



# EU legislation on passenger car type approval and emissions standards

Brussels, 8 December 2016

## Frequently asked questions

### 1. What are defeat devices?

Defeat devices are explicitly prohibited in EU legislation. Member States have a standing obligation to police and enforce the ban. Defeat devices were first banned by Directive [98/69/EC](#) and later by the currently applicable Regulation (EC) No [715/2007](#) which sets the Euro 5 and Euro 6 emissions standards. The Regulation defines a defeat device as "any element of design which senses temperature, vehicle speed, engine speed (RPM), transmission gear, manifold vacuum or any other parameter for the purpose of activating, modulating, delaying or deactivating the operation of any part of the emission control system, that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use". The use of such devices is exempted from the ban when it is necessary for the protection of the engine from severe damage and/or for safety related issues.

### 2. How does the current type approval system work?

Type approval describes the process applied by national authorities to certify that a model of a vehicle meets all EU safety, environmental and conformity of production requirements before authorising it to be placed on the EU market.

The manufacturer makes available about a dozen or more pre-production cars that are equal to the final product. These prototypes are used to test compliance with EU environmental rules, such as noise levels and tailpipe emissions as well as EU safety rules, such as the installation of lights, braking performance, stability control and crash tests with dummies, in addition to various other safety requirements of individual parts, such as seats, head rests, safety belts and steering wheel airbags. If all relevant requirements are met, the national authority delivers an EU vehicle type approval to the manufacturer authorising the sale of the vehicle type in the EU. The system is based on the mutual recognition of approvals granted by Member States (certified once, accepted everywhere in the EU).

Every vehicle produced is then accompanied by a certificate of conformity, which is like the car's birth certificate, in which the manufacturer certifies that the vehicle corresponds to the approved type. On the basis of this document, the vehicle can be registered anywhere in Europe.

### 3. Who checks car manufacturers' compliance?

- **Type approval authorities** (e.g. KBA in Germany, VCA in the United Kingdom, RDW in the Netherlands) are national public authorities in charge of approving vehicle types *before they can be put on the EU market*. The decision to approve a new vehicle type is based on compliance tests that are carried out by testing bodies and laboratories ('technical services') that are specifically designated by the type approval authorities. In some cases the type approval authority has an in-house designated technical service (e.g. VCA in the United Kingdom and RDW in the Netherlands). In some Member States where neither the TAA nor the Technical Services (TS) has their own laboratories, the TAA can decide that the compliance checks are carried out at the vehicle manufacturer's premises, under the control of TAA/TS representatives.
- **Technical services** (e.g. TUV, UTAC, IDIADA, etc.) are the test bodies and laboratories that are specifically designated by the Member States' type approval authorities to carry out the type approval tests in accordance with EU legislation. Most technical services are for-profit organisations and businesses. Most type approval authorities designate such external technical services, but there are also type approval authorities that have them in-house (e.g. VCA in the United Kingdom, RDW in the Netherlands).
- **Market surveillance authorities** are national public authorities in charge of market surveillance. They check that the products *already available on the market* are safe and not harmful to the environment and that products requiring explicit approval before they are allowed on the market, are exactly the same as the samples offered for initial testing and approval. These authorities are usually also in charge of general product safety (e.g. Consumer Rights Protection in Latvia or customs office in Italy).

#### 4. Can the Commission impose penalties if the rules regarding type approval are violated?

Under the current system, only the Member State that has type approved a vehicle can impose penalties for breach of the type approval procedure. The general obligation on Member States to make the penalties effective, proportionate and dissuasive complements the general civil and criminal law of Member States that may be applicable if allegations of fraud are confirmed.

More specifically, Article 30(1) of Directive [2007/46/EC](#) states that if a Member State which has granted an EC type approval finds that new vehicles do not conform to the type it has approved, it should take the necessary measures, including, where necessary, the withdrawal of the type approval, to ensure that the production of vehicles is brought into conformity with the approved type. Article 46 of the same Directive requires Member States to determine the penalties and to take all necessary measures for their implementation. Under Article 13 of Regulation (EC) [715/2007](#) Member States have to set out penalties applicable in case of breaches by manufacturers of the provisions of the said Regulation.

#### 5. Can consumers get compensation if car manufacturers have violated the rules?

The legal assessment of consumer compensation is always a matter for national courts, on a case-by-case basis.

In general, under the Consumer Sales and Guarantees Directive (Directive [1999/44/EC](#)) the seller is liable for any lack of conformity with the sales contract that exists at the time the product was delivered. In the case of a car, if the seller repairs it by ensuring that the emissions are reduced to the correct level, then the overall performance of the car must remain in conformity with the contract. If this is not the case the consumer may ask for a price reduction or to get his/her money back. The Unfair Commercial Practices Directive (Directive [2005/29/EC](#)) stipulates that traders may not provide consumers with misleading information likely to cause them to conclude transaction they would not have concluded otherwise, including in relation to the marketing of cars.

#### 6. What is the Commission doing to strengthen the type-approval system?

On 27 January 2016, the Commission proposed a [Regulation on the approval and market surveillance of motor vehicles](#) to replace the current Framework Directive.

This reform is intended to:

- **Reinforce the independence and quality of testing before a car can be placed on the market:** The majority of Member States designate technical services, which are paid directly by car manufacturers, for the testing and inspection of the vehicle's compliance with EU type approval requirements. The Commission proposes to modify the remuneration system to avoid financial links between technical services and manufacturers, which could lead to conflicts of interest and compromise the independence of testing. The proposal also foresees more stringent performance criteria for these technical services, which should be regularly and independently audited to obtain and maintain their designation. National technical services would be subject to peer reviews to ensure that the relevant rules are implemented and enforced rigorously across the EU.
- **Introduce an effective market surveillance system to control the conformity of cars already on the market:** The current type approval rules put more emphasis on *ex-ante* controls, with market surveillance being regulated in separate EU legislation. In the future, the Commission has proposed that Member States and the Commission would both carry out checks, on vehicles that have been made available on the market, in a coordinated manner, as part of the newly proposed approach for *ex-post* controls. This would make it easier to detect non-compliance at an early stage, and ensures that immediate and robust remedial action is taken against vehicles that are found to be non-compliant and/or to present a serious safety risk or harm to the environment. Furthermore, all Member States would be able to take safeguard measures against non-compliant vehicles on their territory without waiting for the authority that issued the type approval to take action. Member States would also have to review regularly the functioning of their market surveillance activities and make the results publicly available.
- **Reinforce the type approval system with greater European oversight:** In agreement with Member States, the Commission would have the power to suspend, restrict or withdraw the designation of technical services that are underperforming and too lax in applying the rules. In the future the Commission would be able to carry out *ex-post* verification testing (through its laboratories in the Joint Research Centre) and, if needed, initiate recalls. By allowing also the Commission to impose financial penalties, the proposal aims at deterring manufacturers and technical services from allowing non-compliant vehicles onto the market. The Commission would also chair an Enforcement Forum which would develop common compliance verification strategies with Member States.

For more information see the [press release](#) and the [frequently asked questions](#) about the proposal.

## **7. What has been done to tighten NOx emissions limits of diesel vehicles and improve the testing?**

The Commission has significantly tightened the actual nitrogen oxide (NOx) emissions limits for diesel vehicles (from 500 mg/km in 2000 to 80 mg/km in 2014) and introduced more robust and realistic testing methods for measuring whether cars respect those NOx emissions limits on the road.

Currently, a diesel car is only required to pass a laboratory test to measure its air pollution emissions. But these emissions are on average 400% higher (sometimes more!) if measured in real driving conditions.

To correct the shortcoming, the Commission proposed, already before the revelations of the Volkswagen case, to measure emissions in real driving conditions. The RDE test procedure (RDE Act 1) was voted positively by the Member States in the Technical Committee of Motor Vehicles (TCMV) in May 2015 and entered into force in 2016 ([OJ L 82, 31.3.2016](#)). In the RDE procedure, pollutant emissions will be measured by portable emission measuring systems (PEMS) that will be attached to the car while driving in real conditions on the road. This means that the car will be driven on outside public roads according to random variations of parameters such as acceleration, deceleration, ambient temperature, payloads, etc. As the driving conditions are real-time and unpredictable, this will allow to further tighten the screws as the tests will much better reflect actual emissions in real driving conditions and to a great extent limit the risk of cheating with a defeat device.

## **8. Will the RDE testing be mandatory?**

In the initial phase which started in early 2016, the RDE testing is only done for monitoring purposes, without an impact on the actual type approval which will continue to be delivered on the basis of the laboratory measurements.

From 1 September 2017, the new RDE tests will be compulsory to determine whether a new car model is allowed to be put on the market. This follows the RDE Act 2, which was necessary for the RDE tests to have an actual impact on type approvals issued by national authorities.

As the portable emissions measurement technology improves, we continue tightening the screws. For manufacturers, this means they need to anticipate and already start designing vehicles for full compliance with the legal emissions limit when measured in real driving conditions.

## **9. How will RDE tests be further strengthened?**

To continue tightening NOx emissions from next vehicle generation, the Commission has recently proposed a new regulatory act – RDE Act 3 which will further tighten and fine-tune the testing provisions. The proposal is scheduled to be presented and voted at the meeting of the Technical Committee of Motor Vehicles on 20 December 2016.

The Commission proposes to extend RDE testing to cover particle number (PN) emissions. Emission of particles used to be an issue linked only to diesel engines, clearly visible in the soot of diesel exhaust fumes. Emitted particles have however become smaller and smaller and 'invisible' to the eye. Such small but still cancerous particles equally exist for common diesel cars as well as for petrol cars with direct injection technology. Although the Commission does not prescribe the technology to be used by car manufacturers to meet the limits, in practice, petrol direct injection vehicles which would not be able to reach the particle limits in real driving tests will have to introduce Gasoline Particle Filters (GPF). GPF is a very effective means of limiting particles, very similar to the Diesel Particle Filters, which were already introduced on modern diesel vehicles.

Under RDE Act 3, the Commission will also fine-tune the testing methods to take into account that short city trips starting with a cold engine generate the most city pollution.

It also plans to mandate that the real-world emission performance of a car is clearly stated by the manufacturer in the certificate of conformity of each vehicle, i.e. that it is transparent and available for all citizens.

Moreover, the Commission plans to include further provisions on checks for cars already in circulation as well as on strengthening the independence of testing in the RDE Act 4 proposal that should follow in 2017.

## **10. What about CO2 emissions testing?**

The Commission has also introduced a new, more realistic, test procedure for measuring CO2 emissions and fuel consumption of cars and vans, by introducing the new World Harmonised Light Vehicle Test Procedure (WLTP). The WLTP is a globally harmonised test procedure developed within the United Nations Economic Commission for Europe (UNECE) with the support of the EU Commission.

The current old laboratory test procedure, still called the New European Drive Cycle (NEDC), no longer reflects today's driving conditions or vehicle technologies. It has also become evident that flexibilities in the NEDC type approval procedure are exploited to artificially reduce the CO2 emissions during the test even more. These are the two most important causes for the increasing divergence seen today between real world and laboratory emission values.

On 14 June 2016, the Technical Committee of Motor Vehicles voted in favour of the Commission's draft proposal to make the new WLTP test mandatory for all new vehicle types from September 2017 and for all new vehicles from September 2018. The WLTP will provide stricter test conditions and more realistic CO2/fuel consumption values to the benefit of consumers and regulators both at EU and national levels. It will be a strong incentive for the deployment of low-carbon mobility technologies.

The future CO2 emission standards can now be defined on the basis of the WLTP, with the expectation that the new test procedure will offer a more robust basis for defining the reductions expected and for ensuring that they will actually be delivered.

## **11. What else is the Commission doing to improve Air Quality?**

EU rules do not only limit emissions by cars but also establish objectives for air quality which are constantly monitored and enforced. The Commission adopted a [Clean Air Policy Package](#) in December 2013, consisting of:

- new air quality objectives for the period up to 2030;
- a revised National Emission Ceilings Directive with stricter national emission ceilings for the six main pollutants (Sulphur dioxide (SO<sub>2</sub>), NO<sub>x</sub>, non-methane Volatile Organic Compounds VOCs, NH<sub>3</sub>, Particulate Matter (PM<sub>2.5</sub>) and methane (CH<sub>4</sub>);
- a proposal for a new Directive to reduce pollution from medium-sized combustion installations.

The local air quality limits which may not be exceeded are set under the Ambient Air Quality Directives.

The Directives address three main pollutants, particulate matter (PM<sub>10</sub>) originating from emissions from industry, traffic and domestic heating, sulphur dioxide (SO<sub>2</sub>) and nitrogen dioxide (NO<sub>2</sub>). Infringement procedures in this area are about the exceedances of the limit values which are measured at the monitoring stations in each Member State and appropriate measures to comply with these limit values. Member States are required to adopt and implement air quality plans that set appropriate measures so that the exceedance period of these harmful pollutants can be kept as short as possible.

On 30 June 2016, the European Parliament and the Council reached a provisional first reading agreement on the proposed revision of the National Emission Ceilings Directive. The agreement reached will cut the annual 400.000 premature deaths caused by air pollution in the EU by about half by 2030.

The final agreement sets stricter emission reduction commitments for the periods from 2020 to 2029, and from 2030 onwards for five important pollutants: sulphur dioxide, nitrogen oxide, volatile organic compounds, fine particles, and ammonia. Contrary to the Commission's original proposal, methane has not been maintained in the final agreement.

The agreement will increase the involvement of local and regional authorities in designing and implementing national air pollution policy, thus enabling citizens to have a say on an issue as important for their health as air pollution.

The revised NEC Directive will also reinforce the role of Member States in ensuring that EU emission control legislation delivers the intended emission reductions by active monitoring and reporting of any discrepancies between real-world emissions and test emissions to avoid future cases where real emissions overshoot many times the legal requirements. The Commission will work to support all Member States on solid implementation, also involving the local and regional authorities, to deliver on the benefits from today until 2030.

Air quality is also one of the objectives of the [Clean Power for Transport Package](#), adopted in 2013, which promotes the market of alternative-fuel vehicles in order to reduce transport's oil dependence and, at the same time, transport's environmental impact. This package includes the directive 2014/94/EU which mandates Member States to deploy infrastructures for alternative-fuel vehicles, such as electric vehicles recharging points and natural gas and hydrogen refuelling stations. Additionally, the European Commission adopted the [Urban Mobility Package](#) in 2013 which encourages cities to set up Sustainable Urban Mobility Plans, particularly to reduce traffic congestion and improve the air quality in urban areas.

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