

Vehicle Type-Approval and Emission Regulation in the EU: Environmental Perspective

Jiří Vodička



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Jiří Vodička

Department of Environmental Law and Land Law
Faculty of Law, Masaryk University



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Reviewed by:

Dr. iur Rita Simon LL.M, B.A., Institute of State and Law, Czech Academy of Sciences

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© 2024 Text by Jiří Vodička

© Cover design by Pavel Křepela

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ISBN 978-80-280-0592-4

ISBN 978-80-280-0512-2 (online ; pdf)

DOI <https://doi.org/10.5817/CZ.MUNI.M280-0512-2024>

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ABBREVIATIONS

<u>AES</u>	Auxiliary Emission Strategy
<u>AG</u>	Advocate General
<u>AQD</u>	Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe.
<u>BEV</u>	Battery Electric Vehicle
<u>Commission</u>	the European Commission
<u>Commission Regulation No 692/2008</u>	Commission Regulation (EC) No 692/2008 of 18 July 2008 implementing and amending Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information
<u>Commission Regulation 2017/1151</u>	Commission Regulation (EU) 2017/1151 of 1 June 2017 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Commission Regulation (EC) No 692/2008
<u>CJEU</u>	The Court of Justice of the EU
<u>DG</u>	Directorate General
<u>Directive 2007/46</u>	Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles

<u>Directive 2014/94/EU</u>	Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure
<u>FCV</u>	Fuel Cell Vehicle
<u>ICE</u>	Internal Combustion Engine
<u>NEDC</u>	New European Driving Cycle
<u>OBD</u>	On-board Diagnostic System
<u>PEMS</u>	Portable Emissions Measurement System
<u>RDE</u>	Real Driving Emissions
<u>Regulation No 715/2007</u>	Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information
<u>Regulation 2018/858</u>	Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC
<u>Regulation 2019/631</u>	Regulation (EU) 2019/631 of the European Parliament and of the Council of 17 April 2019 setting CO ₂ emission performance standards for new passenger cars and for new light commercial vehicles, and repealing Regulations (EC) No 443/2009 and (EU) No 510/2011
<u>TEU</u>	Treaty on the European Union
<u>TFEU</u>	Treaty on Functioning of the European Union
<u>UNECE Agreement</u>	Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the basis of these United Nations Regulations
<u>WLTP</u>	Worldwide Harmonized Light Vehicles Test Procedure

EXECUTIVE SUMMARY

The automotive industry represents approximately 7% of the EU's GDP and employs, directly and indirectly, about 13.8 million people.¹ Vehicles are an essential aspect of today's society, allowing for easy migration within and across Member States. However, the impact of vehicles on human health, safety, and the environment cannot be overlooked. Additionally, the issue of manufacturers' emission cheating, exemplified by the Dieselpgate scandal, has significantly influenced the current vehicle legislation.

This publication aims to find out whether there is a connection between type-approval and environmental protection. The objective is fulfilled through the introduction and critical analysis of two seemingly distinct issues: vehicle type-approval and vehicle emissions regulations in the EU. These issues are intertwined as they form the framework for vehicle type-approval. This connection is demonstrated through an analysis of specific legal instruments that can protect the environment, such as *defeat device* and *safeguard clauses*.

The publication is divided into several chapters, each addressing a different topic.

The first chapter introduces the type-approval procedure, which allows vehicles to enter the Internal Market according to Regulation 2018/858. This regulation defines specific types of type-approval procedures based on the number of vehicles manufactured in series. Furthermore, it sets specific obligations for economic operators, including manufacturers, importers, and distributors. The Regulation prohibits the use of software or devices that alter or can alter the behaviour of a vehicle during the type-approval procedure (commonly known as a *defeat device*²).

Simultaneously, the Regulation recognises situations where vehicles may *pose a serious risk* or *be non-compliant* with the regulation. However, it does not define the term "serious risk". This publication interprets "serious risk" to include significant threats or potential harm to human health, the environment, and other public interests

The chapter also addresses problems and issues related to public authorities and other public entities, particularly the Commission, Member States, approval authorities, market surveillance authorities, and technical services. The most significant highlighted problems include disunity in the enforcement of type-approval rules (and potential reluctance to sanction the automotive sector), a missed opportunity to establish an EU type-approval agency, and potential issues with the independence of technical services. Conversely, the Commission has gained new powers to conduct type-approval procedure checks and to sanction manufacturers with non-compliant vehicles.

¹ For further information, see https://ec.europa.eu/growth/sectors/automotive_en

² The core issue in the Dieselpgate scandal.

The chapter introduces specific conditions (the so-called *safeguard clauses*) under which Member States can withdraw the *approval certificate*. Another discussed issue is the *on-board diagnostic system* (OBD), which might play a vital role in the future as manufacturers must provide independent repair shops access to the OBD. Furthermore, the OBD might be used to measure vehicle emissions, as practiced in China and the US.

The rest of the chapter analyses sanctioning provisions and the ongoing Commission infringement cases relating to type-approval and the Dieseltgate scandal.

An integral part of the type-approval procedure is emission compliance with the regulatory acts set out in Annex II of Regulation 2018/858. The most significant regulatory act is Regulation No 715/2007 (Euro 5 and 6 emission standards) and subsequent Commission Regulations No 692/2008 and 2017/1151.

The emission chapter introduces specific provisions in Regulation No 715/2007. The key provision prohibits the use of *defeat devices*. However, this general prohibition is breached by several exceptions, some of which are analysed further in the text. The regulation establishes a general framework for specific type-approval procedures connected to emission testing. It also introduces limit values for air pollutants from combustion engines such as CO, NO_x, PM, PN, NMHC, THC, and THC + NO_x. The regulation is further implemented through the Commission regulatory procedure. Based on this procedure, the Commission adopted Commission Regulation No 692/2008 and Commission Regulation 2017/1151 (which amends and repeals the previous regulation).

On the whole, the Commission regulations further define specific terms and new requirements designed to prevent emission cheating. These requirements mandate that applicants disclose, *ex ante*, whether their vehicles contain strategies that could alter the behaviour of the cars during the type-approval procedure. Furthermore, the regulations define new and stricter requirements for the Euro 6 emission standards and new test cycles. The change in test cycles represents a significant shift in the whole type-approval framework, as the new test cycle (WLTP) is still a laboratory test cycle but has more rigorous testing conditions compared to the previous NEDC cycle. The RDE test accompanies the WLTP test cycle. The RDE test uses a portable emission measuring system (PEMS) that is mounted on the vehicle to measure emissions during the real-world driving conditions.

The chapter briefly introduces the Euro 7 emission standards under Regulation 2024/1257. The adoption process has been problematic due to extensive campaigns by the industry stakeholders against the stricter limit values. However, to date, every argument against the new Euro 7 has been debunked by scientists and NGOs. Despite this, the Commission's proposal has disregarded most of the qualified comments, and the final text of the Regulation does not achieve the high level of environmental protection it could have. This is especially evident in the emission limits for gaseous pollutants (tailpipe emissions), which have remained at the same level as in the Euro 6 emission

standards. On the other hand, the new Euro 7 emission standard introduced an emission type-approval (in addition to the standard type-approval procedure), extended the period during which vehicles must meet in-service conformity checks, and introduced limits for PM₁₀ particles from vehicle braking and tyre abrasion.

The second part of the chapter introduces and discusses CO₂ regulations for new vehicles (Regulation 2019/631). The regulation adoption process (and subsequent amending acts) was controversial, and even today, the public opinion remains ambiguous on this topic. The most significant issue presented in this publication is the establishment of various emission targets that manufacturers must adhere to, including the infamous target of *95 g/km of CO₂*. However, these targets are often misunderstood. The 95 g/km target applies to the entire EU as an average; it does not mean that all manufacturers are prohibited from exceeding this target.

On the contrary, each manufacturer has an individually calculated specific emission target that can be higher or lower than 95 g/km of CO₂. It is also worth noting the issue of the sequential phase-out of combustion engines, with the target of 100% sales of zero-emission cars being introduced in 2035. The manufacturers can lower their emission targets using specific legal instruments such as pooling, super-credits, or eco-innovations.

The final issue addressed in the publication is the CJEU case law regarding the type-approval and emission regulations. Several court decisions and an Opinion of the Advocate General are analysed. Highlighted cases include the decision in T-339/16, the subsequent Opinion of the Advocate General in case C-177/19 P, and the CJEU decision in C-177/19 P. In T-339/16, the General Court admitted actions of municipalities under Article 263 TFEU. The Court interpreted relevant provisions in Directive 2007/46 (succeeded by Regulation 2018/858) and concluded that the criteria for admissibility were fulfilled. The Advocate General disagreed with the Court's interpretation but allowed the admissibility on different grounds. The Advocate General did not interpret the relevant provisions but provided a different interpretation of admissibility criteria under Article 263 TFEU. The Advocate General argued that the CJEU should broaden the criteria for admissibility. However, in the final ruling, the CJEU dismissed the actions on the grounds of inadmissibility under Section 4 of Article 263 TFEU.

In this case, the General Court's interpretation was more convincing, even though the Advocate General (AG) was generally right about broadening the admissibility criteria. Nevertheless, the AG and the General Court fully agreed on the remainder, particularly on the interpretation of the essential elements of Regulation No 715/2007 and on the fact that the Commission exceeded its powers. On the other hand, the CJEU resorted to a conservative interpretation of Directive 2007/46 provisions, which was unfortunately detrimental to the environment and citizens' health.

Decision C-693/18 concerned a preliminary ruling and is noteworthy for several reasons. Firstly, the CJEU provided a binding interpretation of the provisions on using defeat devices and whether the software used to alter vehicle emissions' behaviour can be regarded as such. The CJEU's interpretation was not surprising, as the relevant terms are straightforward and do not require a complex legal consideration. In this case, the CJEU and the AG mainly employed the common language and a teleological interpretation.

The other two decisions in the emission case law of the Tribunal (T-751/18 and T-359/19) concerned CO₂ regulation and approved eco-innovations. The main point is that the Commission must accept the results of independent laboratory bodies whose testing procedures can be verified and have a clear methodology.

The last case (C-873/19) concerned the judicial protection of environmental associations to enable them to bring an action to challenge EC type-approval certificates of vehicles equipped with defeat devices. The Court stated that Article 5(2) of Regulation No 715/2007 is to be interpreted as an environmental law provision. This interpretation could affect other pieces of EU legislation, such as Article 191 TFEU, Regulation 2018/858, and Euro 7 regulation.

This interpretation is not to be underestimated because it shows a gradual shift in the Court's interpretation of Regulation No 715/2007. Until the cases C-120/20, C-134/20, and C-145/20, the Court only inferred the environmental interpretation of the provision on the use of defeat devices from the previous cases and not directly from Article 5.

The conclusion is that the current type-approval legislation, consisting of Regulation 2018/858 and regulatory acts (namely Regulation No 715/2007, the Commission acts and subsequent Regulation 2024/1257), provides a basic framework for environmental protection. However, the connection to protecting the environment is not as straightforward as it might seem because the principal reason for adopting the legislation was the harmonisation and unification of type-approval procedures by the EU (and by the signatories of the 1958 Agreement).

The recent case law of the CJEU has shown that specific provisions (such as the use of *defeat devices*) are to be interpreted as provisions of environmental law, even though this was not their primary objective. A stronger connection to environmental protection can be found in Regulation 2019/631, as this regulation directly aims at CO₂ reductions, which should help mitigate the climate change.

INTRODUCTION

In this day and age, vehicles are often viewed as ordinary consumer goods. However, like all consumer products, they typically must be tested or type-approved to be sold on the Internal Market (or national markets). This means that vehicles, which are incredibly complex machines, must be type-approved before entering the Internal Market.

The type-approval process is a complex, highly technical, and crucial procedure for the automotive industry. Its legal foundations can be found in the EU and international law. The type-approval legislation is harmonised within the EU Internal Market through Regulation 2018/858³ (and the previous Directive 2007/46⁴) and worldwide through the UNECE Agreement⁵ and subsequent agreements. Harmonisation and unification of this legislation are significant for several reasons. The primary reason, which was the original motive for harmonisation, is an economic one: the unified product rules allow goods to be freely sold in the states that are part of the unification rules. This means that a manufacturer needs to produce only one version of a product which can be sold in different states (and on different continents).

Other reasons for harmonising technical standards include ensuring high safety standards for new vehicles and protecting the environment and human health. This means that vehicles must comply with comprehensive and rigorous legislation to enter the market. This publication will not discuss the UNECE Agreement and its revisions, but it will focus solely on the EU legislation. However, these pieces of legislation are to a large extent intertwined because the EU legislation implements the UNECE Agreement in some parts and in other parts it refers to specific regulations of the UNECE Agreement.

The publication aims to provide a basic legal framework and an introduction to the vehicle type-approval topic. The discussed and analysed legal instruments and provisions should offer the reader a basic understanding of the legal framework without going into unnecessary details.

³ Regulation (EU) 2018/858 of the European Parliament and of the Council of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC. OJ L 151, 14 June 2018, pp. 1–218.

⁴ Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (Framework Directive). OJ L 263, 9 October 2007, pp. 1–160.

⁵ Agreement concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations (Revision 3).

This publication draws attention to Regulation 2018/858, which can be described as the cornerstone of the type-approval legislation significantly influencing the automotive industry. Another reason for introducing this legislation is to highlight its applicability from September 1, 2020. Unfortunately, this date was overshadowed by the COVID-19 pandemic. Given the automotive industry importance to the EU economy, the impact of the Dieseldgate scandal and emission cheating cannot be ignored. Therefore, this publication will examine all provisions in the current EU type-approval legislation designed to prevent future emission cheating.

The publication aims to determine whether there is a connection between environmental protection and type-approval (with the Euro emission standards). This is achieved by analysing specific legal instruments such as *defeat devices*, *non-compliant vehicles*, and *vehicles posing a serious risk*.

The publication introduces and critically analyses the key provisions stipulated in Regulation 2018/858. It also examines the Euro emission standards [Regulation No 715/2007 and subsequent Commission Regulations and briefly Regulation 2024/1257 (Euro 7)] and CO₂ emissions regulation (Regulation 2019/631).

Structure

The publication analyses Regulation 2018/858. The analysis begins by introducing the type-approval procedure and its various types. Another discussed topic is the legal status and obligations during the type-approval procedure of economic entities (the manufacturer, importer, and distributor). A short subchapter examines the obligations of economic entities when the vehicle *poses a serious risk* or is *non-compliant*. This subchapter is essential because it lists the individual obligations of each economic entity when the vehicle presents a problem.

Another discussed issue deals with the obligations and rights of authorities and other public entities (the Commission, the Member States, the approval authority, the market surveillance authority, and technical services). A discussion about these rights and obligations is much needed because there is a lack of general knowledge about these issues in the public. *Safeguard clauses*, which are closely connected to *vehicle non-compliance* and situations where the vehicle *poses a serious risk*, are also analysed. These clauses set a procedure for official authorities to follow in such situations.

Another examined instrument is the *on-board diagnostic system* (OBD). The OBD is analysed for its vital role in opening the market to independent vehicle repair shops and its possible future utilization. The last critically analysed topic in Regulation 2018/858 is sanctions. However, while the regulation lists specific infringements, it does not define specific sanctions. These instruments play a significant role in EU law, therefore their analysis is needed. The chapter concludes by introducing several infringement cases related to the type-approval procedure.

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