
The Automobile and Technical Regulations

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 that demand further improvements in vehicle safety and environmental performance. In Asia, Australia, and Central and South America, legislation based primarily on UN regulations is being prepared. Work on the international harmonization of standards, including the uniform worldwide Global Technical Regulations (GTRs) standards, is also advancing.

2 Overall Trends

2.1. Japan

Japan has stepped up the pace of its deliberations and activities aimed at preparing a domestic legal framework to move forward with a mutual recognition of a whole vehicle type approval system based on the UN Agreement concerning mutual recognition of type approval for vehicles and parts that recognizes certification at the level of parts and components.

Safety measures concerning vehicle (bus, truck and trailer) braking systems include an expanded scope for the mandatory installation of vehicle stability control systems and the mandatory installation of collision mitigation braking and lane departure warning systems now subject to stricter requirements on buses and trucks. In addition, requirements for safety glazing, steering equipment, and temporary-use tires and tire pressure monitoring systems are going to be introduced. Measures to combat global warming are critical, ongoing environmental issues, and the implementation of measures to increase the use of biofuels, the issuance of 2020 fuel economy standards for automobiles and 2022 fuel economy standards for compact trucks, and policies such as tax rebates to encourage the widespread use of vehicles compliant with those standards are all being actively ex-

amined.

A study of the issues involved in the adoption of the Worldwide harmonized Light vehicles Test Procedure (WLTP) in Japan has also begun.

2.2. The U.S. and Canada

Although work on safety measures moved slowly overall, a regulation making the installation of camera monitor systems to increase rearward visibility when a vehicle is backing up was issued, and will apply to all vehicles my May 1, 2018. In addition, the introduction of legislation to make the installation of dedicated short-range communication (DSRC) systems allowing vehicle-to-vehicle (V2V) mandatory on compact passenger and commercial vehicles has been brought up for study.

The Environmental Protection Agency (EPA) adopted the Tier 3 regulations, which are tougher than the current federal Tier 2 regulations, in March 2014. The California Air Resources Board (CARB) officially issued its on-board diagnostics (OBD) regulations for heavy-duty vehicles, and is also working on revising the OBD regulations applying to the previously issued LEV III which targets light- and medium-duty vehicles.

Harmonizing with the U.S., Canada has decided to apply new fuel consumption labels based on the 5-cycle test methodology beginning with the 2016 model year.

In terms of recycling and substances of environmental concern (SOCs), there was no federal legislation-based strengthening of the regulations as no amendment was made to the Toxic Substances Control Act (TSCA). However, the EPA is promulgating significant new use rules (SNURs) to manage and restrict chemical substances of concern, and steady progress is being made on strengthening regulations on chemical substances. A proposal extending regulation to substances within products for brominated flame retardants such as decaBDE and HBCD has also been put forth, paving the way for the future regulation of products.

2.3. Europe

The General Safety Regulation (GSR) on pedestrian protection, which consolidates non-EU regulations into one package, came into effect, leading to the abolition of the previous EU pedestrian protection regulation as well as non-EU safety regulations, and making the United Nations regulations mandatory for all vehicles starting from 2014. In the GSR, new safety systems such as advanced emergency braking systems (AEBS), lane departure warning systems (LDWS), tire pressure monitoring systems (TPMS) and gear shift indicators (GSI) have been made mandatory. An extensive review of EU regulations not covered by the UN regulations was also conducted.

The Whole Vehicle Type Approval (WVTA) regulation, which aims to establish stricter requirements for market audits and model certification procedures, is being considered for review.

The introduction of the WLTP and of the Real Driving Emissions (RDE) regulation, as well as a revision of the evaporative emissions test method, are being examined with the goal of synchronizing them with the coming into effect of Euro 6c in September 2017. For the RDE, a monitoring phase preceding the regulation is being assessed and could begin in early as 2016.

The phase-in of CO₂ regulations for small passenger vehicles started in 2012, and the phasing-in of these same regulations for light commercial vehicles started in 2014. In addition, a proposed CO₂ regulation for the year 2020 was adopted at the plenary session of the European Parliament in February 2014. Emission targets have been set to a stricter 95 g/km, with a credit based on the number of vehicles sold applied to vehicles with emissions below 50 g/km (counted as multiple vehicles). This proposal covers elements such as the measurement of CH₄ (converted to CO₂), relaxed THC regulatory values, the adoption of NO₂ regulations, and stricter low temperature regulations (stricter CO and THC regulatory limits and adoption of NO_x and NO₂ regulations).

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 have been approved and will come into effect in 2016.

2.4. Other regions

China will introduce the nationwide China 5 (equivalent to Euro 5) emissions regulations for light-duty gasoline vehicles as of January 2018. In Beijing, this has already

been preceded by the introduction of the Beijing 5 (equivalent to Euro 5) regulations for light-duty gasoline vehicles in effect since February 2013. Third-stage fuel economy (corporate average fuel economy) standards have been in force since May 2013, and China also decided to adopt fourth-stage fuel economy as of 2016, as well as to strengthen second-stage (individual vehicle) fuel economy standards

In Saudi Arabia, the display of fuel economy labels in showrooms for compact passenger vehicles and small trucks has been mandatory since August 2014, with the affixing of fuel economy labels on all vehicles set to become mandatory as of January 2015. Moreover, fuel economy regulations will be introduced in 2016. The GCC will make fuel economy labels on vehicles mandatory starting with the 2017 model year.

In Taiwan, regulations on corporate average CO₂ emissions will come into effect in 2015, and corporate average fuel economy regulations will follow in 2017.

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 (WP 29) was established as the body to promote international harmonization of automotive technical standards. WP 29 has been meeting regularly to discuss the 1958 Agreement (mutual recognition agreement) and the 1998 Agreement (global agreement). The aim of the 1958 agreement, currently signed by 50 European and other countries as well as 1 region, is to use UN regulations to establish uniform technical standards for vehicles and obtain mutual recognition of those standards. There are currently (as of the end of 2014) 135 such UN regulations, with new regulations for additional items currently being formulated. The 1998 Agreement went into effect in August 2000 as a means of establishing and realizing GTRs, and it currently (as of the end of 2014) includes 33 participating countries and 1 participating region. The addition of WLTP and tires in 2014 has brought the number of items covered by established GTRs to 16. Furthermore, additional GTRs on items such as passenger vehicle emissions, fuel economy testing methods, hydrogen and fuel cell vehicles (phase II), pedestrian protection (phase II), tires (phase II), and quiet vehicles (proximity warning sounds), are also being revised or formulated.

2.5.2. System for mutual recognition of international whole vehicle type approval

WP 29 is actively discussing and pursuing the establishment of a system for the mutual recognition of International Whole Vehicle Type Approval (IWVTA). This initiative was proposed by the Japanese government with the aim of extending the current 1958 Agreement-based mutual recognition of approval for devices, parts and systems to cover the whole vehicle. The following three items are to be accomplished by March 2016: (1) amending the 1958 Agreement, (2) establishing vehicle type approval regulations (IWVTA), and (3) preparing the necessary technical requirements for the IWVTA regulation.

3 Japan

3.1. Vehicle safety

3.1.1. Progress of safety measures

In May 2014, the 15th Automobile Safety Symposium was jointly hosted by the Ministry of Land, Infrastructure Transport and Tourism (MLIT) and the Society of Automotive Engineers of Japan. Held under the theme of Strategies for Automobile Safety in a Global Society and the International Harmonization of Standards, the event featured a panel discussion on that theme, as well as reports covering current U.S. and European automobile safety measures, and presented the progress being made in the development of automobile safety technology.

3.1.2. Strengthening of safety regulations

From the standpoints of improving vehicle safety as well as the international harmonization of standards, the mandatory installation of vehicle stability control systems will be expanded in scope, and equipping buses and trucks with collision mitigation braking systems now subject to stricter requirements will also become a mandatory part of braking systems installed in vehicles (buses, trucks and trailers).

3.1.3. Harmonization of standards

Based on the 1958 Agreement, MLIT is revising the Japanese technical standards in line with revisions made to UN regulations. In 2014, the standards for radio interference suppression devices, steering mechanisms, braking systems, seatbelt anchorages, seatbelts, seats and seat anchors, lighting device mounting, occupant protection in frontal and side collisions, electric vehicles, new supplemental restraints for small children, and collision mitigation braking systems were revised.

Harmonizing the test methods for silencing systems

with UN regulations (UN-R51) is also under consideration.

3.2. Emissions

3.2.1. Study of issues involved in the introduction of WLTP in Japan

Issues arising from the introduction of the WLTP in Japan, including (1) differences in vehicle class definitions, (2) the transition from the JC08 to the Worldwide harmonized Light duty driving Test Cycle (WLTC) test cycle, and (3) the setting of fuel consumption standard values are currently being studied.

3.2.2. Next series of regulations for heavy-duty vehicles

The next series of emissions regulations for heavy-duty diesel vehicles with a gross vehicle weight over 3.5 tons were opened to public comment. Test cycles and off-cycle emissions (OCE) will be harmonized with the GTR, and advanced OBD will be made mandatory. Phasing in will start in October 2016 for the next series of regulations, and in October 2018 for the advanced OBD.

3.2.3. 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), paving the way for the launch of such vehicles onto the market.

3.3. Fuels

The notice for the report on the new fuel economy standards for passenger vehicles, which sets 2020 as the year by which the targets are to be achieved, 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, the new fuel economy standards will be changed to use the Corporate Average Fuel Economy (CAFE) method rather than 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.

In a joint meeting, the Ministry of Land, Infrastructure Transport and Tourism and the Ministry of Economy, Trade and Industry have also determined the 2022 fuel economy standards for small trucks. The target improvement rates are 26.1% compared to the 2012 results, and 23.4% compared to the 2015 standards. Changes analogous to those for passenger vehicle will also be applied to the corporate average fuel economy regulations

method.

The next series of heavy-duty vehicle fuel economy standards for trucks and buses are expected to be determined in 2016 after the currently ongoing examination of test methods for drag and rolling resistance and the selection of the best candidates have been completed.

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

A 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 2015 revision of the tax system has extended the fuel-efficient car tax reduction (the vehicle acquisition and motor vehicle weight taxes) for another two years. With some exceptions to the applicability conditions, starting with the 2015 fuel economy standards, the stricter 2032 fuel economy standards and tax exemption criteria have become more rigorous. Special cases of the green tax have also been set up for the mini-vehicle tax whereby, for new vehicles with excellent fuel economy performance purchased in or after April 2015, that tax will be reduced for the year following the purchase. The tax based on environmental performance (replacing the vehicle acquisition tax) scheduled for adoption at the time the consumption tax is raised to 10%, will also apply to mini-vehicles.

For trucks and buses, the 2015 heavy-duty vehicle fuel economy standards added a category for improvements of 15% or higher, which makes the vehicle eligible for a reduction or exemption of the vehicle acquisition and motor vehicle weight taxes. The scope of the ASV tax reduction was expanded to apply to vehicles equipped with an electronic vehicle stability control (EVSC) in addition to those equipped with an advanced emergency braking system (AEBS).

4 The U.S. and Canada

4.1. Vehicle safety in the U.S.

4.1.1. Seatbelt anchors

A draft proposal (amendment to FMVSS 210) to modify the shape of body blocks has been issued. The release of the draft with the revised contents, scheduled for November 2014, has been delayed.

4.1.2. Vehicle proximity notification sound

A draft proposal (newly established FMVSS 141) to

make the installation of a sound generating device in EVs and HEVs has been issued. The final regulation is scheduled for release in November 2015.

4.1.3. Brake override

A draft proposal (amendment to FMVSS 124) that adds requirements making it mandatory to equip vehicles with a device that gives priority to the brakes when both the accelerator and brake pedal are depressed at the same time has been issued. The release of the final regulation, scheduled for December 2014, has been delayed.

4.1.4. Keyless ignition systems

A draft proposal (amendment to FMVSS 114) stipulating the method for stopping the engine has been issued in light of the diversification of these systems. The final regulation is scheduled for release in November 2015.

4.1.5. Distracted driving

The NHTSA has issued guidelines on limiting the operation of vehicle-mounted devices, such as navigation systems, as phase 1 of measures to reduce the number of collision accidents caused by driver distraction. There are also plans to create guidelines for portable electronic devices in phase 2 and voice-operated devices in phase 3.

4.1.6. LATCH

A draft proposal (amendment to FMVSS 225) on stricter LATCH requirements was issued in January 2015 to improve CRS ease of installation.

4.1.7. Seatbelt reminders

To improve seatbelt use ratio, a draft proposal (amendment to FMVSS 208) on requirements for seatbelt reminders in the front and rear seats is scheduled for release in July 2015.

4.1.8. Pedestrian safety

A draft proposal (newly established) for the protection of pedestrian head and legs in a collision with a vehicle is scheduled for release in October 2015.

4.2. Emissions in the U.S.

4.2.1. Federal regulations

The Environmental Protection Agency (EPA) adopted the Tier 3 regulations, which are tougher than the current federal Tier 2 regulations, in March 2014. Tighter regulations for 2017 to 2025 MY vehicles include significant changes, such as changes for test gasoline in terms of increased ethanol content and lower sulfur content, the addition of leak check tests to EPA OBD requirements and clearer test methods for 4WD CDM, which are enacted as part of a package to reduce the sulfur

content of gasoline in the market. Consistency with LEV III regulations was also applied wherever possible.

4.2.2. California

4.2.2.1. ZEV regulations

The new regulations provide a combined pooling option for the 10 states that have adopted ZEV credits (CA, CT, MA, ME, MD, NJ, NY, OR, RI, VT). In addition, a memorandum of understanding has been signed between California and those other states (excluding ME and NJ) to cooperate on initiatives to expand ZEV and its infrastructure.

4.2.2.2. Emissions regulations in s. 177

The so-called s. 177 states, which had adopted the CARB LEV II regulations, examined whether or not to adopt the LEV III regulations. Twelve states (CT, DE, MA, ME, MD, NJ, NY, OR, PA, RI, VT, WA) have decided to adopt them, while New Mexico has postponed their adoption.

4.2.2.3. Greenhouse gas (GHG) regulations

The GHG phase 1 regulations for heavy-duty vehicles set by CARB came into effect starting with the 2014 model year.

4.3. Fuel economy and GHG regulations in the U.S.

4.3.1. CAFE and GHG regulations

To provide supplementary guidance on emissions regulations, the EPA issued the new Compliance Assurance Program (CAP 2000), which focuses on certification requirements. This latest version adds requirements for GHG and for advanced technology vehicles.

The phase 1 regulations for heavy-duty vehicles were enacted starting with the 2014 model year. The public announcement of the phase 2 regulations is expected in 2016.

4.3.2. EPA fuel economy labels

Explaining the disparity between fuel economy labels and actual fuel economy has long been a problem. As a result of purchasing vehicles and carrying out its own running resistance survey tests, the EPA has issued new guidelines with stricter monitoring requirements for running resistance. The guidelines will come into effect with the 2017 model year.

4.4. Recycling and SOCs in the U.S.

While the current administration's policy is to strengthen regulations on chemical substances, revisions are stalled because the federal TSCA has not been approved by Congress. To make up for this, the EPA has applied SNURs to start imposing restrictions on several

hundred chemical substances. A proposal extending regulation to substances within products for brominated flame retardants such as decaBDE and HBCD has also been put forth, paving the way for the future regulation of products.

In contrast, at the state level the strengthening of regulations is making progress. In Washington D.C., the use of decaBDE has been banned starting with the 2016 MY, while Washington State and California have decided to limit the use of copper in brake friction materials in stages starting in 2021. Moreover, the Safer Consumer Products (SCP) regulations have come into force in California, and deliberations on the products and substances to restrict have begun.

4.5. Canada

4.5.1. Vehicle safety

A draft proposal to align the Motor Vehicle Tire Safety Regulations (MVTSR) with the U.S. FMVSS has been issued. The final Location and Identification of Controls and Displays (CMVSS 101) regulation and the draft proposal for Lighting and Retroreflective Devices (CMVSS 108) are scheduled to be issued in 2015.

4.5.2. Emissions

Harmonizing with the U.S., Canada has decided to apply new fuel consumption labels based on the 5-cycle test methodology. At the same time, the labels will be redesigned, with interim labels used for the 2015 MY and official application beginning with the 2016 model year. The rules for the labels also provide a certain degree of flexibility, such as allowing the use of U.S. MPG indications.

4.5.3. Environmental protection

The Prohibition of Certain Toxic Substances Regulations, 2012 annex to the Canadian Environmental Protection Act, 1999 were issued, marking the beginning of restrictions in stages on BNST, an amine-series antioxidant.

5 Europe

5.1. Whole vehicle type approval (WVTA)

In the context of the framework for the type approval of motor vehicles in the EU established by European Directive 2007/46/EC, an amendment that removes UN regulation items stipulated in the GSR list of alternative regulations from the list of alternatives found in the list of regulations that apply to WVTA was issued as (EU) No. 214/2014 in light of UN regulations becoming mandatory in the GSR. An amendment making the procedure for multi-stage type approval was issued as (EU) No.

1171/2014.

An amendment to make eCall mandatory is scheduled to be issued as a WVTA amendment before the summer of 2015. Moreover, work on other WVTA amendments, including the strengthening of current market monitoring requirements, the implementation of type approval procedures, the streamlining of multi-stage approval, mandatory certification of aftermarket parts, and requirements on repair and maintenance is progressing, the details of the amendments expected to be decided in 2015.

5.2. Vehicle safety

5.2.1. eCall

The regulation on the mandatory installation of 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 was originally scheduled to come into effect on October 1, 2015 for new M1 and N1 category vehicles. However, due to circumstances in various countries, such as difficulties in setting up the necessary infrastructure on time, the European Commission, following prolonged consensus building, is expected to announce in the spring of 2015 that the regulation will apply to new vehicles as of March 31, 2018. The detailed technical regulations are scheduled to be drafted by the European Commission in 2015. Those same technical regulations are also currently being evaluated as new regulation proposals by the UN.

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) on the mass and dimensions of motor vehicles was issued. At the same time, an amended draft of the heretofore delayed regulations concerning GSR approval procedures was adopted in 2014 and finally issued as (EU) 2015/166. The date when cab strength requirements come into effect is clearly stipulated in those regulations.

The GSRs contain provisions that make advanced safety systems (TPMS, AEBS, LDWS, (GSI), and ESC) mandatory and also stipulate tire rolling resistance re-

quirements, grip requirements, road noise requirements, and cab strength requirements.

5.3. Emissions and OBD

5.3.1. Small vehicles

Euro 6 emissions regulations came into effect 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 emissions regulations will be applied in phase 2, and Euro 6b, which constitutes phase 1, sets regulation values representing a 56% reduction for diesel NOx and a 26% reduction for THC + NOx in comparison to Euro 5b. A PN regulation was introduced in September 2014 for direct-injection gasoline engine vehicles, but the application of more moderate regulation values for the first three years has been approved. The malfunction criteria values for on-board diagnostics (OBD) have become stricter than those under Euro 5+, and will be further strengthened in two stages starting with Euro 6. The EC has also presented a proposal to the European Parliament for a new regulation package covering the measurement of CH₄ (converted to CO₂), relaxed THC regulatory values, the adoption of NO₂ regulations, and stricter low temperature regulations (stricter CO and THC regulatory limits, adoption of NOx and NO₂ regulations).

5.3.2. Large vehicles

With the Euro VI regulations coming into effect, little work on amendments to emissions regulations was made as the focus has shifted to examining CO₂ regulations.

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 the M1 category 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, and TPMS and the like as complementary measures to further reduce CO₂ emissions by approximately 10 g/km. New model vehicles are required to be equipped with GSI and TPMS according to a GSR, starting in November 2012, while the requirement starts in November 2014 for newly registered vehicles. Another regulation stipulating that the average

CO₂ emissions for N1 category vehicles should be 175 g/km is being phased-in since 2014.

In July 2012, a draft of CO₂ regulations for the year 2020 was proposed by the European Commission, and CO₂ regulations for compact commercial vehicles (147 g/km) and compact passenger vehicles (95 g/km) were adopted in January and February 2014, respectively. Discussions on CO₂ regulations and type approval for heavy-duty vehicles have begun.

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, in March 2011, the Directive that reduced the lead content in other parts was revised (2011/37/EU). 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, the European Community Regulation on chemicals and safe use that entered into force in June 2007, has made the registration and reporting of chemical use to government authorities, as well as the disclosing information to users of chemicals, mandatory ((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 exterior noise

In May 2014, an Official Journal of the European Union on vehicle external noise regulations was issued. 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 approaching vehicle alerting devices (AVAS) for EVs and HEVs. Phase 1

regulation values will apply to new model vehicles starting in July 2016.

5.7. Russia

5.7.1. Emissions

Euro 5/V regulations for emissions came into force for new model vehicles in January 2014, and will apply to all vehicles as of January 2016.

5.7.2. Vehicle safety

New standards have come into effect in 2015, with various UN regulations, including those on pedestrian protection, ESC and TPMS systems gradually being made mandatory. Russian standards will continue to apply to elements such as vehicle interior noise, vehicle interior ventilation, and heaters.

5.7.3. Other

The Technical Regulation of the Customs Union (TR CU), established in 2012 the Common Economic Space (CES), consisting of the Russian Federation, Kazakhstan, and Belarus, based on Russian regulations to realize mutual recognition of safety standards and a common approval system, come into effect for new vehicles starting in January 2015. The EurAsian Conformity (EAC) mark, which serves as proof of compliance, will be made mandatory as of July 2016. It was also decided to make it mandatory for vehicles to be equipped with the Russian version of the European eCall system (ERA GLONASS) ahead of Europe, a requirement that applies to new model vehicles starting in January 2015.

6 Central and South America

6.1. Mexico

6.1.1. Emissions

Emissions regulations contained in U.S. and European laws (equivalent to Tier 2-Bin 7 and Euro 4) have been applied in stages and fully came into effect as of the 2013 model year. Emissions regulations for large diesel trucks equivalent to U.S. 2004 or Euro IV regulations have been introduced and are scheduled to be strengthened to US 2010/Euro VI equivalent regulations as of 2018.

6.1.2. CO₂ (fuel economy)

As of 2014, fuel economy regulations modeled on the North American US-CAFE were introduced. These regulations are at the same level as the emissions regulations (equivalent to Tier 2-Bin 7 and Euro 4).

6.2. Brazil

6.2.1. Vehicle safety

Regulations to make it mandatory for vehicles to be

equipped with a stolen vehicle tracking device have been repeatedly postponed, and the period to start introducing them in stages has been pushed back to December 2015. Brake pads were added to the part approval system that makes it mandatory to apply a certification number or other marking. Efforts to revise safety regulations have been stepped up, and progress is being made on harmonization with UN regulations.

6.2.2. Emissions

A stricter emissions regulation called the L6 regulation was 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, and moving up to Euro VI regulations is being considered.

6.3. Chile

6.3.1. Vehicle safety

Safety regulations were applied requiring that light vehicles to be equipped with a folding 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 large vehicles was applied to cover the use of safety glass. Since January 1st, 2013, immobilizers have become mandatory for vehicles with a GVWR of 3,860 kg or less.

6.3.2. Emissions

Emissions regulations equivalent to Tier 2-Bin 5 or Euro 5 are already in effect for small diesel vehicles. 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. Euro V regulations are in effect for heavy-duty vehicles, and moving up to Euro VI regulations as of 2019 is under consideration.

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

In addition to the mandatory installation of front air-

bags and rear seat external head restraints in small passenger and commercial vehicles, ESC will be made mandatory on new vehicles starting in 2018.

6.4.2. Emissions

Regulations equivalent to Euro 5 for both small gasoline and diesel vehicles were applied to new model vehicles in January 2014, and will be extended to all vehicles in January 2016. The Euro V regulations apply to new heavy-duty diesel vehicles starting in 2015, and will also apply to successor models from 2017.

6.5. Venezuela

Regulations concerning the vehicle identification number (VIN), noise, flame retardants, brakes, lights, glass, tires, and seat belts are in force and certification has begun.

6.6. Columbia

6.6.1. Safety regulations

New requirements for brakes went into effect from June 4, 2013. There are technical standards covering the main brake components, and compliance with brake system performance standards is recognized as an alternative. Discussions of requirements for ABS, airbags and head restraints are currently on hold.

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.

6.7. Ecuador

The Ecuadorian Technical Regulation RTE INEN 034, Motor Vehicle Safety Regulatory Requirements was amended and comes into effect as of 2015. It mainly introduces UN regulations, but retains some Ecuador-specific requirements.

7 Middle East and Africa

7.1. Gulf Cooperation Council (GCC)

7.1.1. Vehicle safety

Compared to 2015 model year vehicles, the only new regulation applied for the 2016 model year was Saudi Arabia's adoption of a mandatory tire rolling resistance and wet grip performance regulation. A GCC Secretariat directive has made it mandatory to equip passenger vehicles and MPVs with ABS starting with the 2016 model year. Work on general safety requirements is currently underway, and there are indications that this will lead to new mandatory requirements in areas such as ABS, ESC, TPMS, rear fog lamps, BOS and school bus struc-

tures starting with the 2017 model year.

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. It is also said that, at this juncture, emissions regulations for compact vehicles could be raised to the Euro 4 level starting with the 2017 model year, even before market fuel properties improve. Starting with the 2017 model year, the Euro IV regulations will apply to heavy-duty vehicles, except in the UAE where the Euro V regulations are expected to apply.

7.1.3. CO₂ (fuel economy)

In Saudi Arabia, the display of fuel economy labels in showrooms for compact passenger vehicles and small trucks has been mandatory since August 2014, and the affixing of fuel economy labels on vehicles becomes mandatory as of January 2015. Moreover, fuel economy regulations are to be introduced in 2016. The GCC will make fuel economy labels on vehicles mandatory starting with the 2017 model year.

7.2. South Africa

7.2.1. Vehicle safety

Speed governors have been made mandatory, and electrical safety standards have been adopted. Updates to safety regulations, based on those of the UN and Europe, are being considered for 2017.

7.2.2. Emissions

Specifications for the properties of commercial fuels used in gasoline and diesel engines were revised (to take effect on July 1, 2019). After that date, the current emissions regulations (Euro 2) are scheduled to be strengthened and become equivalent to the Euro 5 regulations. In addition, ABS will be mandatory on heavy-duty vehicles starting in 2015.

7.3. Egypt

Adoption of UN regulations began in 2010, but their implementation has been suspended by political turmoil. As part of efforts to start applying them again starting in 2014, the examination of the next phase of safety item adoption has begun.

7.4. Morocco

WVTA items or equivalent UN regulations have been adopted since 2010 and will apply to all vehicles starting in 2015.

8 Asia

8.1. China

8.1.1. China Compulsory Certification (CCC)

The amended certification implementation rules were promulgated in August 2014 and came into effect January 1, 2015 (CNCA-C11-01: 2014 for automobiles) The amended version updates the standard requirements in light of the amended national standards covering areas such as fuel economy regulations, lighting devices, and seatbelts, expands the range of component certification for interior materials (to cover the engine compartment and trunk in addition to the cabin), and incorporates changes to post-certification monitoring methods.

8.1.2. Emissions

The China 4 (equivalent to Euro 4) regulations apply to all compact vehicles throughout China as of July 2010, and it has been decided to introduce the China 5 (equivalent to Euro 5) regulations as of January 2018. In contrast, the Beijing 5 (equivalent to Euro 5) emissions regulations were introduced in February 2013 for compact gasoline vehicles in the city of Beijing. In major cities other than Beijing, Shanghai introduced the China 5 regulations in May 2014, and the early introduction of those regulations in other major cities as well is being promoted. In principle, the compact vehicle China 5 and Beijing 5 regulations require the mounting of an OBD for NOx catalyst monitoring and IUPR.

For heavy-duty diesel vehicles, the Beijing 5 (equivalent to Euro 5) regulations will be introduced in 2015, and China 5 (equivalent to Euro 5) regulations are scheduled to come into effect throughout China as of 2018. The timing for the introduction of Beijing 6 (equivalent to Euro 6) is currently under consideration.

8.1.3. Fuel economy

Third-stage fuel economy standards have been in force since May 2013 for compact vehicles, and China also decided to adopt fourth-stage fuel economy standards as of 2016, as well as to strengthen second-stage (individual vehicle) fuel economy standards. Regulations on pass/fail judgment criteria and penalties are currently being examined. Work on revising the contents of the fuel economy labels is also underway.

First-stage fuel economy standards have been in force since July 2012 for heavy-duty vehicles, and second-stage standards have been implemented since July 2014. A draft proposal for third-stage fuel economy standards is currently under consideration.

8.1.4. New energy vehicles

Promotion of the spread of new energy vehicles is

leading to rapid progress in the drafting of related standards, and work on drafting and amending standards concerning safety requirements for electric vehicle batteries, motors, charging, EMC, and FC is underway. These standards are drafted as Chinese national recommended standards (GB/T) but sometimes quote certification test items.

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. Other vehicle safety regulations are also expected to be replaced with the corresponding UN regulations in stages. Rear camera monitor systems have been mandatory on trucks since October 2014.

8.2.2. Emissions

Adoption the stricter Euro 6/VI regulations is scheduled for 2016 with the primary objective of reducing NOx.

8.3. Taiwan

8.3.1. Vehicle safety

Safety standards are updated annually based on UN regulations. Mandatory installation of ESC has been set to start in 2019, and the date to apply pedestrian protection regulations is being discussed in conjunction with the preparation of test facilities. Since January 2014, CC markings are required for seatbelts.

8.3.2. Emissions

The Euro 5 or U.S. Tier 2-Bin 5 regulations were introduced for compact gasoline vehicles in October 2012. For heavy-duty vehicles, Euro V or U.S. 2007 regulations are in effect, and the Euro VI or U.S. 2010 regulations are expected to be applied as the next regulations in 2017.

8.3.3. Fuel economy

Corporate average CO₂ regulations for small vehicles were introduced in 2015. Corporate average fuel economy regulations for compact vehicles will be introduced in 2017.

8.4. South Korea

8.4.1. Vehicle safety

Since the 2009 announcement of the plan to harmonize the Korea Motor Vehicle Safety Standards (KMVSS) with UN standards, work on harmonization with UN regulations and GTRs has progressed. By contrast, some South Korea-specific regulations are still in effect, and the expansion of items covered by the parts self-certification system initiated in February 2013 is being examined.

8.4.2. Emissions and OBD

In 2014, stricter regulations (changes to the evaporative emissions test method and lower regulatory limits, new regulations on PM from direct injection engines, and new OBD in-use performance ratio (IPUR) regulations) based on California's LEV II standards were introduced, and stricter regulations based on the California LEV 3 standards (more stringent emissions regulations values and extension of guaranteed distance, addition of SFTP, more rigorous evaporation regulations) will be adopted in 2016. For diesel vehicles, the Euro 6/VI regulations were gradually introduced by vehicle category starting in January 2014.

8.5. Thailand

8.5.1. Vehicle safety

The Thai Industrial Standard Institute (TISI) and Department of Land Transport (DLT) are, respectively, working on harmonizing standards with UN regulations and applying new regulations. TISI has completed the harmonization with the UN regulations on seatbelts. The DLT announced that UN regulations on speedometers would apply starting in 2016, but the plan to apply other UN regulations by 2020 is slightly behind schedule.

8.5.2. Emissions

The Euro 4 diesel vehicle regulations for small vehicles were introduced in December 2012. The Euro III regulations are being applied to heavy-duty diesel vehicles.

8.6. Malaysia

Since joining the 1958 Agreement in 2006, Malaysia has been actively making the application of UN regulations mandatory, with approximately 30 UN regulations for items such as seatbelts, brakes, and collisions becoming mandatory as of January 2012. Preparations are underway for almost all UN regulations, including the latest standards such as pedestrian protection for compact vehicles or emergency braking systems in heavy-duty vehicles, as well as cab strength requirements, to become mandatory by 2020.

8.7. Indonesia

Automobile safety regulations were revised in 2012. No significant progress on harmonizing standards with UN regulations has been made in the areas of equipment and structure, nor in terms of performance-related technical requirements. Country-specific Indonesian National Standards (SNI) are in effect as detailed technical standards for parts such as wheels.

8.8. Singapore

8.8.1. Emissions

The Euro 4 regulations (excluding the Type 6 low temperature test) have been introduced for gasoline vehicles since April 2014. The Euro 5/V regulations were introduced for diesel vehicles in January 2014. Singapore has announced that the Euro 6/VI regulations (excluding the Type 6 low temperature test) will be introduced for gasoline vehicles in September 2017, and for diesel vehicles in January 2018.

8.9. India

8.9.1. Vehicle safety

The Automotive Industry Standards (AIS) and Indian Standards (IS) technical standards are gradually being harmonized with UN regulations, but there are still India-specific standards such as parts durability requirements and the mandatory installation of speed limiter systems. The period for the application of collision safety standards is currently under consideration. A large-scale revision of the Motor Vehicle Act, the law encompassing these regulations, is also in progress.

8.9.2. Emissions

The application of the Bharat Stage IV (equivalent to light-duty Euro 4) regulations in urban areas started in April 2010 has now expanded to 33 major cities. The introduction of Bharat Stage V (equivalent to light-duty Euro 5) regulations is being considered.

8.9.3. Fuel economy

Corporate average fuel economy regulations for compact passenger vehicles will be introduced in April 2016. A strengthening of the regulations is also scheduled for 2021.

8.10. Vietnam

8.10.1. Vehicle safety

Starting mainly with standards for parts such as vehicle glass, mirrors, tires, lighting devices and aluminum wheels, the gradual application of UN regulations is moving forward. Based on QCVN09: 2011/BGTVT, inspection and testing has been required for vehicles and parts upon acquiring certification or renewing it (annually).

8.10.2. Emissions

The introduction of Euro 4/IV regulations in 2017 is being examined.

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 seatbelt regulation (ADR4/05) and a business bus regulation (ADR58/00) harmonized with UN regulations were issued. In addition, with the Consumer Protection Safety Standard (CPSS) legislation introducing Australian Standard (AS) 1754:2013 concerning CRS that meet the revised 2013 ISOFIX performance requirements in 2013, it is now possible to sell ISOFIX-equipped CRS in Australia.

9.1.2. Emissions

ADR79/03 stipulates that the Euro 5 emissions regulations apply to new model small gasoline vehicles since November 2013, while ADR79/04 stipulates that these same regulations will apply to all vehicles starting in November 2016. Moreover, regulations equivalent to Euro 6 are scheduled to apply to new model vehicles starting in July 2017. The Euro V regulations are already applied to heavy-duty vehicles and both the U.S. 2007 regulations and Japanese 2005 regulations (new long-term regulations) are recognized as alternative standards. The stricter Euro VI regulations are scheduled to become the next regulations, but no official announcement on when they will apply has been made.

9.1.3. Vehicle exterior noise

The entire UN R51 series can now be applied as alternative regulations to the ADR83/00 noise regulation.

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.

Also, electronic stability control (ESC) will become mandatory for compact passenger vehicles starting in July 2015.

10 Motorcycles

10.1. Japan

10.1.1. Vehicle safety

Electromagnetic compatibility (UN R10) went into effect on August 1, 2011 and in conjunction with the R10.04 revision, will be applied to both new and successor model vehicles from August 1, 2016. Lighting devices, (UN R50) and Headlamps emitting a symmetrical passing beam (UN R113), were adopted in June 2015, but the period for Installation of lighting devices (UN R53) has not been determined. Control/tell-tales (UN R60) will apply to both

new and successor model vehicles from July 1, 2017.

10. 2. 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

Revised motorcycle noise emissions regulations (UN R41.04) were applied to new model vehicles from January 2014, and will be applied successor models from January 2017. The steady running noise stipulations were abolished, while the close proximity exhaust noise stipulations were left in.

10. 2. The U.S.

10. 2. 1. Vehicle safety

The contents of the global technical regulation for motorcycle brake systems (GTR3) were incorporated in the brake regulations (FMVSS 122) and were applied to all motorcycles manufactured from September 1, 2014 as a part of measures to harmonize standards. The regulations for automotive lighting and 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 in the past to establish a Class III HC+NO_x regulation value of 0.8 g/km from the 2010 MY. No subsequent moves to further strengthen the regulations were made. 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. Coefficients can be reported up to the 2017 model year, but reporting actual measured values will become mandatory starting with the 2018 model year. The new CARB evaporative emissions regulation value and test method for off-road motorcycles and ATVs starting with the 2018 model year, and to all successor models up to the 2021 model year.

10. 3. Canada

There were no significant changes in laws and regulations concerning either safety or emissions.

10. 4. Europe

On October 4, 2010 the EC announced a draft regulation that concerned L category vehicle type approval and market surveillance. This was published on March

2, 2013 as a new EU type approval system (EU Regulation (EU) Joint Resolution No. 168/2013). It will apply to motorcycles on January 1, 2016, and to mopeds on January 1, 2017. The three enabling acts concerning the environment, functional safety, and vehicle structure were published in official gazettes by July 2014, completing the system for the new EU uniform type approval regulations. The amendment included a further subdivision of categories, and a new Powered cycle subcategory covering motor assist up to 25 km/h and maximum power of 1,000 W was established for mopeds.

10. 4. 1. Vehicle safety

It was made mandatory for vehicles in the L3e category (two-wheeled motorcycles) to be equipped with an ABS and have either an automatic daytime running light system, or make the headlamp automatically turn on when the ignition is switched on. In addition, L3e-A1 category vehicles (low-performance motorcycles below 125 cc) must be equipped with ABS, CBS, or both. Detailed technical requirements on aspects such as the electrical safety of electric powered vehicles are also applied as a deterrent to modifying such vehicles. New requirements on steer-ability, cornering properties and turn-ability were added.

10. 4. 2. Emissions

Euro 4 regulations will apply to new models in starting 2016, and to successor models in 2017. Crankcase emissions, evaporative emissions, endurance degradation, and compliance requirements for the OBD system have been incorporated into the regulations in addition to test cycle emissions regulations. Euro 4 for the L1e category (mopeds), which is exempted from OBD and evaporative emissions, will apply to new models in starting 2017, and to successor models in 2018.

The European Commission will finish examining the period and details of Euro 5 and preparing the regulations by 2016, which is currently planned to apply to new vehicles in 2020 and to successor models in 2021.

10. 4. 3. Noise

For noise tests, UN R41.04 was applied to L3e category vehicles, UN R63 to L1e category vehicles, and UN R9 to L2e category vehicles (three-wheeled mopeds). The regulations will apply from 2016 to new L3e model vehicles, from 2017 to successor L3e models and new L1e/L2e model vehicles, and from 2018 to successor L1e/L2e models.

10. 4. 4. Technical information for repair and

maintenance

It was stipulated that automakers must maintain websites through which information on OBD as well as vehicle repair and maintenance can be obtained.

10. 5. Central and South America

10. 5. 1. Brazil

The date for the legislation making it mandatory for vehicles to be equipped with anti-theft devices to go into effect was changed to March 31, 2016. The gradual application of advanced ABS/CBS systems starting in 2016, and reaching 100% in 2019, is also being examined.

The Second-stage PROMOT4 fuel emissions regulations (which add stricter regulation values and evaporative emissions rules) will apply to both new and successor models as of January 2016. Authorities are examining whether to strengthen the current noise regulations, which are equivalent to those of UN R41.03, to make them equivalent to UN R41.04.

10. 5. 2. Columbia

Strengthening emissions regulations from Euro 2 or EPA equivalent to Euro 3 equivalent is being examined.

10. 5. 3. Peru

Strengthening emissions regulations from Euro 2 or EPA equivalent to Euro 3 equivalent from 2017 is being examined.

10. 5. 4. Chile

Emissions regulations (Euro 3 or equivalent to EPA 2010) are limited to the capital major cities, but extending their application throughout the country is being considered.

10. 5. 5. Ecuador

Since April 28, 2015, vehicle regulations have applied not only to motorcycles, but also to off-road competition models and ATVs. Emission regulations are equivalent to Euro 3 or EPA, while noise regulations use the measurement method stipulated in 78/1015/EC with regulation values specific to Ecuador.

10. 6. Middle-East

The Gulf Cooperation Council (GCC: Saudi Arabia, Bahrain, Qatar, Oman, Kuwait, the UAE and Yemen) decided to introduce a certification system for motorcycles, which came into effect as of July 2014. It is a self-certification system where applications are submitted by model year.

10. 7. Asia

10. 7. 1. Taiwan

The sixth-generation emissions regulations were publicly announced, with Euro 4 equivalent regulations

scheduled to apply to new models from January 2017, and to successor models from January 2018. Fifth-generation fuel economy regulations are scheduled to be introduced as of January 2016. In addition to better regulation values than in the fourth-generation regulations for all models, the next regulations require that the maker overall fuel economy (the value obtained by multiplying the difference between the fuel economy of each individual model and the fifth-generation regulation value by the number of vehicles shipped) be 0 or higher. In addition, new brake regulations, such as making ABS mandatory, are under consideration.

10. 7. 2. Indonesia

In conjunction with amendments to the VIN standard (SNI 09-1411-2000), a revision of the wheel standards (SNI 4658-2008) is being examined.

For trade, marking standards for motorcycle parts and their packaging have been in effect since December 25, 2014.

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

Step 2 noise regulations equivalent to UN R41.03 apply to new model vehicles, but their actual implementation has been delayed.

10. 7. 3. Malaysia

For new vehicles, safety regulations on brakes (UN R78), horns (UN R28), speedometers (UN R39), mirrors (UN R81), and tires (UN R75) have been in effect since January 2012, while those on lamp installation (UN R53), headlamps (UN R112/113), other lighting devices (UN R50), and reflectors (UN R3) have applied since January 1, 2014, and regulations concerning electromagnetic compatibility (UN R10), filament lamps (UN R37), and control/tell-tales (UN R60) came into effect January 1st, 2015.

The strengthening of emissions regulations from the current Euro 2 equivalent to Euro 3 being considered, but no decision has been made.

For noise regulations, UN R41.01 was applied to new model vehicles starting on January 1, 2012. The application of UN R41.03 as the next step is being examined.

10. 7. 4. The Philippines

Examinations and discussions are underway to harmonize ASEAN standards and to apply UN regulations in 2015. The incorporation of safety-related UN regula-

tions 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 apply to new vehicles from September 27, 2015.

10.7.5. India

EMC regulations were revised to the equivalent of UN R10.03 and applied to new model vehicles from October 2013. They will also apply to successor models from October 2015.

Safety regulations concerning the installation of mudguards (AIS 103) and brake hoses (IS 7079) were applied to successor models starting from October 2013. The regulations on controls/tell-tales (AIS 071) were applied from March 2013 for new model vehicles and March 2014 for successor models, and the application of dedicated motorcycle regulations (AIS 126) starting in 2016 is under consideration.

BS 4, the next level of emissions regulations which is based on the Euro 3 regulatory values, is scheduled to apply starting in April 2016. Evaporative emissions regulations will also be applied. The examination of BS 5, equivalent to Euro 4, has also begun.

Although the mandatory installation of ABS is being examined, the scope and period of application for such regulations remains undetermined.

10.7.6. Vietnam

Emissions regulations equivalent to Euro 2 are in ef-

fect. The next step will be to apply regulations equivalent to Euro 3 to all vehicles from January 1, 2017. Fuel economy regulations are currently being examined. The incorporation of noise regulations equivalent to UN R41.03 and safety regulations for horns, tires, and speedometers is under consideration.

10.7.7. Thailand

Speedometer safety regulations (equivalent to UN R39.00) apply to new model vehicles as of January 1, 2015, and will apply to successor models from January 1, 2017. Mirror regulations (equivalent to UN R81.00) will apply to new model vehicles from January 1, 2016, and to successor models from January 1, 2018.

The introduction of seventh-generation Euro 4 equivalent emissions regulations from 2018 is being examined. Noise regulations equivalent to UN R41.03 are in effect.

10.7.8. China

Revisions of the emissions regulations (China IV), noise regulations (equivalent to UN R41.04) and fuel economy regulations are planned, but when they will be applied remains undetermined.

China IV emissions regulations are equivalent to Euro 4, but do not allow the use of a fixed deterioration factor.

10.7.9. Hong Kong and Macao

The same regulations as in Europe are used, and type approval can be obtained with records of certification testing in Europe. Amendments to make emissions regulations equivalent to Euro 4 are under consideration.