, within the framework of its international work, act for a development of the requirements for seat belt attachments in buses in order to reduce the risk to passengers sitting next to the windows falling out of the upper part of the belt and out of the bus if it tips or rolls over. (RO 2015:2 R1)

The requirement level for installation of belts in buses is today set at two-point belts (hip belts). The requirement is only mandatory for buses intended exclusively for sitting passengers (classes III and B). If a proposal is made for revising the requirement level in order to introduce requirements for 3-point belts, Sweden can put forward the aspect of the placement of the upper attachment point. The Swedish Transport Agency will not take such an initiative at the present time.

Sweden has been active in the international work regarding seat belts irrespective of vehicle category and has always acted to achieve as high a safety level as possible. Most recently in 2008 did the question arise as to whether belts would also be mandatory for bus class II. Unfortunately, this did not become effective for buses in that the international stance arrived at a requirement for hip belts and only for buses in classes III and B. Three-point belts have not been mandatory as this requirement has not been considered justified from a cost/benefit perspective.

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The situations where a three-point belt increases benefit in relation to two-point belts, for example frontal collisions with a vehicle or object of the same mass, have not been able to justify an introduction of the requirement. The side on which the upper attachment point is in such a situation lacks significance.

The Swedish Transport Agency is recommended to, within the framework of its international work, act for a development of the test procedure for lateral stability for buses, so that various load conditions will be considered in order to make the testing process more realistic. (RO2015:02 R2)

The Swedish Transport Agency's impression is that the report is of the opinion that stability testing is performed with a vehicle that is unloaded, but the fact is that this is to be performed with a representative load. With reference to this, the Swedish Transport Agency does not consider there to be reason to amend the existing requirements.

ECE Regulation 107 (R107) places the requirement that buses are to pass a stability test with loading conditions representing their passenger capacity and also cargo if the vehicle has such a possibility, in luggage racks, etc. In the test, the vehicle is to manage a tilt of 28 degrees. For the vehicle in question (M3, class III, single-deck bus), in addition to weight in running order, all passenger seats are to be loaded with a mass of 71 kg, which is intended to correspond to the passenger's weight and hand luggage (68+3 kg). The requirements are well adapted to the vehicles' stability in normal use. However, this is not adapted to handle leaving the road or other extreme conditions. (R107, Annex 3, section 7.4. etc.)

The decision in this matter has been made by department director Birgitta Hermansson. Participating in the final administration of the matter were Bo Nilsson, Anci Ungerbäck and rapporteur Henrik Andersson, Data Collection and Analysis Section.

Sincerely,

[signature]

Birgitta Hermansson