

Proposed Schedule for a Review of ECE Regulation 44.03

The regulation applies to child restraint systems which are suitable for installation in power-driven vehicles having three or more wheels, and which are not intended for use with folding (tip-up) or with side-facing seats.

Area For Review			Information Source	Date
Definition Of Groups		Currently the definition of the different child restraint approval groups is based on mass. This could be changed to or combined with size (eg. sitting height, standing height).	Proposal from EEVC WG18 UK National research	Available
Dynamic Test				
Test Environment	Verification is needed to assess whether the test bench is representative of the current vehicle fleet.			
	Anchorage Positions	The upper and lower anchorage planes on the test bench must be representative of the anchorage positions in both the front and rear seating positions in the current vehicle fleet.	NPACS	April 05
	Geometry	The geometry of the test bench has to be representative of the current vehicle fleet. A number of car categories are equipped with an individual seat in the rear. The test bench may need to be modified to cover the variations in vehicle seat provisions for anti-submarining and the variety of shape and thickness of vehicle seat foam.	NPACS New research	April 05
	Cushion Properties	The properties of the test bench foam needs to be better specified.	NPACS	April 05
Front Impact				
Test Specifications	Sled Pulse	Although it may not be necessary to use a more	Accident analysis from	

		severe pulse (check with accident analysis) there needs to be a reduction in the variation in reproducibility across different laboratories. The sled deceleration corridor could be narrower. The R44 sled pulse needs to be representative of the current R94 approved vehicle fleet.	NPACS and UK projects New research CHILD	July 05 June 2006
	Velocity	The test speed should be specified as a velocity change, in order to avoid variations between acceleration and deceleration sleds. Investigation into the change in velocity associated with an approach speed of 50km/hr for a deceleration sled.	TSG UK research	Dec 2005 Sept 2005
Review approach in WG18	Corridors	A mean velocity curve with (+/-) a standard deviation could be considered instead of an acceleration/deceleration pulse corridor.	From (velocity) above	
	Set-up	<i>For the the "vehicle specific approval" of rearward facing CRSs supported or not by the dashboard: Could the distance between dashboard and test trolley be adjustable distance to correspond to use in a real car.</i>		
Something like HIC	Head Excursion planes	The head excursion planes need to reflect the available space in the current vehicle fleet.	UK national research New research	Available
Side Impact	The protection in side impacts is not covered by the present regulation. There is a requirements for minimum depth of side wing for rear facing			

	<p>CRSs. CRS geometric design requirements for head containment (not the view of the whole group). could be specified, as a first step to providing side impact protection. The second step would be to have a dynamic impact test to assess protection in side impact (not the view of the whole group).</p> <p>Over the coming WG18 meetings, the group will need to assess whether there is a need for a static requirement, or a dynamic requirement, or both.</p>			
Specifications		<p>Review of accident data. Evaluation of side impact test procedures.</p> <p>Current there is no complete family of dummies for side impact. New dummies will need to have injury criteria to have the associated injury tolerance levels.</p>	<p>NPACS,</p> <p>CHILD,</p> <p>ISO and UK and D national research.</p> <p>Consumer organisations</p>	<p>Aug 2005</p> <p>June 2006</p> <p>Some available, some new (NPACS?)</p>
Rear Impact				
	Assess the effect of the CRS turning over.	<p>risk of: head contact with the vehicle interior; child ejection; interaction with deploying airbags; interaction with intruding front and rear seatbacks; reduction of protection to the child in multiple impact.</p>	NPACS	March 2005
General				
Child Dummies	P-series	<p>R44 currently uses the P-series dummies. They may no longer be the best dummies for evaluation of child protection in front, rear or side impacts. Some of the criteria used in front impacts may not be relevant (eg. Chest-z acceleration, ...)</p>	<p>CHILD</p> <p>EEVC work</p>	<p>Sept 06</p> <p>July 05</p>
	Q-Series	<p>Q-series dummies do not cover all R44 mass groups.</p>		

		<p>STATUS for front impact: - Q0, Q1, Q1.5, Q3, Q6 are in production and Q10 is still under development. Some injury criteria are developed and some are still under development.</p> <p>STATUS for side impact: dummy family is under development and will be complete in the near future.</p>	<p>CHILD & EEVC WG12/18</p> <p>TNO/FTSS</p> <p>TNO/FTSS</p>	<p>Some Feb 2005</p> <p>Some ongoing</p>
	CRABI Dummies	CRABI dummies were developed to assess airbag interaction in out of position static tests.		
	Hybrid III Dummies	The HYBRID III dummy family, designed for front impact only, is complete. However, they do not reflect the the mass groups in R44. Injury criteria for some body areas have been scaled down from adult data.		
	Extra dummy instrumentation	Does R44 need to include load measuring instrumentation in the neck, head, thorax, lumber spine, pelvis and abdominal area?	CHILD EEVC WG12	2005/2006
Text		The Regulation needs to be rewritten to incorporate the many amendments and to reduce misinterpretation of both the text and the diagrams.	<p>UK & F Support</p> <p>TSG cooperation</p>	
Additions	Advanced restraint systems and child restraint systems	Improvement in adult protection should not decrease the protection offered to children. It may be necessary to amend the Regulation to take into consideration the possible interaction	<p>Airbags – APROSYS and input from UK and D national research.</p> <p>Improvement</p>	

		of CRSs with airbags, seat belt load limiters and dynamic retractors, when the CRS is both in and out of position.	of child restraint systems D national research	
	Use and misuse of child restraint systems	Does research indicate that this can be reduced by regulation?	CHILD, NPACS and UK and D national research	