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**2010 ACTIVITIES OF THE WORLD FORUM FOR HARMONISATION OF
VEHICLE REGULATIONS**

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1. INTRODUCTION

In accordance with the CARS 21 Communication of 7 February 2007¹, this Commission staff working document reports on the major automotive-related regulatory developments and activities that arose during 2010 at the World Forum for Harmonisation of Vehicle Regulations (“WP.29”) of the United Nations Economic Commission for Europe (“UNECE”). Its objective is to inform the European Parliament, the Council and the public about the progress achieved by WP.29 and of the compliance observed by the European Commission with regards to the political orientations set out in the relevant European Union (EU) legislation. This 2010 Commission staff working document is the fourth annual report on these activities.

The UNECE was established by the United Nations Economic and Social Council in 1947 in order to promote regional economic integration through dialogue and cooperation on economic and sectoral issues. It provides analysis and policy advice to governments, in consultation with key stakeholders, and provides a framework for norms, standards and conventions to facilitate international cooperation for various sectors. The UNECE brings together 56 countries located in the EU, non-EU Western and Eastern Europe, South-East Europe, the Commonwealth of Independent States and North America².

The WP.29 and the Permanent Subsidiary Working Parties (also known as Groups of Rapporteurs or “GRs”) as well as the Agreements administered by WP.29 (1958, 1997 and 1998 Agreements) are described in detail in the Commission staff working document – progress during 2009 at UNECE³.

Given that the EU is a contracting party to the 1958 and 1998 Agreements⁴, the present Commission staff working document will focus on progress made in 2010 under those two Agreements⁵.

¹ Communication from the Commission to the European Parliament and Council, "*A Competitive Automotive Regulatory Framework for the 21st Century*", COM (2007) 22 final, 7.02.2007, Section 4 and Point 41.

² Other commissions have been established specifically for Asia and the Pacific (ESCAP), Latin America and the Caribbean (ECLAC), Africa (ECA), and Western Asia (ESCWA).

³ http://ec.europa.eu/enterprise/sectors/automotive/files/unece/sec-2010-0631_en.pdf.

⁴ The EU acceded to the 1958 and 1998 Agreements by the following Council Decisions: Council Decision 97/836/EC of 27 November 1997 with a view to accession by the European Community 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 used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions, OJEU L 346, 17.12.1997, p.78; and Council Decision 2000/125/EC of 31 January 2000 concerning the conclusion of the Agreement concerning the establishing of global technical regulations for wheeled vehicles, equipment and parts which can be fitted and/or used on wheeled vehicles, OJEU L 35, 10.2.2000, p.12.

⁵ As far as the 1998 Agreement is concerned, as of 31 December 2010, *eleven gtrs* have been established (ten in 2009). The current gtrs cover door locks, motor cycle emissions test cycle and brake systems, the test procedure for heavy-duty engine exhaust emissions, on-board diagnostic systems, safety glazing materials, head restraints, electronic stability control systems, pedestrian safety, off-cycle emissions and engine emissions from agricultural and forestry tractors and from non-road mobile machinery. Furthermore, discussions have started in 2010 to develop a new gtr concerning the *safety of vehicles with hydrogen propulsion*. Also, a working group has been established to develop another new gtr on *pole side impact*.

2. INTERNATIONAL HARMONISATION

The UNECE WP.29 framework aims at developing and strengthening the international harmonisation of vehicle-related technical regulations and contributes therefore to the facilitation of international trade in motor vehicles. In particular, the 1958 Agreement plays a key role in this objective since manufacturers can operate a common set of type-approval standards in the knowledge that their products will be recognised by the contracting parties as being in conformity with their national legislation. One particular example is the development of safety standards for electric vehicles, under UNECE Regulation No 100 (uniform provisions concerning the approval of battery electric vehicles with regards to specific requirements for the construction and functional safety).

UNECE WP.29 contributes to increased market access

The Russian Federation is a contracting party to 124 Regulations under the 1958 Agreement. In particular, the Technical Regulation on Vehicle Safety updated many of the vehicle certification requirements under Russian law in line with the latest UNECE Regulations. This recognition of UNECE Regulations improves market access in the Russian Federation since manufacturers can rely on UNECE standards and do not need to redesign parts of their vehicles to comply with unique Russian requirements.

Furthermore, Japan and Australia have begun applying the same rigorous rules on vehicle crashes as have been agreed at UNECE level, providing for more global harmonisation on vehicle safety rules. As far as Canada is concerned, it applies the technical provisions of 18 UNECE Regulations (currently an additional one is in the process of being added). The Republic of Korea (South Korea) is a contracting party to 6 UNECE Regulations.

Moreover, China - which is not a contracting party to the 1958 Agreement - uses UNECE Regulations, to a certain extent, as a reference in its domestic legislation. India – which is also not a contracting party to the 1958 Agreement – has based approximately one third of its automotive legislation on UNECE Regulations.

The 1958 Agreement was revised in 1995. The present intention is to widen and deepen the 1958 Agreement to cope with future challenges.

Review of the 1958 Agreement

The World Forum for Harmonisation of Vehicle Regulations agreed in March 2010 on the need to review and update the 1958 Agreement. Hence, an informal working group - co-chaired by the European Commission and by Japan – started in 2010 to work on the review of the 1958 Agreement and on the future direction of the vehicle regulation harmonisation.

The aim of the exercise is threefold. First, to enhance the reliability and robustness of the UNECE regulatory framework to cope with future challenges stemming from the increasing globalisation of the automotive industry sector. Second, the 1958 Agreement has to be made more attractive for emerging countries which are not yet contracting parties to ensure that the UNECE vehicle Regulations are accepted and applied by in these emerging markets. Third, to develop an international whole vehicle type-approval (IWVTA) allowing for the reciprocal recognition of the entire vehicle. The IWVTA concept offers the benefit to manufacturers to use a "one-shop stop" type-approval procedure for their motor vehicles, instead of having all the vehicle's safety components separately approved, and therefore will facilitate considerably

the international trade of motor vehicles through mutual recognition based on IWVTA certificates.

This informal group is to present by June 2011 a roadmap and an inventory of the issues to be addressed in the review of the 1958 Agreement for endorsement by the World Forum, and to develop detailed proposals for amending the 1958 Agreement and introducing the mutual recognition based on the IWVTA concept by 2016.

3. EU INVOLVEMENT IN THE 1958 AND 1998 AGREEMENTS

Active participation by the European Commission in activities related to the 1958 and 1998 Agreements is crucial to ensure that EU interests are taken into account. Therefore, European Commission services continuously increase their involvement in the Geneva technical legislative process, in particular by working within WP.29 and its subsidiary bodies in order to ensure harmonisation between UNECE Regulations and EU legislation. This is particularly important since Regulation (EC) No 661/2009 on the general safety of motor vehicles (the GSR)⁶ repealed numerous EU Directives and replaced them with UNECE Regulations.

Generally, the European Commission and the EU Member States take part in the preparatory work of the UNECE working parties. If it becomes obvious at this stage that further discussions between experts are necessary, an informal working group may be set up within a working party with a view to making progress in the development of the Regulations. This may occur where there is a rapid development of complex new technologies. The European Commission is attentive to ensure its active participation in those informal groups where sensitive and important issues may be dealt with. Following on from the work done at this stage, a vote by the European Commission at WP.29 in favour of adopting any UNECE Regulation, or an amendment thereof, is preceded by the adoption of a Decision according to which the authority to vote in favour is granted to the European Commission. This is done in accordance with the procedures set out in the Council Decisions on the accession of the EU to the 1958 and 1998 Agreements. As a result of this, the European Commission exercises the right to vote in WP.29 on behalf of the EU and its 27 Member States.

As of 31 December 2010, the EU had acceded to 106 Regulations under the 1958 Agreement⁷ and to all 11 gtrs under the 1998 Agreement. The effect of accession to the UNECE Regulations under the 1958 Agreement is determined by Articles 34 to 36 of the Framework Directive 2007/46/EC.⁸ In particular, the EU either introduces them as an obligatory part of the EU type-approval system, or accepts them as equivalent in which case manufacturers may rely upon them as an alternative way to comply with the corresponding provisions of the EU legislation. As stated above, with the adoption of the GSR, several UNECE Regulations will replace numerous EU Directives. Hence, those UNECE Regulations listed in the GSR will become mandatory EU law in April 2011.

⁶ Regulation (EC) No 661/2009 of the European Parliament and of the Council of 13 July 2009 concerning type-approval requirements for the general safety of motor vehicles, their trailers and systems, components and separate technical units intended therefore, OJEU L 200, 31.7.2009, p.1.

⁷ For information on the status of the accession to the 1958 Agreement, UNECE Regulations and amendments, see: <http://www.unece.org/trans/main/wp29/wp29wgs/wp29gen/wp29fdocstts.html>

⁸ Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, OJEU L 263, 9.10.2007, p.1.

4. UNECE WP.29 ACTIVITIES DURING 2010 HAVE ENSURED COHERENCE WITH EU REGULATORY OBJECTIVES

The European Commission endeavours that there is an appropriate coherence between the regulatory activities at UNECE level and at EU level. The activities related to the 1958 and 1998 Agreements during 2010 and the results obtained illustrate that this coherence is being successfully achieved.

4.1. Safety

In 2010, WP.29 achieved significant progress by adapting various UNECE Regulations and specifying safety requirements that are compatible with the objectives and principles of EU legislation, notably those of the GSR. Indeed, the GSR will render several UNECE Regulations compulsory for the majority of items currently covered by EU type-approval requirements. The GSR repeals with effect from 1 November 2014 50 EU Directives which contain requirements that are equivalent to those of UNECE Regulations. As a result, vehicle manufacturers will be able to type-approve their products in accordance with EU legislation, where appropriate, directly by means of obtaining type-approval to the relevant UNECE Regulations. Type-approvals granted under the UNECE Regulations listed in Annex IV to the GSR will be considered as an EU type-approval. Noteworthy in this respect is that a proposal for a Commission Regulation aimed at adding 62 UNECE Regulations to Annex IV of the GSR is currently with the European Parliament and the Council under the regulatory procedure with scrutiny⁹.

Examples of progress in safety performance through UNECE activity

- **Lights:** A proposal for a UNECE Regulation on dynamic light assist has been developed as well as a proposal for a UNECE Regulation on LEDs (Light-Emitting Diodes). The latter is at an advanced stage and is now ready for adoption.
- **Tyres:** Amendments to update the existing UNECE Regulation No 117 (tyre rolling noise emissions and adhesion to wet surfaces) have been agreed. Those include new requirements and measurement procedures for rolling resistance, updating the requirements for tyre noise and laying down more precise definitions to ensure that the limit values will be applied to the appropriate tyre categories. These amendments enable this UNECE Regulation to be used to implement the rolling resistance and rolling noise requirements contained in the GSR, while maintaining harmonisation with international standards.
- **Advanced safety systems for commercial vehicles:** Work continued through 2010 in a working group – chaired by the Commission – to develop performance requirements and test procedures for both Automatic Emergency Braking Systems (AEBS) and Lane Departure Warning Systems (LDWS) with a view to implementing their compulsory installation on heavy passenger and goods vehicles as from 2013 for new vehicle types and 2015 for all new vehicles. As regards LDWS, a draft proposal for a UNECE Regulation has been finalised in 2010 and is to be adopted by WP.29 in early 2011. As regards AEBS, the discussions within the UNECE informal group have been intensified in 2010 with a view to finalising them in 2011.

⁹ http://ec.europa.eu/enterprise/sectors/automotive/files/application-unece-regulations_en.pdf

- **Protection of occupants of commercial vehicles:** Amendments updating the current specifications to UNECE Regulation No 29 (protection of the occupants of the cab of a commercial vehicle) have been adopted. They offer a significantly higher level of protection for the driver and passengers in the cab of a commercial vehicle in case of a crash or roll-over accident. The EU intends to accede to this UNECE Regulation in 2011.
- **Child seats:** Updated requirements on the protection of children in vehicles against frontal and rear impacts and new requirements for side impact crashes have been developed in a working group. Elements are to be taken on board to avoid the incorrect installation of child seats. UNECE WP.29 is expected to agree on these requirements in the course of 2011. In order to address the need for further improved safety, more stringent conditions will be set in the coming years.

Involvement in UNECE WP.29, however, does not prejudice the right of the EU to legislate independently. As emphasised in the CARS 21 Communication, the European Commission fully recognises the importance for the EU to retain its ability to legislate independently of UNECE where there is a need for earlier or more stringent action.¹⁰ In particular, under the GSR, the EU will continue to establish its own standards where necessary. In this case, it will still be possible, according to the comitology provisions in the GSR, for the European Commission to adopt more stringent EU measures in the absence of UNECE Regulations or in the event that a UNECE Regulation was deemed to be inappropriate for the fulfilment of EU road safety objectives.

4.2. Electric / hybrid vehicles

Electric vehicles operate at very high voltages. Hence, it is essential to ensure protection against electric shocks. However, presently at EU level there are no specific harmonised EU technical requirements for electric safety of electric or hybrid-electric vehicles.

In contrast, UNECE Regulation No 100 deals with the electric safety of vehicles. While the currently applicable version of UNECE Regulation No 100 only applies to purely electric vehicles, an amendment to that Regulation extending its scope to cover all road vehicles of categories M and N equipped with an electric powertrain was adopted by WP.29 in March 2010. This extends the range of the Regulation, widening it to include hybrid and fuel cell vehicles, and the updating of electric safety requirements. The revised UNECE Regulation No 100 thus will provide for a high level of public health & safety and protection against electrical hazards. Additionally, WP.29 adopted further amendments to UNECE Regulations Nos 12, 94 and 95 on the crash safety of vehicles in order to cover the specific risks of vehicles with electric powertrains in November 2010.

In the context of the implementation of the GSR mentioned above, the European Commission tabled a proposal on the mandatory application of 62 UNECE Regulations¹¹. UNECE Regulation No 100 on electric safety and UNECE Regulations Nos 12, 94 and 95 on crash safety are included in the list of UNECE Regulations whose application will become mandatory as of the 1st November 2012 for new types of vehicles and from the 1st November 2014 for new vehicles.

¹⁰ See the Executive Summary of the CARS 21 Communication.

¹¹ See the proposal for a Regulation of the Commission mentioned in the footnote 9 which encompasses UNECE Regulation No 100.

In addition, WP.29 is continuing the regulatory work on electric safety and an Informal Group on Rechargeable Energy Storage Systems (RESS) has been constituted for that purpose. This work aims at ensuring the safety of those systems installed in category M and N vehicles during normal operation and in post-crash situations. The outcome of that work should be amendments to existing UNECE Regulations under the 1958 Agreement, where possible and practicable.

The harmonisation of electrical safety requirements at UNECE level will simplify the trade in advanced electric vehicles and reduce costs significantly. In addition, the European Commission's services are also conscious that other possible safety risks need to be addressed, in particular with regard to so-called "quiet" vehicles like hybrids or electric vehicles that may not be sufficiently loud to advertise their presence to pedestrians or other vulnerable road users. Based on the initiative of the European Commission, the issue has been taken on-board by WP.29 in order to harmonise current developments in Japan and the USA and the ongoing work of the international standardisation organisation (ISO).

4.3. Light duty emissions

Firstly, it should be noted that due to a decision by WP.29 in June 2010, Regulation (EC) No 715/2007 on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information¹², - as well as Regulation (EC) No 692/2008 implementing and amending Regulation (EC) No 715/2007¹³ -, have been integrated in a new series of amendments (06) to UNECE Regulation No 83 on uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements.

Secondly, the adoption of recognised technical requirements also requires the definition of common test procedures. Work is being carried out in the World Light Test Procedure (WLTP) initiative at UNECE to develop a gtr that would define test methods for emissions testing for light duty vehicles (i.e., passenger cars and light commercial vans). A global harmonised test procedure for vehicle emissions would have obvious benefits for industry as it would reduce the testing burden and would allow regulators to benchmark in accordance with a common yardstick for vehicle emissions control.

If a harmonised test procedure can be agreed upon, taking into account the EU's social and environmental objectives, the test could be used in the relevant EU legislation governing pollutant (i.e., particulate matter (PM), hydrocarbons, CO and NOX) and CO2 emissions. The establishing at UNECE of a drive cycle and test methods would also complement corresponding EU legislation on mobile air-conditioning and real driving emissions.

The WLTP process progressed well in 2010. Data collection on real driving conditions has almost finished (merely data from China and final data from India are awaited). Based on this

¹² Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, OJEU L 171, 29.6.2007, p. 1.

¹³ Commission Regulation (EC) No 692/2008 of 18 July 2008 implementing and amending Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, OJEU L 199, 28.7.2008, p. 1.

collected data, a first draft test cycle should be developed by September 2011, which would then be valid as from October 2011. Meanwhile, the test procedures - such as lab processes or the setting of ambient temperatures during the test - are being revised. In this context, a number of questions still need to be resolved. The European input is co-ordinated by a special EU-WLTP working group chaired by the European Commission.

4.4. Heavy duty emissions

Regulation (EC) No 595/2009 on emissions from heavy duty vehicles (Euro VI) sets out harmonised rules aimed at reducing pollutant emissions from trucks and buses as from 2012¹⁴. This main Regulation, together with the implementing Regulation, establishes the EU framework for emission limits and the administrative procedures for type-approval of heavy duty engines and vehicles. The Euro VI Regulation implements into European law gtr 4 on WHDC, gtr 5 on WWH-OBDD and gtr 10 on Off-cycle emissions. A particle number limit is introduced in the EU Regulation for Euro VI engines. The procedure for measuring particle numbers was developed within the UNECE Particle Measurement Program (PMP) and the procedure was implemented in UNECE Regulation No 49 and Euro VI.

Increased fuel efficiency and reduction of green house gas emissions are becoming even more important in the view of global warming and higher fuel costs. Hybrid electric vehicles are therefore becoming more important not only for light duty cars but also for heavy-duty vehicles such as city buses or distribution or refuse trucks. Worldwide in the heavy duty emissions legislation the combustion engine is essentially certified as a separate unit that can be installed in different vehicle applications. For hybrid vehicles the operation of the combustion engine might differ substantially from the operation in a conventional vehicle. A working group has therefore been established to carry out the work in developing a procedure for the type-approval of heavy duty hybrids.

4.5. Non-road mobile machinery

In June 2010, the European Commission was mandated at UNECE level to prepare an amendment to UNECE Regulation No 96 on uniform provisions concerning the approval of engines installed in non-road mobile machinery (NRMM) and in agricultural and forestry tractors with regard to engine emissions. This necessary amendment is to introduce provisions required for carrying out approvals of stage III B and stage IV compliant engines and will reflect the technical harmonisation of test specifications adopted under gtr 11. The aim is to make the emissions regulations economically more efficient for NRMM engine manufacturers and to allow consumers to have the choice of low emitting engines built and approved according to globally harmonised standards, at a competitive price.

Besides, a task force has been created to develop harmonised requirements for retrofitted emission control devices for NRMM. Two meetings were held in 2010 involving both heavy duty and NRMM experts that discussed the scope and the procedures. These activities will help to further reduce the air pollution-at-source generated by NRMM.

¹⁴ Regulation (EC) 595/2009 of the European Parliament and of the Council of 18 June 2009 on type-approval of motor vehicles and engines with respect to emissions from heavy duty vehicles (Euro VI) and on access to vehicle repair and maintenance information and amending Regulation (EC) No 715/2007 and Directive 2007/46/EC and repealing Directives 80/1269/EEC, 2005/55/EC and 2005/78/EC, OJEU L 188, 18.7.2009, p.1.

5. ACCESS TO DOCUMENTS

Extensive information on the work carried out by WP.29 level can be found on the following website: <http://www.unece.org/trans/main/welcwp29.htm?expandable=99>. Additionally, the following information is published and regularly updated:

- UNECE Agreements and their status in terms of accession by Contracting Parties;
- Regulations adopted – or amended - under the UNECE Agreements;
- Agendas, minutes, (formal) working documents, informal documents, documents adopted by WP.29;
- Agendas, minutes, (formal) working documents and informal documents of the six Subsidiary Working Parties;
- Agendas, minutes and working documents of the informal groups established for specific purposes, e.g. the development of a Global Technical Regulation.

The European Commission services' websites supplement the mass of information available from the UNECE. Reference documents regarding UNECE Regulations for motor vehicles can be found at:

http://ec.europa.eu/enterprise/sectors/automotive/documents/unece/index_en.htm

Additional documentation is accessible from the following link:

<http://ec.europa.eu/enterprise/automotive/unece/index.htm>

Furthermore, in accordance with Council Decision 1999/468/EC relating to procedures for the exercise of its implementing powers¹⁵ (which has recently been superseded by Regulation (EU) No 182/2011 of the European Parliament and the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers¹⁶), the Commission informs the European Parliament about the regulatory work on vehicle legislation undertaken via the comitology procedure, in particular the committee's agendas and minutes. These documents can be found in the comitology register and at the following link:

http://ec.europa.eu/enterprise/sectors/automotive/working-groups/index_en.htm

6. CONCLUSIONS

Through continuing the EU's active participation in and commitment to the UNECE WP.29 activities, significant progress on the harmonisation of vehicle regulations has been achieved in 2010. A major driving factor for this work and effort is the increasingly important role that UNECE Regulations play in EU type-approval legislation for motor vehicle safety, through the GSR. In addition, WP.29 has proven to provide an adequate framework for developing

¹⁵ OJEU L 184, 17.7.1999, p.23.

¹⁶ OJEU L 55, 28.2.2011, p. 13.

important complementary measures, in support of additional new measures introduced for type-approval of vehicles in the EU (e.g., electric vehicles).

The intrinsically close link between EU legislation on type-approval of motor vehicles and UNECE Regulations will result in vehicles for the European market being built and type-approved in accordance with UNECE Regulations. At the same time, the development of internationally harmonised performance requirements and test procedures will reduce the development and deployment costs for manufacturers and the implementation costs for type-approval authorities/test laboratories. As highlighted by the CARS 21 mid-term report, stakeholders are welcoming this regulatory simplification and international harmonisation as a positive contribution to ensuring that the European automotive industry remains globally competitive¹⁷.

Finally, the Commission services are deploying considerable efforts within UNECE to encourage emerging economies, particularly those with a significantly growing automotive manufacturing capacity (e.g., Brazil, China and India) to participate in the activities of WP.29 and to adhere to – or at least to apply - the 1958 and 1998 Agreements. These efforts are geared to ensure that the World Forum for the Harmonisation of Vehicle Regulations remains the only and truly international regulatory framework for the automotive industry and that the harmonised regulations developed by WP.29 are recognised and applied by the major vehicle manufacturing economies in the world.

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¹⁷ See Section 3.2 of the CARS 21 Mid-Term Review and High Level Conference – Conclusions and Report (29.10.2008) at:
http://ec.europa.eu/enterprise/automotive/pagesbackground/competitiveness/cars21_mtr_report.pdf