
The Automobile and Technical Regulations

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1 Introduction

As environmental and energy conservation and traffic-accident prevention become global trends, regulations are being strengthened in Japan, the U.S., and Europe to further enhance vehicle safety and environmental performance. Countries in Asia, Australia, and Central and South America are preparing legislation to introduce laws and regulations based on those issued by the UN. The international harmonization of standards, including uniform standards for the whole world (called Global Technical Regulations (GTRs)), is now being promoted as well.

2 Overall Trends

2.1. Japan

Japan has established a committee to examine vehicle safety measures. The following issues are currently being discussed: (1) the direction of safety measures for vehicles dedicated to carrying young children, (2) improving the safety of buses, and (3) ways of evaluating the effectiveness of vehicle safety measures and the like.

Measures to combat global warming are becoming a critical part of the environmental issues being examined, and efforts are also being made to develop measures to increase the use of biofuels and to determine and issue automotive fuel economy standards for 2020.

2.2. The U.S.

In 2012, the activities of various government authorities slowed down due to the effects of the presidential election. This was due to worries that a change in president and administration would have a large impact on environmental policy.

The issuance of proposed regulations that concern certain vehicle safety issues was significantly delayed. In particular, these regulations concerned the requirements for vehicles to be equipped with costly rear view monitors and cameras and for electric and hybrid vehicles

(EVs and HEVs) to be required to emit a warning sound to alert pedestrians.

A federal examination of stronger regulations for small vehicle emissions is making progress. In the state of California, regulations concerning zero emissions vehicles (ZEVs) for the 2018 to 2025 model years (MY) were strengthened and the current Low Emissions Vehicle (LEV) II regulations were strengthened by the passage and adoption of the LEV III regulations.

The federal government (i.e., the Environmental Protection Agency (EPA) and the National Highway Traffic Safety Administration (NHTSA)) determined regulations for fuel economy and greenhouse gas (GHG) emissions of small passenger vehicles and light trucks for the 2012 to 2016 MY and the 2017 to 2025 MY. The California Air Resources Board (CARB) had previously enacted its own regulations, but agreed to harmonize these with federal regulations.

In terms of recycling and substances of environmental concern (SOCs), ten states in the U.S. placed usage limits on products that contain mercury and established new labeling requirements. The EPA also announced that in the future it will manage the chemical substances contained in products under the Significant New Use Rule (SNUR) of the Toxic Substances Control Act (TSCA). The use of flame retardants containing polybrominated diphenyl ethers (PBDE) will be regulated in some regions starting with the 2016 MY. There is also a regulation in Washington State and California that will gradually limit the use of copper in brake friction materials in stages starting in 2021.

2.3. Europe

A revision of the Euro 6 regulations, such as the introduction of the Real Driving Emissions regulation and a revision of the evaporative emissions test method, is being examined with a goal of starting application in September 2017.

The CO₂ regulations for small passenger vehicles

started to be phased into effect in 2012. These same regulations will start to be phased into effect for light commercial vehicles in 2014. At the same time, a proposed CO₂ regulation for the year 2020 was proposed by the European Commission (EC) and is being discussed by the European Parliament and the European Council.

Changes to the vehicle exterior noise test method and stricter regulations, as well as the addition of an Acoustic Vehicle Alerting System (AVAS) requirement for EVs and HEVs are also being discussed.

2.4. Other regions

In China reporting of actual fuel economy values became required in July 2012. The city of Beijing became the first in the whole country to introduce the Beijing 5 emissions regulations (equivalent to Euro 5) starting in February 2013, which require a 160,000 km driving endurance test. In addition, requirements for placing a stamp on the electric motor of EVs and entering the vehicle identification number near to the front window pillar of passenger vehicles have also been introduced.

In South Korea, fuel economy and GHG regulations that gradually become stricter to achieve a targeted level by 2015 have already been introduced. Requirements for electronic stability control (ESC), tire pressure monitoring systems (TPMS), and pedestrian protection were added, and there was a move to harmonize head restraint and window glass regulations with those issued by the UN.

Other countries, such as Hong Kong, Taiwan, Thailand, Malaysia, India, Chile, and Argentina, have either adopted UN regulations for vehicle safety or are using these as a basis for separate laws and regulations. It is predicted that this trend of harmonizing vehicle standards will continue for the time being.

Emissions regulations equivalent to Euro 5 have already been introduced in Hong Kong, Taiwan, Singapore (for diesel vehicles), and Chile (for diesel vehicles). There are also plans to introduce Euro 5-equivalent regulations in Singapore (for gasoline vehicles), Chile (for gasoline vehicles), and Argentina within the next several years.

The member states of ASEAN are undertaking activities to create a system to realize a mutual recognition agreement (MRA) with 19 UN regulations starting in 2015. This is intended to harmonize standards for passenger vehicles, light trucks, and motorcycles.

2.5. The United Nations

2.5.1. Harmonization of standards

The World Forum for Harmonization of Vehicle Regulations of the United Nations Economic Commission for Europe (WP29) was established as the body to promote international harmonization of automotive technical standards. WP29 has been meeting regularly to discuss the 1958 Agreement (MRA) and the 1998 Agreement (global agreement). The aim of the 1958 agreement was to use UN regulations to establish uniform technical standards for vehicles and mutual recognition of those standards by all participating countries. There are 51 participating countries and regions, including from outside of Europe. UN regulations such as those for protecting pedestrians, advanced emergency braking systems (AEBS) for heavy-duty vehicles, and lane departure warning systems (LDWS), and the like have been newly established. There are currently 131 such UN regulations. The 1998 Agreement went into effect in August 2000 as a means of establishing and realizing GTRs and it currently has 31 participating countries and regions. There are currently 12 GTRs that have been established, including a GTR for motorcycle controls, telltales, and indicators, which was established in 2012. Furthermore, additional GTRs concerning subjects such as passenger vehicle emissions, fuel economy testing methods, hydrogen and fuel cell vehicles, head restraints (phase II), pedestrian protection (phase II), tires, pole side impacts, quiet vehicles (pedestrian alert sounds), and EVs are also being worked on.

2.5.2. Mutual recognition system for international vehicle type approval

WP29 is actively undertaking discussions and work on the establishment of the International Whole Vehicle Type Approval (IWVTA) system. This initiative was proposed by the Japanese government with the aim of extending the current mutual recognition of approval for devices and parts based on the 1958 Agreement to cover the whole vehicle. The following three items are to be accomplished by March 2016: (1) an amended 1958 Agreement, (2) establishment of vehicle type approval regulations, and (3) preparation of the necessary technical requirements for the IWVTA system.

3 Japan

3.1. Vehicle safety

3.1.1. Promotion of safety measures

The following four issues were identified in a report drawn up by the Vehicle Traffic Subcommittee of the Transport Policy Council (June 2011) as vehicle safety measures that should be addressed. Furthermore, a goal was set to reduce the number of traffic fatalities (occurring within 30 days of the accident) by approximately 1,000 people from 2010 by the year 2020 through the implementation of vehicle safety measures.

- Measures in response to the declining birth rate and aging population
- Measures to help prevent accidents involving pedestrians and cyclists and to help alleviate injuries in these accidents
- Measures for new means of mobility
- Measures to help reduce serious accidents involving heavy-duty vehicles

A new committee to examine vehicle safety measures was set up to address these issues and it is now holding discussions.

3.1.2. Strengthening of safety regulations

In 2012, this committee to examine vehicle safety measures primarily examined and discussed the following issues.

(1) Improving the safety of buses — In January 2013 the law was revised to mandate the installation of collision mitigating brakes on buses with a gross vehicle weight (GVW) in excess of 5 tons, in addition to large trucks (it is already mandatory for buses with a GVW in excess of 12 tons to be equipped with these brakes (excluding those with standing room and the like)). In addition, it is also mandatory for some trucks and buses to be equipped with an electronic vehicle stability control (EVSC) system.

(2) Safety measures for vehicles dedicated to carrying young children — Up until now vehicles dedicated to carrying young children were exempted from the requirement to be equipped with seat belts. However, user awareness has increased since the wearing of rear seat belts was made mandatory in June 2008 and the effectiveness of adding cushioning material to seat belts and seat backs is now also being examined.

(3) Ways of evaluating the effectiveness of vehicle safety measures — The Transport Policy Council presented

a new target for the reduction of traffic fatalities. The issues that need to be cleared to confirm the level of attainment of this target were identified and evaluations of specific measures are being planned.

3.1.3. Harmonization of standards

The Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT) promotes the revision of domestic national standards based on the 1958 Agreement to follow revisions to UN regulations. In 2012 the standards for electric vehicle safety, seats, seat belts, pedestrian protection, lighting devices, and collision prevention devices, and the like were revised.

3.2. Emissions

3.2.1. Next measures to reduce emissions

A challenging target value for heavy diesel vehicles is now being subjected to technical verification. The target value and the period by which this target is to be achieved will be determined as necessary.

3.2.2. Alternative fuels

In March 2013, MLIT revised the Announcement that Prescribes Details of Safety Regulations for Road Vehicles and stipulated the fuel regulations for gasoline engine vehicles that can use E10 fuel (i.e., fuel blended with up to 10% ethanol). This created the legal environment to allow the launch of gasoline engine vehicles that can use E10 fuel onto the market.

3.3. Fuels

The final report on the new fuel economy standards for passenger vehicles was concluded with 2020 as the year by which the targets are to be achieved. The notice for this report was published in March 2013. The target improvement rates are 24.1% compared to the actual results in 2009 and 19.6% compared to the standards for 2015. In addition, there will also be a change in the new fuel economy standards so that the Corporate Average Fuel Economy (CAFE) method is used instead of organizing fuel economy regulations by vehicle weight category. It is also now mandatory to list the vehicle's JC08 test cycle fuel economy value in the vehicle catalog.

3.4. Green tax to promote spread of low-emissions/fuel efficient vehicles

A new tax system (the so-called green tax system or fuel-efficient car tax reduction) that reduces conventional vehicle-related taxes, such as the vehicle excise tax, motor vehicle weight tax, and vehicle acquisition tax, was established to help promote the spread and popularization of low-emissions and fuel-efficient vehicles. The

Table 1 Preferential Measures of Motor Vehicle Weight Tax and Vehicle Acquisition Tax (2012)

Applicable vehicle weight (GVW)		Conditions		Motor vehicle weight tax and vehicle acquisition tax
		Emissions	Fuel economy	
Passenger vehicles and buses/trucks with a GVW of 2.5 tons or less	Gasoline vehicles (including hybrid vehicles)	75% reduction from 2005 standard	20% increase from 2015 standard	Tax exempt
			Same + 10%	75% reduction
			Achieve same standard	50% reduction
	Clean diesel vehicles	Compliant with 2009 regulations	—	Tax exempt
Buses and trucks with a GVW of 2.5 tons to 3.5 tons	Gasoline vehicles (including hybrid vehicles)	75% reduction from 2005 standard	10% increase from 2015 standard	Tax exempt
			Same + 5%	75% reduction
			Achieve same standard	50% reduction
		50% reduction from 2005 standard	10% increase from 2015 standard	75% reduction
			Same + 5%	50% reduction
			—	—
Buses and trucks with a GVW of over 2.5 tons	Diesel vehicles (including hybrid vehicles)	10% reduction of NOx and PM from 2009 standard	10% increase from 2015 standard	Tax exempt
			Same + 5%	75% reduction
			Achieve same standard	50% reduction
		Compliant with 2009 regulations	10% increase from 2015 standard	75% reduction
			Same + 5%	50% reduction
			—	—
Electric vehicles, plug-in hybrid electric vehicles, and fuel cell vehicles		—	—	Tax exempt
Natural gas vehicles		10% reduction of NOx from 2009 standard	—	Tax exempt

Special period: April 1 2012 to March 31 2015 (for the motor vehicle weight tax: from May 1 2012 to April 30 2015)

tax system was revised in 2012 after reviews were conducted and these revisions include the following changes. The so-called short-term tax rate of the motor vehicle weight tax was abolished for fuel efficient vehicles. The classifications in the green tax system (vehicle excise tax) were reorganized based on the new fuel economy standards (2015 fuel economy standards) and it was extended for two years. The classifications in the fuel-efficient car tax reduction (motor vehicle weight tax and vehicle acquisition tax) were also reorganized based on the new fuel economy standards and it was extended for three years. Table 1 shows a summary of these tax system changes.

3.5. Vehicle exterior noise

The Japanese Ministry of the Environment received an interim report from the Central Environmental Council about future measures for reducing stand-alone vehicle noise and then established a committee to begin examining the issue. The contents of the second report (draft) that was approved in April 2012 contained the following four points.

- (1) Measures to reduce motorcycle acceleration noise (introduce UN R41.04)
- (2) Measures to reduce passenger vehicle tire noise (introduce UN R117.02)
- (3) Abolishment of the steady-state running noise regulations for motorcycles
- (4) Review of the passenger vehicle driving noise regulations (introduce UN R51.03), muffler performance systems, and close proximity exhaust noise regulations as future issues for examination

4 The U.S. and Canada

4.1. Vehicle safety in the U.S.

4.1.1. Event data recorders (EDR)

The installation of EDRs is voluntary under the existing 49 CFR Part 563. However, a draft proposal (to newly establish FMVSS 405) that would make installation of EDRs mandatory starting in September 2014 was also issued.

4.1.2. Vehicle rearward visibility

A draft proposal (a revision of FMVSS 111) that would

make the installation of rear view monitors and cameras mandatory as a means of increasing the area of rearward visibility when a vehicle is backing up was issued. The deadline for issuing the final regulation was extended to the end of 2012, but even though that deadline has passed, as of March 2013 it still had not been issued.

4. 1. 3. Measures for quiet vehicles

The U.S. Congress passed a law (in 2010) that makes it mandatory for EVs and HEVs to be equipped with a soundemitting device. Consequently, a draft proposal (to newly establish FMVSS 141) with specific requirements was issued.

4. 1. 4. Brake override systems

A draft proposal (a revision of FMVSS 124) was issued that adds requirements that makes it mandatory for automakers to equip vehicles with a device that will give priority to the brakes when both the accelerator and brake pedal are depressed at the same time.

4. 1. 5. Keyless ignition systems

A draft proposal (a revision of FMVSS 114) was issued that adds requirements for stipulating the engine stopping method as these systems become more varied and diversified in the future.

4. 1. 6. Distracted driving

Identifying and implementing measures to help prevent accidents caused by operating portable electronics while driving has become a priority issue for the U.S. Secretary of Transportation, Ray LaHood, due to the massive popularity and spread of social media. The NHTSA has issued guidelines for limiting the operation of vehicle-mounted devices, such as navigation systems, as phase 1 of these measures. There are also plans to create guidelines for portable electronic devices in phase 2 and voice-operated devices in phase 3.

4. 1. 7. ESC for large trucks and commercial buses

A draft proposal (FMVSS 136) was issued that would make it mandatory for ESC systems to be installed on truck tractors and buses to reduce the occurrence of rollover accidents.

4. 2. Emissions in the U.S.

4. 2. 1. Strengthening of federal regulations

In May 2010, the EPA began drawing up the Tier 3 regulations that will be more stringent than the current emissions regulations for small vehicles (Tier 2). An examination of these regulations is being advanced with a goal of establishing final regulations by the end of 2013. The regulations concerning NOx and PM emissions in

heavy-duty vehicles became stricter starting with the 2010 MY, and OBD systems also became mandatory.

4. 2. 2. ZEV regulations in California

CARB decided to strengthen the ZEV regulations for the 2018 to 2025 MY. The content of these regulations includes the following. The ratio of the required number of ZEVs was increased. The mandatory sale of ZEVs was expanded to also include medium-sized manufacturers. This had previously been limited to only large-scale automakers (those with an average number of vehicle sales in the previous MY of 60,000 vehicles or more). Other requirements that are only applicable to ZEVs and plug-in hybrid electric vehicles (PHEVs) vehicles were also added.

4. 2. 3. Proposal to strengthen emissions regulations for small vehicles in California

CARB decided to strengthen the current LEV II regulations by adopting the LEV III regulations. The content of these regulations includes the following. The warranty distance was increased to 150,000 miles. The Supplemental Federal Test Procedure (SFTP) regulations were strengthened. The non-methane organic gas (NMOG) + NOx regulation value for manufacturers was increased to the Super Ultra LEV (SULEV) level for the 2025 MY. Stronger emissions classifications were added. Zero evaporative emissions were made mandatory and particulate matter (PM) regulations were also strengthened.

4. 3. Fuel economy and GHG regulations in the U.S.

4. 3. 1. CAFE and GHG regulations

In May 2010 the federal government (EPA and NHTSA) determined regulations based on the size of the vehicle that will affect small passenger vehicles and light trucks in the 2012 to 2016 MY. In the 2016 MY, the average CAFE value for all manufacturers must be 35.5 mpg (equivalent to a CO₂ value of 250 gpm). The final determination of the values for the vehicles in the 2017 to 2025 MY was made in September 2012 and all automakers are required to achieve an average CAFE value of 54.5 mpg (equivalent to a CO₂ value of 163 gpm) by the 2025 MY. CARB had previously enacted its own regulations, but agreed to harmonize these with the federal regulations. The regulations concerning fuel economy and GHG for heavy-duty vehicles were determined in August 2011 and these will be strengthened in stages in the 2014 and 2017 MY. The standard values were set in three categories: large pickup trucks and vans, tractors,

and commercial vehicles.

4.3.2. EPA fuel economy labels

Starting from the 2011 MY, all fuel economy labels must use a unified notation that features a fuel economy calculation method (5-cycle method) that takes into account the effects of air conditioning, high engine loads, high driving speeds, and low temperatures (SC03, US06, and Cold-FTP tests) in addition to the conventional fuel economy value for city and highway test cycles.

4.4. Recycling and SOCs in the U.S.

Ten states in the U.S., including the state of Vermont, have placed usage limits on products that contain mercury and established new labeling requirements. An independent nationwide program to collect mercury switches is being carried out jointly by the EPA and related industries. In October 2012 the EPA announced that in the future it will manage the chemical substances contained in products under the SNUR of the TSCA. In the future this is expected to be concretely stipulated in regulations. On the other hand, the use of flame retardants with PBDE will be regulated in some regions starting from the 2016 MY. There are also regulations in Washington State and California that will gradually limit the use of copper in brake friction materials in stages starting in 2021.

4.5. Canada

4.5.1. Vehicle safety

Revisions to several safety standards (tires, steering while reversing, windshields, and the like) were issued for harmonization with U.S. standards. Canada's own requirements still remain in the revised draft proposals for Location and Identification of Controls and Displays (CMVSS 101) and Frontal Impact Occupant Protection (CMVSS208).

4.5.2. Environmental protection

Historically, Canada has accepted vehicles that received U.S. approval for emissions. In October 2010 Canada decided to introduce GHG regulations that are at the same level as the U.S. federal regulations for the 2011 to 2016 MY. In December 2012 regulations that are at the same level as the U.S. federal regulations for the 2017 to 2025 MY were also proposed. In April 2012 GHG regulations for heavy-duty vehicles were proposed that would harmonize these regulations with the U.S. federal regulations.

5 Europe

5.1. Whole vehicle type approval (WVTA)

European Directive 2007/46/EC establishes a framework for the type approval of motor vehicles in the EU. The EC agreed to a Commission Regulation ((EU) No. 1229/2012) that amended the directive for the WVTA framework. These amendments incorporated a review and relaxation of the requirements for vehicles that are produced in small volumes. An Official Journal of the European Union announcing these changes was then published. The content of these amendments are explained in some detail as follows. A Regulation (EC) No. 661/2009 was introduced that concerns the general safety of motor vehicles (i.e., a General Safety Regulation (GSR)). The individual requirements for vehicles produced in small volumes when receiving type approval were clarified for each of the GSR regulatory requirements that were packaged together. Certain systems that were required to be equipped on vehicles in the GSR were also waived and the amendments incorporated the relaxation of regulations and changes that allow some alternative laws to be applied.

5.2. Vehicle safety

5.2.1. eCall

The EC is preparing a draft measure that would make it mandatory for vehicles to be equipped with a system that automatically or manually contacts an emergency call center with the vehicle's data and location data in the event of a traffic accident. In July 2012, the European Parliament issued a resolution that requested the EC to submit a draft measure that would start to make such systems mandatory in 2015.

5.2.2. GSR

A GSR ((EC) No. 661/2009) was issued for the purpose of improving the safety and environmental performance of vehicles and also to simplify the legal code. This GSR abolished roughly 50 EU Directives that concerned safety and instead mandated UN regulations equivalent to these EU directives. In addition, any EU directives that did not exist in UN regulations were revamped as new EC regulations. In December 2012, the Commission Regulation ((EU) No. 1230/2012) that concerns the mass and dimensions of motor vehicles was issued. However, the issuance of the regulation concerning GSR approval procedures was delayed.

Another GSR contains provisions that make advanced

safety systems (TPMS, AEBS, LDWS, gear shift indicators (GSI), and ESC) mandatory and also stipulates tire rolling resistance requirements, grip requirements, road noise requirements, and cab strength requirements.

5. 3. Emissions and OBD

5. 3. 1. Small vehicles

The next regulations (Euro 6) will be applied in September 2014. The vehicles that will be subject to the regulations are those that have a reference mass (RM) or standard mass of 2,610 kg or less (M1, M2, N1, and N2 category vehicles). However, the expansion of approval obtained under Euro 5 for vehicles with a RM of more than 2,610 kg, but less than 2,840 kg, will be recognized. The Euro 6 regulation value for diesel NOx is a 68% reduction in comparison to Euro 4 and the value for THC + NOx is similarly a 43% reduction. A new weight measuring method for PM was introduced in September 2011. A PM particle number (PN) regulation was also introduced in September 2011 for diesel vehicles and will be introduced in September 2014 for direct-injection gasoline engine vehicles. However, the application of more moderate regulation values has been approved for the first three years. The malfunction criteria values for on-board diagnostics (OBD) have become stricter than those under Euro 5. A catalyst NOx conversion efficiency degradation diagnostic and in-use performance ratio (IUPR) were introduced in September 2011. It was also decided that, starting with Euro 6, the malfunction criteria values would be further strengthened in two stages.

5. 3. 2. Heavy-duty vehicles

The Euro VI regulations concern emissions of heavy-duty vehicles with a RM of over 2,610 kg. It was stipulated in (EC) No. 595/2009 that the Euro VI regulations will be applied to new model vehicles starting on December 31, 2012, and to newly registered vehicles starting on December 31, 2013. The implementing and amending regulation (EU) No. 582/2011 that stipulates the technical content was issued in June of 2011. In addition, the PM PN measurement method, requirements for accessing the OBD repair and maintenance information, and other items not covered by (EU) No. 582/2011 were added in (EU) No. 64/2012. This EC regulation also added a certification test for vehicle-mounted portable emissions measurement systems (PEMS) and requirements for in-use sampling test vehicles.

5. 4. CO₂ (fuel economy)

Starting in 2012 the EU moved away from voluntary

agreements and phased-in more stringent regulations (Regulation (EC) No. 443/2009) on CO₂ so that all passenger vehicles should average 130 g/km of CO₂ or the equivalent. The regulations also made it mandatory for vehicles to be equipped with high-efficiency air conditioners, GSI, low rolling-resistance tires, TPMS, and the like as complementary measures to further reduce CO₂ emissions by approximately 10 g/km. According to a GSR, new model vehicles are required to be equipped with GSI and TPMS starting in November 2012, while the requirement starts in November 2014 for newly registered vehicles. Another regulation that will be phased-in starting in 2014 stipulates that the average CO₂ emissions for N1 category vehicles should be 175 g/km.

In July 2012, a draft of CO₂ regulations for the year 2020 was proposed by the EC and is now being debated by the European Parliament and the European Council.

5. 5. Recycling and SOCs

The end-of-life vehicles (ELV) directive (2000/53/EC) restricted and reduced the use of four types of heavy metals (lead, mercury, cadmium, and hexavalent chromium). In February 2010, the exemptions for the use of lead solder in circuit boards were subdivided into multiple specific applications (2010/115/EU), and the Directive that reduced the lead content in other parts was revised (2011/37/EU) in March 2011. In addition, initial audit requirements that will be applicable from 2012 (2009/1/EC) were added to the Directive that concerns the recyclability certification of WVTAs (2005/64/EC). REACH is the European Community Regulation on chemicals and safe use that entered into force in June 2007. It concerns the registration, evaluation, authorization, and restriction of chemical substances. This regulation requires chemical use to be registered and reported to the government, as well as the disclosure of information to users of chemicals. The registration will be gradually phased-in by May 31, 2018 ((EC) No. 1907/2006). Any usage restrictions on substances that are related to automotive products will generally be handled under this regulation. The classifying, labeling, and packaging (CLP) regulation, which stipulates the requirements for the classification, labeling, and packaging of hazardous substances, is currently in force and applies to items such as puncture repair sealants for maintenance, adhesives, oils, and window washer fluid ((EC) No. 1272/2008). The existing Biocides Directive (98/8/EC) was revised as a biocidal products regulation and any chemical substances applied

to vehicle parts as a biocide are subject to the usage restrictions and information disclosure requirements ((EU) No. 528/2012).

5.6. Vehicle air conditioning refrigerants

The leakage of vehicle air conditioner refrigerants is one cause of global warming. EC Directive 2006/40/EC stipulates restrictions on refrigerant leakage and also prohibits the use of refrigerants that have a global warming potential (GWP) in excess of 150. This directive first went into effect for new model vehicles in January 2011, but it is also scheduled to be applied to all current models from January 2017. However, there has been a problem with insufficient supply of the new refrigerant, so the EC placed a moratorium (postponement of application) on this regulation for new model vehicles until the end of December 2012.

In September 2012, Daimler AG expressed concerns about the flammability of the new refrigerant (HFO1234yf) and recalled all products that were equipped with this new refrigerant, even though these had already received approval. Daimler also requested an additional extension of the moratorium, but the EC denied the request. Consequently, Directive 2006/40/EC came into force as scheduled in January 2013.

5.7. Vehicle exterior noise

The EC published a proposal to revise the EU vehicle exterior noise regulations. Three main revisions were proposed: (1) Setting regulation values in accordance with the UN test methods, (2) the addition of additional sound emission provisions (ASEP), and (3) the addition of requirements for AVAS devices for EVs and HEVs. The acceptance of the European Parliament and European Council will be obtained in the future to implement these proposals.

5.8. Russia

5.8.1. Emissions

Currently the Euro 4 regulations for emissions are applicable and the Euro 5 regulations will come into force in January 2014.

5.8.2. Vehicle safety

New vehicle safety regulations have been in effect since 2010. In the case of new model passenger vehicles, the GTR9 (pedestrian protection) regulations will become mandatory in January 2016, equipping vehicles with ESC and brake assist will become mandatory in January 2014, and daytime running lamps (DRL) and TPMS will become mandatory in January 2016. ESC will become

mandatory for heavy-duty vehicles in January 2016.

5.8.3. Recycling

Regulations equivalent to the EU's type-approval of motor vehicles with regard to reusability, recyclability, and recoverability (2009/1/EC) are being examined.

5.8.4. Other

In 2012 the Common Economic Space (CES), consisting of the Russian Federation, Kazakhstan, and Belarus, determined new regulations for the CES based on Russian regulations to realize mutual recognition of safety standards and a common approval system. These regulations will apply to new model vehicles starting in January 2015. It was also decided to make it mandatory for vehicles to be equipped with the Russian version (ERA GLONASS) of the European eCall system ahead of Europe and this requirement will also be applied to new model vehicles starting in January 2015.

6 Central and South America

6.1. Mexico

Emissions regulations contained in U.S. and European laws (equivalent to Tier 2-Bin 7 and Euro 4) are being applied in stages and will be 100% in effect as of the 2013 MY. Emissions regulations for large diesel trucks equivalent to California's 2005 regulations or Euro IV are being introduced.

6.2. Brazil

6.2.1. Vehicle safety

Regulations to make it mandatory for vehicles to be equipped with a stolen vehicle tracking device were postponed and the regulations will now be introduced and put into effect in stages starting in June 2013. However, if pilot testing of this device cannot be carried out before the regulations are applied, then it is expected that it will be postponed again. A part approval system was introduced that makes it mandatory for service parts (some of which are installed at the manufacturing plant), such as brake fluid, glass, wheels, tires, shock absorbers, fuel pumps, horns, and engine parts, to be marked with a certification number or other marking.

6.2.2. Emissions

A stricter emissions regulation called the L6 regulation will be applied to new model gasoline vehicles in January 2014, to all gasoline vehicles in January 2015, and to all diesel vehicles in January 2013. The Euro V regulations are being applied to large diesel vehicles. In addition, Brazil has its own unique OBD second-stage require-

ments that are applicable.

6.3. Chile

6.3.1. Vehicle safety

Safety regulations were applied requiring that light passenger vehicles to be equipped with a foldable rear mirror, and occupant protection regulations were applied for light commercial vehicles covering head restraints, foldable rear mirrors, seat anchors, brakes, flame retardants, and collapsible steering columns. A safety regulation for heavy-duty vehicles was applied to cover the use of safety glass.

6.3.2. Emissions

Emissions regulations for small diesel vehicles equivalent to Tier 2-Bin 5 or Euro 5 are already in effect. Regulations for small gasoline vehicles that are also equivalent to Tier 2-Bin 5 or Euro 5 are scheduled to go into effect from September 1, 2014 (however there are no requirements for OBD and low-temperature testing). Historically, the level of the regulations was different in different regions of the country, but in the future the same regulations will be applicable across the whole country. The Euro III regulations for heavy-duty vehicles are currently in effect and the Euro V regulations are scheduled to go into effect in October 2014.

Another regulation was also issued that requires a fuel economy label to be displayed on vehicles to help consumers take into account energy consumption and the impact on the environment when purchasing a vehicle. These labels are mandatory as of February 2, 2013.

6.4. Argentina

6.4.1. Vehicle safety

Regulations that require small passenger vehicles and small commercial vehicles to be equipped with front airbags and rear outboard seat head restraints are being applied in stages.

6.4.2. Emissions

Regulations equivalent to Euro 5 for both small gasoline and diesel vehicles are scheduled to be applied to new model vehicles in January 2014 and to all vehicles in January 2016. The Euro IV regulations were applied to new model large diesel vehicles in June 2009 and will be applied to all current models starting in 2014. The Euro V regulations will be applied to new model vehicles in 2014 and then to current models from 2016.

6.5. Venezuela

Current emissions regulations are equivalent to US87 and US88 or Euro 1. It is mandatory for gasoline ve-

hicles to be equipped with a compressed natural gas (CNG) conversion kit. Additional regulations concerning vehicle identification number (VIN), noise, flame retardants, brakes, lights, glass, tires, and seat belts are also applicable and certification has begun.

6.6. Columbia

6.6.1. Vehicle safety

New requirements for brakes have been postponed twice and are now scheduled to go into effect from June 4, 2013. There are applicable technical standards for the main brake parts, but compliance with certain brake system performance standards is also recognized as an alternative. Requirements for anti-lock braking systems (ABS), airbags, and installation of head restraints are scheduled to be introduced starting with the 2015 MY (ABS for all vehicles other than M1 category vehicles will start from the 2016 MY).

6.6.2. Emissions

Current emissions regulations are equivalent to US94 or Euro 2, but the Euro 4 regulations are scheduled to be applied to diesel vehicles. However, as the local automakers' association is at the center of lobbying efforts claiming that the lead-time until the regulations are implemented is too short, the final date on which the regulations will go into force is still uncertain.

7 Middle East and Africa

7.1. Gulf Cooperation Council (GCC)

7.1.1. Vehicle safety

The regulations that will be applied to 2014 MY vehicles have the same requirements as those that were applied to 2013 MY vehicles. The UAE strengthened its own regulations, such as making speed limiters for buses mandatory. A brake regulation equivalent to UN R13H may also be newly adopted in the 2015 MY.

7.1.2. Emissions

There are plans to improve the sulfur content in the fuel to 10 ppm, but the prospects for this are unclear. There is also a strong likelihood that the emissions regulations for small vehicles will be strengthened, but items such as the level of the regulations and the timing of implementation have not been announced. The introduction of Euro III regulations for heavy-duty vehicles starting from the 2015 MY is being examined.

7.2. South Africa

Specifications for the properties of commercial fuels used in gasoline and diesel engines were revised (to

take effect on July 1, 2017). After that date, it is possible that the current emissions regulations (Euro 2) will be strengthened and become equivalent to the Euro 5 regulations.

8 Asia

8.1. China

8.1.1. China Compulsory Certification (CCC)

The following items were introduced in accordance with the 2008 version of the certification implementation rules, the Conformity of Production (COP) certificate must be attached to the vehicle and the fuel economy of passenger vehicles must be displayed. After this, it was announced in a Certification and Accreditation Administration of the People's Republic of China (CNCA) notice (CNCA publication No. 42 in 2009) that the expiration date for the COP certificate was set to be five years. It was also announced in CNCA publication No. 33 in 2011 that national standards had been revised for parts such as defrosters and demisters, brake hoses, protrusions inside passenger vehicles, and head restraints. The CCC certification applies to all of these parts. In addition, new national standards for items such as the strength of passenger vehicle roofs, occupant protection for commercial vehicle cabs, and front under-run protection (FUP) devices, have also been incorporated into the CCC certification. GB7258-2012 has been significantly incorporated into the certification implementation rules according to a notice about requests related to GB7258-2012 in the new edition of the vehicle compulsory product certification standard (October 8, 2012).

The certification implementation rules are scheduled to be revised this year.

8.1.2. Emissions

The China 4 (equivalent to Euro 4) regulations are applicable to all small vehicles throughout China as of July 2012. Other requirements, such as displaying an identification symbol for the catalytic converter and verification of the amount of precious metal in the catalyst were also established, according to a CNCA notice. On the other hand, the Beijing 5 (equivalent to Euro 5) emissions regulations were introduced in February 2012 in the city of Beijing, which require a 160,000 km driving endurance test. The enforcement of the China 4 regulations for large diesel vehicles throughout China was postponed at the end of 2010 and was scheduled to be in effect as of January 2012, but it has been postponed again and is

now due to go into effect in July 2013.

8.1.3. Fuel economy

In 2012 a national standard was issued concerning the third-stage fuel economy regulations (CAFE regulations). Reporting of the actual fuel economy values began in July 2012. However, issues such as the calculation method for determining whether a company is complying with the regulations and the appropriate fines to apply to violators have yet to be finalized.

8.1.4. Marking

Requirements for stamping the model numbers and serial numbers on the electric motors used in EVs, PHEVs, and fuel cell vehicles (FCVs) were added in March 2013. Entering the vehicle identification number near the front window pillar of passenger vehicles is also now required. As of September 2013, the vehicle identification number must also be entered somewhere inside the trunk area of passenger vehicles and also on at least five other main parts. Furthermore, another requirement was also added which states that, starting in March 2014, the vehicle identification number and other information should be recorded in the electronic control unit (ECU) of the engine, and that it should be possible to read this information.

8.2. Hong Kong

8.2.1. Vehicle safety

The introduction of UN regulations concerning door latches and hinges, lights, brakes, and collisions is being examined in accordance with the regulation issuance process. It has also been suggested that the other vehicle safety regulations be replaced with the corresponding UN regulations.

8.2.2. Emissions

The Euro 5 regulations were applied to all vehicles except for light commercial diesel vehicles of 3.5 tons or less, as of June 2012. These regulations will apply to the light commercial diesel vehicles of 3.5 tons or less after a 6-month delay. Japanese and U.S. standards will be accepted as alternative standards to Euro 5. The appropriate alternative Japanese standards are those for the post-new long-term emissions regulations, while the appropriate alternative U.S. standards are the 2004 California LEV II standards for small vehicles and the federal 2008 standards for large diesel vehicles.

8.3. Taiwan

8.3.1. Vehicle safety

Electromagnetic compatibility (EMC), adaptive front-lighting systems (AFS), and indirect vision devices are

being covered in the third stage of the vehicle safety standards based on UN regulations. CC marking will also be required on seat belts as of January 2014. Electric safety requirements for EV will apply as of January 2014, mandatory equipping of TPMS will apply as of November 2014, and mandatory installation of seat belts on all seats will apply as of January 2015. There are also plans to further strengthen these requirements.

8.3.2. Emissions

The U.S. Tier 2-Bin 5 regulations or Euro 5 regulations were applied to small gasoline vehicles in October 2012. These same regulations were also applied to small diesel vehicles in January 2012. The Euro V regulations or U.S. 2007 regulations are applicable to new models of heavy-duty vehicles from January 2012 and to current models from January 2013. There is also a plan to introduce fuel economy regulations for small vehicles in 2015.

8.4. South Korea

8.4.1. Vehicle safety

Requirements for ESC, TPMS, and pedestrian protection were added to the Korean Motor Vehicle Safety Standards (KMVSS), while standards for head restraints and vehicle glass were harmonized with the relevant GTRs. A 5-year plan to accept UN regulations by harmonizing standards under the 1958 Agreement was announced in 2009. A self-certification system for parts, which would apply to replacement parts, was started in June 2012. Marking requirements were also included in this system, but details have yet to be finalized.

8.4.2. Emissions

Corporate average NMOG regulations that correspond to California's LEV II regulations were started in the 2010 MY for gasoline vehicles. The Euro 5 regulations were introduced in September 2009 for diesel vehicles and the Euro VI regulations are scheduled to be introduced in September 2014.

8.4.3. Fuel economy and GHG regulations

The Green Growth Strategy was announced in July 2009 to promote the introduction of fuel economy and GHG regulations in stages beginning in 2012. In addition, this strategy also sets a goal for the average CO₂ of all automakers to be 140 g/km or an average fuel economy of 17 km/L by 2015.

8.5. Thailand

8.5.1. Vehicle safety

The Department of Land Transport (DLT) in Thailand is promoting the revision of domestic laws to apply UN

regulations for items such as seat belt installation, belt anchorages, brakes, tires, installation of lighting devices, noise, seat anchorages, and speedometers starting in 2016.

8.5.2. Emissions

The Euro 4 diesel vehicle regulations for small (new model) vehicles were introduced in November 2012 and applied to gasoline vehicles 1 month later. A 1-year extension is granted to current vehicles if a proper application is made. The Euro III regulations apply to large diesel vehicles and CNG vehicles.

8.6. Malaysia

8.6.1. Vehicle safety

Approximately 30 UN regulations for items such as seat belts, brakes, rearview mirrors, seats, lighting devices, safety glass, noise, frontal collisions, and side collisions, were applied as of January 2012. In addition, there is a plan to apply approximately 20 more UN regulations for items such as internal and external projections, door latches and hinges, prevention of vehicle fire risks, installation of lighting devices, temporary tires, and the illumination of license plates starting in January 2015.

8.6.2. Emissions

A proposal was made to apply the Euro 3 regulations to new model small gasoline vehicles and the Euro 2 regulations to new model diesel vehicles in July 2012, but this legislation was delayed and the implementation period has not been determined. However, there is movement to skip the intermediate regulations for gasoline and diesel vehicles and introduce the Euro 4 regulations starting in 2015. However, it is difficult to predict how this will turn out.

8.7. Indonesia

8.7.1. Vehicle safety

The start of the application of safety standards was delayed from the initial plan, but Indonesia's own Indonesian National Standard (SNI) covering marking requirements for wheels produced in Indonesia and individually imported wheels was applied starting in January 2013. This will not apply to parts equipped on completed vehicles that are imported (however, there have been reports that overseas wheel manufacturers are struggling to obtain approval because there is only one authorized testing laboratory and the number of applicants is limited).

8.7.2. Emissions

The introduction of regulations equivalent to Euro 4 in 2016 is being examined. An acceleration noise regulation

at the same level as the current UN R51.00 regulation is now being applied, but this is scheduled to be strengthened to the level of UN R51.01 in January 2014.

8.8. Singapore

The Euro 5/V regulations for emissions are scheduled to be applied to diesel vehicles starting in January 2014, while the Euro 4 regulations are scheduled to be applied to gasoline vehicles starting in April 2014. A taxation system that is based on the amount of CO₂ emissions is being applied to newly registered vehicles as of January 1, 2013. A fuel economy and CO₂ labeling regulation is also being put into effect by the Land Transport Authority (LTA).

8.9. India

8.9.1. Vehicle safety

EMC requirements are scheduled to be applied from October 2015 as a new safety regulation. However, this will only apply to vehicles that are compliant with the Bharat Stage (BS) IV (equivalent to Euro IV) regulations.

8.9.2. Emissions and fuel economy

The BS IV regulations were applied in the capital city and other large cities starting in April 2010. In April 2013 the OBD II (equivalent to E-OBD) requirements were introduced. The introduction of CAFE regulations and the application of fuel economy labels for vehicles have also been proposed.

8.9.3. Recycling

The application of regulations for passenger vehicles based on European regulations starting in 2016 is being examined and discussed.

8.10. Vietnam

8.10.1. Vehicle safety

Vehicles and parts are required to obtain approval and testing and other checks are required at the time that this approval is renewed (every year). These requirements are based on a Vietnamese safety regulation (QCVN09: 2011/BGTVT) that went into effect in January 2012. In conjunction with the issuance of this safety regulation, vehicle glass, mirrors, tires, and lighting devices must comply with Vietnam's own requirements, which are equivalent to UN regulations, or comply with the requirements in UN regulations (gradual introduction starting in July 2013).

8.10.2. Emissions and fuel economy

The Euro 4 emissions regulations are scheduled to be applied starting on January 1, 2017. There is a plan to introduce CAFE regulations starting from January

2015, but only locally-produced M1 category vehicles will be subject to these regulations. The standard value in 2015 will be 105% of the regulation value, while in 2016 it will be 100%. Fuel economy label requirements are also scheduled to be applied from 2015.

9 Oceania

9.1. Australia

9.1.1. Vehicle safety

A review of the individual Australian Design Rules (ADR), which includes original requirements, is being promoted in conjunction with a policy of adopting UN regulations. A seat belt regulation (ADR4/05) that was harmonized with UN regulations was issued. In addition, ADR34/02 was also issued, which introduces technical requirements when an ISO-FIX child restraint system is installed in a vehicle.

9.1.2. Emissions

ADR79/03 stipulates that the Euro 5 emissions regulations will be applied to new model small gasoline vehicles starting in November 2013, while ADR79/04 stipulates that these same regulations will apply to all vehicles starting in November 2016. The Euro V regulations are already applied to large vehicles and both the U.S. 2007 regulations and Japanese 2005 regulations (new long-term regulations) are also recognized as alternative standards. However, in the case of compliance obtained via the new long-term regulations, compliance with the new long-term regulations standard value in the Japanese D-13 test cycle is also necessary.

9.1.3. Fuel economy (CO₂)

Debate and discussion of the new CO₂ reduction plan that was proposed by the government in the autumn of 2008 is ongoing. The government proposed the introduction of regulation values starting in 2015 for the CO₂ average target values for all new vehicles registered in Australia. In addition, the government is also examining the idea of paying a rebate to vehicle users who switch from an older vehicle produced before 1995 in favor of a new vehicle that is more fuel efficient and makes less pollution as an environmental measure up to the year 2015.

9.1.4. Vehicle exterior noise

The government allowed the application of all of the alternative regulation (UN R51.02) series rather than comply with the stipulations in the ADR83/00 noise regulation.

9.1.5. Other

The voluntary code of conduct that was applied since 1999 for EMC was reviewed and now it will be necessary for all new model vehicles to comply with 2005/83/EC and UN R10.03 from 2015.

9.2. New Zealand

Vehicles that are manufactured in Japan (using Japanese technical standards and the like), Europe (EC/UN regulations), the U.S. (FMVSS), and Australia (ADR) are accepted. The emissions regulation laws were revised last year in conjunction with the move by Australia to harmonize regulations with Euro 5. This revision and strengthening of the regulations clarified the timing of when the emissions regulations, including Japan's post-new long-term regulations, would be applied. A law that would make it mandatory for vehicles to be equipped with an immobilizer is being examined, but no concrete progress has been made.

10 Motorcycles

10.1. Japan

10.1.1. Vehicle safety

UN R10 (electromagnetic compatibility) went into effect on August 1, 2011 and will be applied to all new model vehicles and current models from August 1, 2016. Lighting devices, such as those in UN R50 (position, stop, and direction indicator lamps), UN R53 (installation of lighting devices), and UN R113 (headlamps emitting a symmetrical passing-beam), which are subject to mutual approval, were scheduled to be adopted in 2012. However, the implementation date and period of application have not been determined.

10.1.2. Emissions

The third generation of emissions regulations is scheduled to begin by the end of 2016. Whether to apply the evaporative emissions regulations at the same time and whether to make installation of OBD systems mandatory is also being examined.

10.1.3. Noise

UN R41.04 (noise emissions of motorcycles) was adopted and will be applied to new model vehicles from January 2014 and to current models from January 2017. In this revision, the steady running noise stipulations were abolished, while the stationary exhaust noise stipulations were left in.

10.2. The U.S.

10.2.1. Vehicle safety

The regulations for motorcycle brake systems (FMVSS 122) were revised and GTR3 will be applied to all motorcycles manufactured from September 1, 2014 as a part of measures to harmonize standards. The regulations for automotive lamps, reflective devices, and associated equipment (FMVSS 108) were also revised and the visibility requirements and others were changed. These started to be applied in December 2012.

10.2.2. Emissions

The emissions regulations of the EPA were strengthened previously to establish a Class III HC+NO_x regulation value of 0.8 g/km from the 2010 MY. After this there have been no other moves to further strengthen the regulations. It was made mandatory to report the various components in emissions in each of the following model years, CO₂ in 2011, CH₄ in 2012, and N₂O in 2013, in an effort to reduce greenhouse gases.

CARB is examining whether to introduce a new evaporative emissions regulation value and test method from the 2019 MY. The proposal for the new evaporative emissions regulation would also make vehicles such as off-road motorcycles and ATVs, which were previously exempt, subject to this regulation. It is likely that the proposal will be applied to these types of vehicles even earlier, starting with the 2018 MY.

10.3. Canada

10.3.1. Vehicle safety

The regulations for motorcycle brake systems were revised and the test method in GTR3 was recognized as of November 17, 2011 in addition to the conventional test method in CMVSS, as a part of measures to harmonize standards.

10.3.2. Emissions

There were no significant changes in laws and regulations.

10.4. Europe

On October 4, 2010 the EC announced a draft regulation that concerned the vehicle type approval and market surveillance of L category vehicles. This was published on March 2, 2013 as EU Regulation (EU) No. 168/2013, and went into force in the same year on March 22. It is scheduled to be applied on January 1, 2016.

There were proposals for the requirements of the four delegated acts of the regulation: REPPR : Regulation on environmental and propulsion performance requirements, RVFSR : Regulation on vehicle functional safety requirements, RVCR : Regulation on vehicle construc-

tion requirements, RAR : Regulation on administrative requirements. Discussions of each enabling act are continuing and the regulation is scheduled to be published in the middle of 2014.

A part of the content of this regulation is as follows.

10.4.1. Vehicle safety

It was made mandatory for vehicles in the L3e category (two-wheeled motorcycles) to be equipped with an automatic daytime running light system and ABS. However, L3e-A1 category vehicles (low-performance motorcycles below 125 cc) must be equipped with ABS or a combined brake system (CBS), or both. Detailed technical requirements are also applied anti-tampering measure of these vehicles.

10.4.2. Emissions

The Euro 4 emissions regulations will be applied to new model vehicles from 2016, and the Euro 5 regulations will be applied from 2020. Each of these regulations will be applied to current models 1 year later. There are also plans to incorporate crankcase emissions, evaporative emissions, durability, and compliance requirements for the OBD system into the regulations, in addition to test cycle emissions regulations. The European Directive that concerns L1e vehicles (mopeds) was revised and the Euro 3 regulations are scheduled to be applied from July 2014.

10.4.3. Noise

UN R41 was referenced for the noise test for L3e category (two-wheeled motorcycles) vehicles, UN R63 was referenced for the noise test for L1e category (mopeds) vehicles, and UN R9 was referenced for the noise test for L2e category (three-wheeled mopeds) vehicles. The regulations are scheduled to be applied to new model vehicles from 2016 and to current models from 2017.

10.4.4. Technical information for repair and maintenance

It was stipulated that automakers must have websites through which vehicle repair and maintenance information can be obtained.

10.5. Central and South America

10.5.1. Brazil

The draft legislation that would make it mandatory for vehicles to be equipped with anti-theft devices was revised again and now these safety regulations are scheduled to go into effect on September 30, 2013.

The next emissions regulations are called PROMOT4. The regulation values were not changed and only the

running test cycle was changed to comply with the Worldwide-harmonized Motorcycle Test Cycle(WMTC). Durability requirements were also added. These regulations will only apply to new model vehicles as of January 1, 2014. After this, the emissions regulation values will be strengthened starting from January 1, 2016 and evaporative emissions regulations are scheduled to be applied at the same time to both new model vehicles and successor models.

The noise regulations are currently equivalent to those in UN R41.03, but authorities are examining whether to strengthen these for equivalence with UN R41.04.

10.5.2. Columbia

Authorities are examining whether to strengthen emissions regulations to the equivalent of Euro 3 in 2015.

10.6. Asia

10.6.1. Taiwan

In 2013, some UN regulations concerning vehicle safety will be incorporated into vehicle approval requirements. The new additions to these requirements include electromagnetic compatibility (equivalent to UN R10.03), tires (equivalent to UN R75.00), and brakes (equivalent to UN R78.03). The requirements will be applied to 2013 new model vehicles.

The application of emissions regulations equivalent to Euro 4 and the strengthening of fuel economy regulations are being examined.

10.6.2. Indonesia

An individual part safety regulation for wheel standards (SNI 4658-2008) was issued. The application deadline was postponed to December 31, 2012. However, the application will be further delayed because the approval authorities are not able to fully handle this work.

Emissions regulations equivalent to Euro 3 and alternative regulations that use the WMTC test cycle were added. These are scheduled to be applied to new model vehicles from August 1, 2013 and to current models from August 1, 2015.

The noise regulations will be introduced and implemented in two steps. In the first step, an independent regulation value, which is determined using a test method equivalent to UN R41.01, will be applied. However, the government's preparation of the testing facilities is behind schedule, so the actual testing operations have been delayed. In the second step, the regulation value is scheduled to be strengthened and made equivalent to UN R41.03 as of July 1, 2013.

10.6.3. Malaysia

For vehicle safety regulations, UN regulations concerning brakes, horns, speedometers, mirrors, and tires were all applied to new model vehicles starting on January 1, 2012.

Emissions regulations equivalent to Euro 2 were also applied to new model vehicles starting on January 1, 2012. The next step will be to apply the Euro 3 regulations. These are scheduled to be applied to new model vehicles from January 1, 2014 and to successor models from January 1, 2016.

For noise regulations, UN R41.01 was applied to new model vehicles starting on January 1, 2012. The next step will be to apply UN R41.03 at the same time that the Euro 3 emissions regulations are scheduled to be applied.

10.6.4. The Philippines

There are some UN regulations considered to be harmonized in ASEAN by 2015. The incorporation of safety-related UN regulations for horns, tires, speedometers, and others is being planned.

Emissions regulations equivalent to Euro 2 were applied from September 27, 2012 and regulations equivalent to Euro 3 are scheduled to be applied from September 27, 2015.

The incorporation of noise regulations equivalent to UN R41.03 is also being examined.

10.6.5. India

Safety regulations concerning EMC were revised to the equivalent of UN R10.03 and will be applied to new model vehicles from October 2013 and to current models from October 2015.

The BS 3 emissions regulations are now in effect, but the WMTC test cycle was added and an equivalent regulation value was set. The next level of emissions regulations, BS 4, is being examined for scheduled application starting on April 1, 2015. The application of evaporative emissions regulations is also planned.

There are also unique requirements, such as for mud

flaps/dust shield devices and engine guards.

10.6.6. Vietnam

Emissions regulations equivalent to Euro 2 were put into effect and applied from May 2012. The next step will be to apply the Euro 3 regulations to all vehicles from January 1, 2017. Currently, the application of fuel economy regulations is also being examined.

The application of noise regulations equivalent to UN R41.03 in conjunction with Euro 3-equivalent regulations is being examined as well.

10.6.7. Thailand

The gradual introduction of safety-related UN regulations for mirrors, tires, speedometers, and the like from 2013 is being considered to be harmonized in ASEAN. However, the incorporation of these regulations into domestic law has been delayed.

The incorporation and introduction of Euro 4 emissions regulations from 2018, two years after Europe, is being examined. Future fuel economy regulations that would give preferential treatment to vehicles in accordance fuel economy are also being examined.

The application of noise regulations equivalent to UN R41.03 began on January 1, 2012 for new model vehicles and will begin on January 1, 2014 for current models.

10.6.8. China

The safety regulation GB14023 (EMC regulation: equivalent to CISPL12-2009) was revised and applied as of January 2012. GB7258 (technical requirements concerning transportation safety) was also revised and the requirement for a front motorcycle license plate was eliminated. However, GA36 (license plate standard) was not revised, which means that the front license plate requirement is not consistent.

The strengthening of the China 4 emissions regulations (equivalent to Euro 4) and fuel economy regulations are being examined.

The introduction of noise regulations equivalent to UN R41.04 is also being examined.