Commission Delegated Regulation (EU) No 3/2014 of 24 October 2013 supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to vehicle functional safety requirements for the approval of two- or three-wheel vehicles and quadricycles (Text with EEA relevance)

COMMISSION DELEGATED REGULATION (EU) No 3/2014

of 24 October 2013

supplementing Regulation (EU) No 168/2013 of the European Parliament and of the Council with regard to vehicle functional safety requirements for the approval of two- or three-wheel vehicles and quadricycles

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles[(1)], and in particular Articles 18(3), 20(2), 22(5) and 54(3) thereof,

Whereas:

(1) The internal market comprises an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured. To that end, comprehensive EU type-approval and a strengthened market surveillance system for L-category vehicles and its systems, components and separate technical units, as defined by Regulation (EU) No 168/2013, apply.

(2) The term ‘L-category vehicles’ covers a wide range of light vehicle types with two, three or four wheels, e.g. powered cycles, two- and three-wheel mopeds, two- and three-wheel motorcycles, motorcycles with side-cars and four-wheel vehicles (quadricycles) such as on-road quads, all-terrain vehicles and quadrimobiles.

(3) By Council Decision 97/836/EC[(2)], the Union acceded to the Agreement of the United Nations Economic Commission for Europe concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted to and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions (‘Revised 1958 Agreement’).

(4) By Decision 97/836/EC, the Union also acceded to United Nations Economic Commission for Europe (UNECE) regulations Nos 1, 3, 4, 6, 7, 8, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 21, 23, 25, 26, 28, 31, 34, 37, 38, 39, 43, 44, 46, 48, 58, 66, 73, 77, 79, 80, 87, 89, 90, 91, 93, 97, 98, 99, 100 and 102.

(5) The Union acceded to UNECE regulation No 110 on specific components of motor vehicles using compressed natural gas (CNG) in their propulsion system and on vehicles with regard to the installation of specific components of an approved type for the use

of compressed natural gas (CNG) in their propulsion system. By Council Decision 2000/710/EC[(3)], the Union has also acceded to UNECE regulation No 67 on the approval of special equipment for motor vehicles fuelled by liquefied petroleum gas.

(6) Manufacturers apply for type approval for L-category vehicles, their systems, components or separate technical units in accordance with Regulation (EU) No 168/2013. In the Union legislation most requirements on vehicle parts are taken over from the corresponding UNECE regulations. UNECE regulations are constantly amended in line with technological progress and the respective Union regulations have to be regularly updated accordingly. In order to avoid this duplication, the CARS 21 High Level Group recommended[(4)] the replacement of several Union directives by way of the incorporation and compulsory application of the corresponding UNECE regulations in Union law.

(7) The possibility of applying UNECE regulations by virtue of Union legislation that provides for the incorporation of those UNECE regulations for the purpose of EU vehicle type-approval is provided for in Regulation (EU) No 168/2013. Under that Regulation, type-approval in accordance with UNECE regulations which apply on a compulsory basis is regarded as EU type-approval in accordance with that Regulation and its delegated and implementing acts.

(8) The compulsory application of UNECE regulations helps avoiding duplication not only of technical requirements but also of certification and administrative procedures. In addition, type-approval that is directly based on internationally agreed standards could improve market access in third countries, in particular those which are contracting parties to the Revised 1958 Agreement, and thus enhance the Union industry's competitiveness.

(9) It is appropriate to include UNECE regulations Nos 1, 3, 4, 6, 7, 8, 10, 14, 16, 17, 18, 19, 20, 23, 26, 28, 30, 31, 34, 37, 38, 39, 43, 44, 45, 46, 48, 53, 54, 55, 56, 57, 60, 62, 64, 67, 72, 74, 75, 76, 77, 78, 81, 82, 87, 90, 91, 97, 98, 99, 100,, 104, 106, 110, 112, 113, 116, 119, 121, 122, 123 and 127 in the list of UNECE regulations that apply on a compulsory basis set out in Annex I to this Regulation.

(10) Article 22 of, and Annexes II(B) and VIII to, Regulation (EU) No 168/2013 lay down functional safety requirements. Requirements regarding saddles and seats, steer-ability, cornering properties and turn-ability, endurance testing of functional safety critical systems, parts and equipment and vehicle structure integrity are deemed paramount for the functional safety of an L-category vehicle, as well as requirements on electrical safety, which was added in order to adapt to technical progress. Requirements regarding the maximum speed limitation plate and its location on the vehicle as also regarding roll-over protective structure have been adopted to address specific characteristics of category L7e-B vehicle's that are designed for off-road use but that travel also on hard-paved public roads.

(11) The limitation to 'four' of the ratio of auxiliary propulsion power and actual pedal power for cycles designed to pedal set out in Annex XIX should be subject to further scientific research and assessment. Upon availability of scientific data and statistics on

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vehicles placed on the market, the ratio 'four' referred to above may be revisited in a future revision of this Regulation.

(12) This Regulation should apply as from date of application of Regulation (EU) No 168/2013,

HAS ADOPTED THIS REGULATION:

CHAPTER I

SUBJECT MATTER AND DEFINITIONS

Article 1

Subject matter

This Regulation establishes the detailed technical requirements and test procedures regarding functional safety for the approval and market surveillance of L-category vehicles and the systems, components and separate technical units intended for such vehicles in accordance with Regulation (EU) No 168/2013 and sets out a list of UNECE regulations and amendments thereto.

Article 2

Definitions

The definitions of Regulation (EU) No 168/2013 shall apply. In addition, the following definitions shall apply:

(1) 'audible warning device' means a device emitting an acoustic signal intended to give warning of the presence of, or a manoeuvre by, a vehicle in a dangerous road traffic situation, consisting of one or more sound emission orifices that are excited by a single power source or of several components each emitting an acoustic signal and operating simultaneously as a result of being actuated by a single control;

(2) 'type of electrical audible warning device' means audible warning devices not essentially differing among themselves, particularly in respect of the following aspects: trade mark or name, operating principle, type of power supply (direct current, alternating current, compressed air), outer shape of the casing, shape and dimensions of the diaphragm(s), shape or type of the sound emission orifice(s), nominal sound frequencies, nominal supply voltage and, in the case of warning devices supplied direct by an external source of compressed air, the nominal operating pressure;

(3) 'type of mechanical audible warning device' means audible warning devices not essentially differing among themselves, particularly in respect of the following aspects: trade mark or name, operating principle, type of actuation, outer shape and size of the bell and the internal construction;

(4) 'type of vehicle with regard to the audible warning' means vehicles which do not differ in such essential respects as: the number of audible warning devices fitted to the vehicle, the type(s) of audible warning device(s) fitted to the vehicle, the mountings used to fit the audible warning device(s) to the vehicle, the position and orientation of

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the audible warning device(s) on the vehicle, the rigidity of the parts of the structure on which the audible warning device(s) is/are fitted and the shape and materials of the bodywork forming the part of the vehicle which may affect the level of the sound emitted by the audible warning device(s) and which may have a masking effect;

(5) 'bodywork' means the external structure of the motor vehicle which comprises of fenders, doors, pillars, side walls, roof, floor, front bulkhead, rear bulkhead and/or other external panels;

(6) 'type of vehicle with regard to braking' means vehicles which do not differ in such essential respects as the maximum mass, the distribution of mass between the axles, the maximum vehicle design speed, the tyre sizes and wheel dimensions, as well as the design characteristics of the braking system and its components;

(7) 'type of vehicle with regard to electrical safety' means vehicles which do not differ in such essential respects as the location of conducting parts and components of the entire electrical system installed in the vehicle, the installation of the electric powertrain and the galvanically connected high voltage bus as well as the nature and type of electric powertrain and the galvanically connected high voltage components;

(8) 'active driving possible mode' means the vehicle mode when application of the electric acceleration position sensor, activation of an equivalent control or release of the brake system will cause the electric powertrain to propel the vehicle;

(9) 'barrier' means the part providing protection against direct contact to the live parts from any direction of access;

(10) 'conductive connection' means the connection using connectors to an external power supply when the rechargeable energy storage system (REESS) is charged;

(11) 'REESS' means the rechargeable electric energy storage system that provides energy for electric propulsion;

(12) 'coupling system for charging the REESS' means the electrical circuit used for charging the REESS from an external electric power supply including the vehicle inlet;

(13) 'direct contact' means the contact of persons with live parts;

(14) 'electrical chassis' means a set made of conductive parts electrically linked together, whose potential is taken as reference;

(15) 'electrical circuit' means an assembly of connected live parts which is designed to be electrically energised in normal operation;

(16) 'electric energy conversion system' means a system that generates and provides electric energy for electric propulsion;

(17) 'electric powertrain' means the electrical circuit which includes the traction motor(s), and includes the REESS, the electric energy conversion system, the electronic converters, the associated wiring harness and connectors, and the coupling system for charging the REESS;

(18) 'electronic converter' means a device capable of controlling and/or converting electric power for electric propulsion;

(19) 'enclosure' means the part enclosing the internal units and providing protection against direct contact from any direction of access;

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(20) ‘exposed conductive part’ means the conductive part which can be touched under the provisions of the protection degree IPXXB, and which becomes electrically energised under isolation failure conditions;

(21) ‘external electric power supply’ means an alternating current (AC) or direct current (DC) electric power supply outside of the vehicle;

(22) ‘high voltage’ means the classification of an electric component or circuit, if its working voltage is > 60 V and ≤ 1 500 V DC or > 30 V and ≤ 1 000 V AC root mean square (rms);

(23) ‘high voltage bus’ means the electrical circuit, including the coupling system for charging the REESS that operates on high voltage;

(24) ‘indirect contact’ means the contact of persons with exposed conductive parts;

(25) ‘live parts’ means the conductive part(s) intended to be electrically energised in normal use;

(26) ‘luggage compartment’ means the space in the vehicle for luggage accommodation, bounded by the roof, bonnet, trunk lid or rear door and floor and side walls, as well as by the barrier and enclosure provided for protecting the powertrain from direct contact with live parts, being separated from the passenger compartment by the front or rear bulkhead;

(27) ‘on-board isolation resistance monitoring system’ means the device which monitors the isolation resistance between the high voltage buses and the electrical chassis;

(28) ‘open type traction battery’ means a liquid type battery requiring refilling with water and generating hydrogen gas released to the atmosphere;

(29) ‘passenger compartment’ means the space for occupant accommodation, bounded by the roof, floor, side walls, doors, window glass, front bulkhead and rear bulkhead, or rear gate, as well as by the barriers and enclosures provided for protecting the powertrain from direct contact with live parts;

(30) ‘protection degree’ means the protection provided by a barrier or enclosure related to the contact with live parts by a test probe, such as a jointed test finger (IPXXB) or a test wire access probe (IPXXD);

(31) ‘service disconnect’ means the device for deactivation of the electrical circuit for the purpose of servicing or checking electrical components such as the REESS and fuel cell stack;

(32) ‘solid insulator’ means the insulation coating of wiring harnesses insulating live parts against direct contact from any direction of access, covers insulating live parts of connectors, as well as varnish or paint applied for the purpose of insulation;

(33) ‘working voltage’ means the highest value of an electrical circuit voltage root-mean-square (rms) as specified by the vehicle manufacturer for each separate and galvanically isolated circuit, which may occur between any conductive parts in open circuit conditions or under normal operating condition;

(34) ‘type of vehicle with regard to endurance’ means vehicles which do not differ in such essential respects as the overall design characteristics as well as the vehicle and component manufacturing and assembly facilities as well as their quality control and assurance procedures;