

The new Regulation on the approval and market surveillance of agricultural or forestry vehicles: what opportunities to improve working conditions?

Questions for experts attending the ETUI Seminar *Machinery Safety in Agriculture: better ergonomics for better working conditions*, 4-5 March 2013.

The European Commission have appointed TRL (the UK's Transport Research Laboratory) to analyse various safety topics relevant to agricultural or forestry vehicles and define appropriate performance specifications and test requirements, through reference to well-established and relevant standards.

Under the proposed new regulatory framework for the type approval of agricultural and forestry vehicles in Europe, various existing Directives are to be repealed and replaced with a smaller number of "Delegated Acts". The Annexes to the Delegated Acts will set out the detailed technical requirements and performance specifications that agricultural and forestry vehicles must comply with. Those detailed technical requirements shall be such as to increase or at least maintain the level of occupational safety provided for by the existing Directives, taking into account ergonomics (including protection against foreseeable misuse, usability of control systems, accessibility of controls to avoid their unintentional activation, adaptation of the person/vehicle interface to the foreseeable characteristics of the driver, vibrations and operator intervention).

The proposed Annexes generally refer to specific aspects of vehicle design (safety topics) that must be assessed for compliance, but ergonomic issues (alongside fire safety and stability) are treated slightly differently, in that they must be considered wherever they are relevant, invariably in more than one Annex.

The following tables list the Commission's proposed Annexes to the RVCR (Construction) and RVFSR (Functional Safety) Delegated Acts and indicate which are currently considered (by TRL) to be particularly relevant to ergonomic issues.

Annex No.	Annex title (RVCR – Construction Requirements)	Relevant to ergonomics?
I	List of OECD Codes which apply for the test report	N
II	Roll-Over Protection Structures (ROPS) for wheeled tractors with the exception of Narrow-Track Tractors (NTT)	N
III	Roll-Over Protection Structures (ROPS) for track-laying tractors with the exception of Narrow-Track Tractors (NTT)	N
IV	Static testing of Roll-Over Protection Structures (ROPS) for wheeled and track-laying tractors with the exception of Narrow-Track Tractors (NTT)	N
V	Roll-Over Protection Structures (ROPS) for Narrow-Track Tractors (NTT)	N
VI	Foldable Roll-Over Protection Structures (foldable ROPS)	YES
VII	Falling Objects Protection Structures (FOPS)	N
VIII	Passenger seats	YES
IX	Driver's exposure to noise level	N
X	Driving seat and position	YES
XI	Operating space, access to the driving position	YES
XII	Power take-offs	YES
XIII	Protection of drive components	N
XIV	Seat-belt anchorages	N
XV	Safety belts	YES
XVI	Protection against penetrating objects (OPS)	YES

XVII	Exhaust system	N
XVIII	Operator's manual	YES
XIX	Controls, including in particular emergency and automatic stop devices	YES
XX	Protection against mechanical hazards, other than the ones related to ROPS, FOPS, OPS and power take-off, including protection against rough surfaces, sharp edges and angles, rupture of pipes carrying fluids and uncontrolled movement of the vehicle	YES
XXI	Guards and protective devices	YES
XXII	Information, warnings and markings	YES
XXIII	Materials and products	YES
XXIV	Batteries	N
XXV	Emergency exit	YES
XXVI	Cab ventilation and filtration system	N
XXVII	Burning rate of cab material	N

Annex No.	Annex title (RVFSR – Functional Safety Requirements)	Relevant to ergonomics?
I	List of UNECE regulations which apply on a compulsory basis	N
II	Vehicle structure integrity	N
III	Maximum design speed, speed governor and speed limitation devices	N
IV	Steering for fast tractors	YES
V	Steering	YES
VI	Speedometer	N
VII	Field of vision and windscreen wipers	YES
VIII	Glazing	N
IX	Rear-view mirrors	YES
X	Driver information systems	YES
XI	Lighting, light signalling devices and their light sources	N
XII	Lighting installation	N
XIII	Vehicle occupant protection, including interior fittings, head restraint, seat belts, vehicle doors	YES
XIV	Vehicle exterior and accessories	N
XV	Electro-magnetic compatibility	N
XVI	Audible warning device	N
XVII	Heating systems	YES
XVIII	Devices to prevent unauthorised use	N
XIX	Registration plate	N
XX	Statutory plate and marking	N
XXI	Dimensions and trailer mass	N
XXII	Maximum laden mass	N
XXIII	Ballast masses	N
XXIV	Safety of electrical systems	N
XXV	Fuel tank	N
XXVI	Rear protective structures	N
XXVII	Lateral protection	N
XXVIII	Load platforms	N
XXIX	Towing devices	N
XXX	Tyres	N
XXXI	Spray-suppression systems	N
XXXII	Reverse gear	N
XXXIII	Tracks	N
XXXIV	Mechanical couplings	YES

Question 1. Do you agree that the highlighted annexes are relevant to ergonomics? Should any other of the listed annexes be considered as relevant?

Question 2. Do you have any views on the adequacy, from an ergonomics perspective, of the existing Type Approval requirements (Directives) for agricultural or forestry vehicles in the relevant areas, and can you provide or reference evidence to support those views?

Please consider all aspects of ergonomics, including protection against foreseeable misuse, usability of control systems, accessibility of controls to avoid their unintentional activation, adaptation of the person/vehicle interface to the foreseeable characteristics of the driver, vibrations, field of vision, driver comfort and operator intervention.

Question 3. Are there existing additional codes, standards or other sources of technical (ergonomic) requirements that could be applied to Type Approval requirements in any of the relevant areas (Delegate Act Annexes), and that would be likely to increase the level of occupational safety provided?

Answers can be emailed to brobinson@trl.co.uk and/or discussed at the Seminar.