

EU Emissions Compliance Regulation Gaining Traction

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Historically, the emissions standards for mobile sources promulgated by the U.S. Environmental Protection Agency (EPA) have been viewed as more ambitious than European Union (EU) standards. The United States' stringent enforcement of mobile source emission standards may result in significant financial penalties; extensive injunctive relief, such as recalls and high-cost mitigation projects; corporate compliance requirements; and in some cases, criminal indictment.

On the other side of the Atlantic, in the EU, mobile emissions compliance regulations are becoming more robust. In particular, the EU appears to be adopting a stricter approach on emissions through a growing body of case law on the interpretation and application of existing emissions compliance regulations. In a judgment on 17 December 2020, in [CLCV and Others](#), the Court of Justice of the European Union (Court) adopted a potentially broad interpretation on the definition of defeat devices and appeared to limit the scope of exceptions for their use in vehicles sold, registered, or put into service in the EU.¹ This judgment is likely to set the benchmark for other proceedings on the admissibility of defeat devices in the EU.

Notably, there are at least *six cases* pending before the Court on mobile source emissions and the concept of defeat devices for light-duty passenger and commercial vehicles under Regulation (EC) No 715/2007 (Regulation).²

Legal Issues Raised in Pending Cases

The pending cases before the Court arise from civil proceedings before national courts in Germany and Austria (Referring Courts). Under EU law, if national courts of EU member states doubt the interpretation or validity of EU law, they can refer a question for a preliminary ruling to the Court.³ The Referring Courts in each of the pending cases have requested a preliminary ruling on the interpretation of provisions on defeat devices under the Regulation.

Below are four key issues at stake in these cases that original equipment manufacturers (OEMs) should closely monitor.

1. Interpretation of the concept of “defeat device”

A “defeat device” is defined 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*.”⁴ This definition highlights three key concepts: (1) element of design; (2) emission control system; and (3) normal use. None of these concepts is defined in the Regulation, which leaves them open for judicial interpretation.

(a) *Element of design*

In *one* case, the Referring Court is faced with determining whether a “thermal window” is a defeat device and whether it is generally compatible with the Regulation. To recall, a thermal (or temperature) window refers to a temperature-dependent emission strategy that modulates a vehicle’s emission control system when the temperature outside the vehicle is outside a certain range. This ensures that the vehicle is in low-emission mode in certain weather conditions. The Referring Court has asked the Court whether the concept of “element of design” covers *only* the mechanical elements of a physical structure affecting the operation of an emission control system.

A similar issue was addressed in *CLCV and Others*, where the Court held that the concept of “element of design” is broad enough to cover mechanical parts as well as electronic elements controlling their operation, as both features affect the operation of the emission control system and are capable of reducing its efficiency.⁵

(b) *Emission control system*

In *one* case, the Referring Court is seeking clarification of the concept of emission control system — in particular, whether emission control system covers *only* the exhaust gas purification system outside and downstream of the engine or also the exhaust gas recirculation (EGR) measures inside the engine. A similar issue was addressed in *CLCV and Others*, where the Court held that the concept of “emission control system” covers both upstream technologies, which seek to limit the emissions produced in the engine, and downstream technologies, which reduce emissions after these have been produced.⁶

(c) *Normal use*

As outlined above, defeat devices aim to reduce the effectiveness of the emission control system under conditions that can be encountered during “*normal use*” of a vehicle.⁷ OEMs are required to equip vehicles so that “components that are likely to affect emissions” are designed so as to enable the vehicle to comply with the Regulation in “*normal use*.”⁸

In *one* case, the Referring Court has asked whether the concept of normal use describes the driving conditions in (1) everyday life; (2) the test procedure in the New European Driving Cycle (NEDC); or (3) everyday life, *taking into account* the parameters on which the NEDC cycle is based. The Referring Court also seeks to clarify whether OEMs should ensure that the limits laid down in Annex I of the Regulation are also complied with in everyday use. Up to now, there is no case law specifically addressing the concept of normal use.

2. Permissibility of thermal windows

Questions on the permissibility of thermal windows have been raised in at least *four* cases. In *three* of these cases, the issue relates to a software update carried out on vehicles following the 2015 EU diesel emissions scandal. With the update, the OEM installed a thermal window, which allows vehicles to

switch off their emissions control system in outside temperatures below 15 degrees and above 33 degrees Celsius and at altitudes in excess of 1,000 meters above sea level.

This raises compliance questions because in countries such as Austria and Germany, the prevailing temperatures during the year may frequently fall below 15 degrees Celsius, and, due to their geographical location, vehicles frequently travel in areas at an altitude of over 1,000 meters. In such markets, the conditions under which efficiency of the emissions control system of these vehicles is reduced might be considered to correspond to normal vehicle operation and use.

In *one* case, the issue relates to a thermal window that ensures a low-emission mode only between 20 and 30 degrees Celsius and is gradually reduced outside that temperature window. From an OEM's perspective, thermal windows prevent sooting on the (EGR) valve in low ambient temperatures, which could affect the safe operation of the vehicle. This can be achieved by reducing the efficiency of emission control systems.

Accordingly, the Referring Courts in *three* of the pending cases have asked whether Article 5(1) of the Regulation should be interpreted to mean that the equipment of a vehicle with an EGR valve that is designed in such a way that the valve ensures a low emission mode only between specific temperature ranges is admissible.

3. Exceptions/ justification for use of defeat devices

Defeat devices are prohibited in the EU except when (1) the need for the device is justified in terms of protecting the engine against damage or accident and for safe operation of the vehicle ("the engine protection exception"); (2) the device does not function beyond the requirements of engine starting; or (3) the conditions are substantially included in the test procedures for verifying evaporative emissions and average tailpipe emissions.⁹ OEMs widely relied on the engine protection exception as justification for the use of defeat devices. As such, in *five* of the pending cases, the Referring Courts have requested clarifications of two key concepts related to that exception.

(a) The concept of "justified"

The Regulation does not define the criteria to determine whether the "need" for a defeat device is "justified." In *three* of the pending cases, the Referring Courts have asked the Court whether and to what extent different considerations influence the interpretation of the concept of "justified."

Specifically, should the need for a defeat device be determined on a specific-individual basis or in an abstract-normative manner? In the case of the thermal windows, should these technologies be justified where their specific use results in the continuous reduction of exhaust gas purification for the better part of the year, in view of the prevailing temperatures in some countries? Should the implications for markets and manufacturers' competitiveness, as well as the direct and indirect costs imposed on business, be considered?

(b) The concept of "damage"

In two of the pending cases, the Referring Courts have asked the Court to clarify whether the concept of damage covers protection from "all damage" to the engine including damage to components such as the EGR valve, EGR cooler, and diesel particle filter. This is closely tied to the argument that a thermal

window is necessary to protect the EGR valve from damage (sooting).

In CLCV and Others, the Court explained that the engine protection exception should be limited to cases where immediate risks of damage give rise to a specific hazard when the vehicle is driven.¹⁰ In the Court's view, aging or clogging up of an engine cannot be considered "damage" (or an accident).¹¹

4. Effects of infringement of EU emissions law and consumer rights

Noting that most of these cases relate to civil proceedings on tort or contract law, the Referring Courts have also asked the Court to interpret the effect of infringement of EU emissions law and the remedies available to consumers at the national level. Examples include (1) whether knowledge of the existence of a defeat device in a vehicle and its effects at the time of purchasing affects the consumer's right to rescind a contract for the sale of a vehicle and (2) whether the nature of the provisions on emissions compliance is such that they offer individual protection to consumers.

U.S. Regulation of Defeat Device Ban

The EPA's regulation and enforcement of mobile source emissions standards, including the defeat device prohibition, appear to be more mature and comprehensive than the EU's. Specifically, the United States has developed regulatory definitions, an active enforcement docket, and agency guidance, which generally define the EPA's authority and expectations. For instance, while the U.S. and EU's defeat device prohibition and underlying defeat device definition are virtually identical, the United States has defined or interpreted key concepts of the definition, including element of design and emission control system.

"Element of design" has long been defined under the United States mobile source regulatory framework. Title 40 of the Code of Federal Regulations (C.F.R.) broadly defines "element of design" as more expansive than hardware or the mechanical elements of a physical structure. Per 40 C.F.R. § 86.1803-01, element of design "means any control system (i.e., computer software, electronic control system, emission control system, computer logic), and/or control system calibrations, and/or the results of systems interaction, and/or hardware items on a motor vehicle or motor vehicle engine." Accordingly, an electronic control unit software calibration that senses inputs and directs the emission control system falls within the scope of an auxiliary emission control device.

In defining "emission control system," the EPA adopted a similar broad approach. Under EPA regulations, an emission control system is "a unique group of emission control devices, auxiliary emission control devices, engine modifications and strategies, and other elements of design designated by the Administrator used to control exhaust emissions of a vehicle." 40 C.F.R. § 86.1803-01.

EPA's publication of numerous guidance documents, issuance of enforcement actions, and judicial settlements with defendant manufacturers further shed light on the agency's expectation, interpretation, and use of key concepts relevant to the regulation of mobile source emissions.

Potential Risks to OEMs and Suppliers

Depending on how the pending cases before the Court and the Referring Courts are resolved, OEMs may face the risk of heightened emissions enforcement in the light-duty market. Although the highlighted cases relate to light-duty passenger and commercial vehicles, the Court's findings could serve as

relevant context in the interpretation of “defeat strategies” for heavy-duty regulations, such as Regulation (EC) No 595/2009.¹²

From a legal and policy perspective, these emerging Court decisions appear problematic and worthy of further discussion among stakeholders. OEMs and automotive suppliers serve numerous markets across the globe, with critical markets in Asia, the EU, and the United States. Greater harmonization toward homologation and emissions certification would provide certainty for the automotive sector while assuring the public across the global of a level-playing field for purposes of environmental protection and competition. Unfortunately, the Court decisions may serve to further fragment the regulatory structure governing vehicle and engine emissions, at least with respect to the light-duty and heavy-duty segments. In contrast, (for now) the nonroad or off-road engine and vehicle sector has been largely harmonized, at least in the United States and EU. Further movement toward a single global standard for each segment of the transportation sector — or at least one more closely aligned — is even more important with the emergence of new technologies such as electric vehicles where standardization may facilitate innovation.

¹ Judgment of 17 December 2020, CLCV and Others (*Dispositif d’invalidation sur moteur diesel*), C-693/18, [EU:C:2020:1040](#). (C-693/18)

² Regulation (EC) No 715/2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, [OJ L 171, 29.6.2007](#), p. 1.

³ Article 267 (1) of the Treaty Establishing the European Union (TFEU).

⁴ Article 3(10) of Regulation 715/2007.

⁵ See C-693/18, paragraphs 59-68.

⁶ See C-693/18, paragraphs 69-90.

⁷ See C-693/18, paragraphs 91-102.

⁸ Article 5(1) of Regulation 715/2007.

⁹ Article 5(2)(a) (b) and (c) of Regulation (EC) No. 715/2007.

¹⁰ See also paragraph 146 of the Opinion of Advocate General Eleanor Sharpston delivered on 30 April, 2020, *CLCV and Others (Dispositif d’invalidation sur moteur diesel)*, C-693/18, [ECLI:EU:C:2020:323](#). (AG’s Opinion).

¹¹ See C-693/18, paragraph 113.

¹² Regulation (EC) No 595/2009 on type approval of motor vehicles and engines with respect to emissions from heavy-duty vehicles (Euro VI) and on access to vehicle repair and maintenance information and amending Regulation (EC) No 715/2007 and Directive 2007/46/EC and repealing Directives 80/1269/EEC, 2005/55/EC and 2005/78/EC, [OJ L 188, 18.7.2009](#), p. 1.

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