

# Review of the Federal Motor Carrier Safety Regulations for Automated Commercial Vehicles

Preliminary Assessment of Interpretation and Enforcement Challenges, Questions, and Gaps



**Summary Report — March 2018**

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U.S. Department of Transportation  
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**Volpe**

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# List of Abbreviations

Abbreviation	Term
AV	Automated Vehicle
CDL	Commercial Driver's License
CFR	Code of Federal Regulations
CMV	Commercial Motor Vehicle
FMCSA	Federal Motor Carrier Safety Administration
FMCSR	Federal Motor Carrier Safety Regulations
GVWR	Gross Vehicle Weight Rating
HAV	Highly Automated Vehicle
ITS JPO	Intelligent Transportation Systems Joint Program Office
MCSAP	Motor Carrier Safety Assistance Program
NHTSA	National Highway Traffic Safety Administration
ODD	Operational Design Domain
OEDR	Object and Event Detection and Response
SAE	Society of Automotive Engineers
U.S. DOT	United States Department of Transportation
V2V	Vehicle-to-Vehicle
Volpe	Volpe National Transportation Systems Center

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# Executive Summary

Commercial motor vehicles (CMVs) represent a likely application for automated vehicle technology and recent industry developments demonstrate an interest in accelerating its deployment. Yet, like all conventional commercial vehicles in the United States, automated commercial vehicles operating in interstate commerce must conform to the Federal Motor Carrier Safety Regulations (FMCSRs). The FMCSRs were drafted without consideration for the possibility that they might one day apply to commercial vehicles that are either partially or entirely driven without input from a human driver, or even without a human driver onboard. As a result, existing requirements in the current FMCSRs may present challenges for motor carriers looking to operate automated CMVs and enforcement personnel looking to apply the FMCSRs to automated CMVs. Both groups will require clarity on the extent to which automated CMVs are compatible with the existing regulations as developers look to test and eventually deploy this technology on public roads.

To understand the extent to which the FMCSRs might pose compliance and enforcement challenges for automated CMVs, the Volpe National Transportation Systems Center (Volpe) conducted a comprehensive review of these regulations. Its review focused on a series of automated CMV operating concepts representing a range of plausible applications of automation to commercial vehicle operations. These hypothetical concepts ranged from near-term driver-assistance features to highly automated CMVs that do not require direct driver input. The latter included concepts that require an onboard technician who is responsible only for non-driving tasks (e.g., cargo securement and inspection) as well as concepts envisioned with no human operator onboard, but are instead supervised from a remote location. Their inclusion in this analysis does not suggest that they are likely, or even possible, under the current regulatory environment, but rather that they are worth considering as part of a future scenario, however far-reaching, for the development of automated CMVs.

In general, Volpe found that several broad potential challenges exist for all of the automated CMV operating concepts considered, including near-term driver assistance features. These potential challenges include:

- Restrictions on the use of additional equipment or accessories that decreases the safety of operation of a commercial motor vehicle in interstate commerce (part 393);
- Restrictions on the operation of a commercial motor vehicle in interstate commerce in such a condition as to likely cause an accident (part 396); and
- Requirements for the driver of a CMV be restrained by a seat belt if the CMV is equipped with a seat belt assembly at the driver's seat (part 392).

However, many of the issues identified for such near-term systems could potentially be clarified through regulatory interpretations. Operating concepts that do not require active human driver involvement, including concepts with onboard (non-driving) technicians or driverless concepts that are supervised remotely, will likely face more significant challenges, including:

- Applying existing training, licensing, and operating requirements (e.g., hours of service) to an onboard (non-driving) technician or a remote supervisor;
- Applying knowledge requirements, physical fitness qualifications, alcohol and controlled substance restrictions, and hours of service restrictions to an automated driving system;
- Complying with cargo and equipment inspection requirements, particularly those that apply to CMVs that are in-transit.

The extent of these challenges could depend significantly on how FMCSA interprets certain definitions in the current FMCSRs with respect to onboard technicians, remote supervisors, and automated driving systems. This is particularly the case for the definitions of “driver” and “operator” and related applicability statements. If the definition of a driver can indeed extend, in part or in whole, to an automated driving system, an onboard (non-driving) technician, or a remote supervisor, this may lead to a range of issues. Overall, resolving many of these issues may require explicit clarification on how far the definition of a “driver” can be extended in the context of an automated CMV.

# I. Introduction

Automated vehicles (AVs) have advanced considerably over the last several years. More than 20 manufacturers are now testing prototypes in at least a dozen states. Many of these manufacturers are hinting at the commercial introduction of highly automated vehicles (HAVs) within a few years and numerous systems corresponding to Levels 1 and 2 are already available on new models.<sup>1</sup> Although a great deal of public and media attention has focused on the potential for automation to revolutionize personal transportation, the unique parameters under which commercial motor vehicles (CMVs) operate make them a potentially promising early adoption path.

Commercial vehicles, particularly over-the-road (i.e., long-haul) tractor trailers, spend the majority of their time operating on limited access highways, which constitute a small fraction of the road mileage in the U.S. and represent far simpler operating environments than surface streets.<sup>2</sup> Developing AV and HAV systems that can operate in these environments, therefore, may present fewer challenges in terms of programming adequate Object and Event Detection and Response (OEDR) and collecting sufficient data on the Operational Design Domain (ODD).<sup>3</sup> Moreover, the potential safety and efficiency benefits that automation may offer, as well as the likely cost of AV and HAV equipment relative to the cost of the underlying vehicle, may appeal to CMV operators sooner than they will to average consumers. Activity in developing automated CMV systems reflects these incentives, including several projects sponsored by the United States Department of Transportation (U.S. DOT) focused on partially automated truck platoons as well as private on-road testing and demonstrations of highly automated CMVs.

Unlike passenger cars, CMVs operate under the purview of Federal regulations pertaining to vehicle equipment, driver training and licensing, and vehicle operations (passenger cars are only subject to Federal regulations for motor vehicle equipment, whereas driver training and licensing and operations are regulated at the state level only). These Federal Motor Carrier Safety Regulations (FMCSRs), however, were drafted during a time when sole responsibility for operating a CMV was assumed to fall to a human driver. Therefore, before automated CMVs can operate in interstate service, their operation will need to avoid conflicts with the FMCSRs. Moreover, the state enforcement agencies that administer FMCSR requirements will need clarity on how the provisions of the FMCSRs apply to automated CMVs, as the current language may present ambiguity in this regard.

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<sup>1</sup> The term HAV applies to vehicles with capabilities corresponding to Levels 3 through 5 in the Society of Automotive Engineers' (SAE) *Standard J3016: Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles* ([http://standards.sae.org/j3016\\_201609/](http://standards.sae.org/j3016_201609/)). For HAV definition, see *Federal Automated Vehicles Policy* (<https://one.nhtsa.gov/nhtsa/av/av-policy.html>).

<sup>2</sup> Principal arterials constituted just five percent of the total road mileage in the United States in 2014 ([https://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national\\_transportation\\_statistics/index.html#chapter\\_1](https://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/index.html#chapter_1), Table 1-5).

<sup>3</sup> See *Federal Automated Vehicles Policy* for definitions of ODD (27) and OEDR (28): <https://one.nhtsa.gov/nhtsa/av/av-policy.html>.

To evaluate how the current FMCSRs may challenge the operation of automated CMVs, and how automated CMVs may introduce challenges to the application of the existing FMCSRs, the Volpe National Transportation Systems Center (Volpe) conducted a thorough review of the FMCSRs with these questions in mind. In particular, Volpe reviewed the FMCSRs to identify potential compliance challenges that operators of automated CMVs may encounter and enforcement challenges that the Federal Motor Carrier Safety Administration (FMCSA) and its state partners may face in applying the current FMCSRs to automated CMVs. Throughout its review, Volpe worked closely with representatives from multiple offices in FMCSA, including the Office of Research, Technology, and Information Management; the Office of Policy and Program Development; the Office of Enforcement and Program Delivery; and the Office Chief Counsel. Volpe also worked closely with, and under the sponsorship of, the Intelligent Transportation Systems Joint Program Office.

## 2. Review Approach

This section describes Volpe’s approach to reviewing the FMCSRs, including its guiding methods and procedures and descriptions of automated CMV operating concepts that informed its review.

### 2.1 Objectives

Volpe reviewed the FMCSRs with two main objectives:

**Primary Objective:** Review each FMCSR Part to identify compliance and/or enforcement challenges for each operating concept by assessing:

- Would one or more automated CMV operating concepts (discussed in detail below) face challenges in complying with existing operating or administrative requirements?
- Would FMCSA or its state enforcement partners face challenges in enforcing requirements for one or more automated CMV operating concepts?
- Are there requirements that, if applied to one or more automated CMV operating concepts, would minimize economic, efficiency, or other operational automation benefits without contributing to safety assurance (e.g., applying hours of service requirements to a driverless CMV)?

**Secondary Objective:** Identify general gap areas in the current FMCSRs with respect to the safe operation of automated CMVs:

- Do the current FMCSRs – given that they were drafted with the assumption of a human driver – leave any “loopholes” with regard to automated CMVs? That is, do the FMCSRs assume certain requirements without specifying them? For example, do the FMCSRs specify that CMVs used in interstate commerce must have a licensed human driver (this question is distinct from whether CMV drivers must be licensed)?
- In what general areas might new regulations be needed to assure automated CMV safety?

### 2.2 Methodology

The Volpe team consisted of four reviewers, each of whom performed a preliminary review of the full FMCSR text and a second, more detailed, review of specific regulations corresponding to roughly half of the full FMCSR text (the team collectively reviewed the full FMCSR text). For this latter review, two reviewers were assigned to each FMCSR part to ensure consistency and thoroughness. They reviewed consistent versions of the FMCSRs, downloaded on October 10, 2016. The team subsequently reviewed changes to parts 380, 382, 383, 384, and 391 introduced by two final rules established in December 2016 (*Commercial Driver’s License Drug and Alcohol Clearinghouse* and *Minimum Training Requirements for Entry-Level Commercial Motor Vehicle Operators*).

For the thorough review of the FMCSRs, each reviewer evaluated the regulations to identify passages that (1) could pose a compliance challenge for one or more hypothetical automated CMV operating concepts or (2) could pose an enforcement challenge for personnel responsible for implementing the FMCSRs with respect to one or more of the automated CMV operating concepts (see Section 2.3 and Appendix A: Summary of Automated CMV Operating Concepts). Reviewers did not necessarily pass judgement as to whether specific language actually poses a conflict, but instead identified these portions of the FMCSRs for further review by FMCSA. The types of potential issues reviewers found included:

1. Selected automated CMV operating concept(s) could not feasibly comply with an operational action or requirement, or enforcement personnel could not verify compliance with such action or requirement.
2. Selected automated CMV operating concept(s) could not feasibly comply with an administrative action or requirement.
3. Selected automated CMV operating concept(s) could comply with a specified action or requirement, but doing so may be inefficient or overly burdensome without necessarily improving safety.

Reviewers also identified instances of language that seemed to present a general challenge or span several of the categories listed above. Reviewers attempted to take an inclusive approach to identifying language for further review, generally erring on the side of flagging sections even when the extent to which they would present a challenge was uncertain.

In reviewing the FMCSR language for potential challenges or conflicts with automated CMV operating scenarios, reviewers also noted where gaps may exist in the current regulations to assure the safe operation of automated CMVs. This was a secondary focus of the effort and meant to identify broad areas for initial consideration by FMCSA.

## 2.3 Automated CMV Operating Concepts

In order to provide structure to Volpe's review of the FMCSRs, the team developed a set of thirteen automated CMV operating concepts representing a range of potential applications of automation technology to CMV operations. The operating concepts range from near-term automated driver assistance features to more novel concepts that, in some cases, replace the onboard operator with a remotely-located supervisor. The review team selected concepts that represented *plausible* applications of automation to commercial vehicle operations. Several of the more conventional concepts seem quite feasible within the next five to ten years in light of current industry activity, while the likelihood of some of the more novel concepts may be less certain. Moreover, the inclusion of the concepts in this analysis does not suggest that they are likely, or even possible, under the current regulatory environment, but rather that they are worth considering as part of a future scenario, however far-reaching, for the development of automated CMVs.

The concepts considered included the following:<sup>4</sup>

- A. **Partially Automated CMV** – A CMV that includes an SAE level 2 or 3 automated driver assistance system for use on divided highways only. When engaged, the automation controls longitudinal and lateral movement of the vehicle. A human driver is expected to monitor the driving environment and may be needed to retake full control with minimal notice. In addition to the primary concept (concept A), which can only operate as a standalone vehicle, this concept includes one variant (concept A1) that is capable of platooning with other CMVs with minimal following distances using vehicle-to-vehicle (V2V) communications, in combination with onboard sensors.
- B. **Conventional CMV, Limited Use Full Automation** – A CMV that can be operated with no driver onboard at low speeds under constrained conditions (e.g., in a port facility or freight terminal). In all other conditions, this vehicle is operated as a conventional CMV.
- C. **Highly Automated CMV** – A CMV that includes an SAE level 3-4 automated driving system that is capable of controlling longitudinal and lateral movement, as well as monitoring environmental conditions and making some navigational decisions. The automated driving system considered in this concept has some operational limitations pertaining to weather and road conditions, road class, and geography. A human driver must be available to reengage in the active driving task with moderate advance notification, though the automation can follow fallback procedures to reach a minimal risk condition if driver does not reengage. Similar to concept A, this concept includes one variation (C1), which includes a V2V-based platooning capability.
- D. **Highly Automated CMV with Licensed Onboard Technician** – A CMV that can operate autonomously from its origin to destination with no direct human input (SAE level 4-5). However, the vehicles envisioned in this concept retain manual controls and are “operated” by an onboard technician whose primary role is to perform non-driving functions and troubleshoot potential faults, but who is also capable of driving the vehicle if necessary (e.g., in the event of a sensor failure).

This concept includes three variations. Concept D1 is a platoon-capable variation, akin to those considered for concepts A and C. Concept D2 is also a platoon-capable variation, but allows for platoons composed of vehicles with no onboard technicians following a single lead vehicle that has an onboard technician (in this case, the following vehicles correspond to concept F, described below). Concept D3 is equivalent to D2, but considers the use of light-duty vans as part of a platoon.

- E. **Highly Automated CMV with Onboard Technician** – This concept is similar to concept D, but the onboard technician in this concept is never expected to drive. They are available to perform

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<sup>4</sup> Unless otherwise noted, the operating concepts are assumed to apply to any vehicle falling within the definition of a “commercial motor vehicle” contained in §390, including tractor-trailers, single-unit trucks, and buses. Any references to automation levels are based on SAE J3016.

non-driving tasks and monitor the status of the automated driving system. This concept corresponds to SAE levels 4 and 5.

- F. **Highly Automated CMV with Licensed Remote Supervisor** – A CMV that does not require an onboard driver, operator, or technician. Instead, the vehicle envisioned by this concept can operate autonomously from its origin to destination with oversight by a remotely located supervisor. This supervisor constantly monitors the vehicle location and operations while it is in transit and may monitor several vehicles simultaneously (akin to an air traffic controller). Personnel at the vehicle’s origin can perform load securement and equipment inspection duties and the vehicle carries sensing equipment that allows the supervisor to monitor critical aspects of its operation. In the primary variant of this scenario, the remote supervisor possesses a CDL. Variation F1 is similar concept F in function, but the remote supervisor is not trained and licensed to drive a CMV.
- G. **Highly Automated CMV with Minimal Direct Supervision** – A CMV that, similar to concept F, can operate autonomously from its origin to destination without an onboard driver or operator. This concept also includes a remote supervisor, however, this supervisor provides only periodic oversight of the vehicle’s operation, including reviewing and responding to faults and alerts. Since their oversight of CMV is more sporadic in this concept, supervisors are capable of monitoring more vehicles simultaneously than in concept F.

These concepts fell into three general categories (see Table 1), and the extent of Volpe’s findings largely mapped to these groups.

**Table 1: Automated CMV concepts, general concept groups, and SAE automation levels**

Concept Group	Automated CMV Concepts – SAE Level
Automated CMVs with active driver involvement	A. Partially Automated CMV – 2/3 B. Conventional CMV, Limited Use Full Automation – 4 (limited use) C. Highly Automated CMV – 4
Automated CMVs with onboard technicians	D. Highly Automated CMV with Licensed Onboard Technician – 4/5 E. Highly Automated CMV with Onboard Technician – 4/5
Automated CMVs with remote supervision	F. Highly Automated CMV with Licensed Remote Supervisor – 5 G. Highly Automated CMV with Minimal Direct Supervision – 5

See *Appendix A: Summary of Automated CMV Operating Concepts* for more detailed descriptions of each concept.

# 3. Summary of Findings

## 3.1 Definitions and Applicability

Later sections will highlight specific requirements in the FMCSRs that may present challenges for the operation of an automated CMV, however many of these challenges or areas of ambiguities may stem from existing definitions and their application. In particular, there may need to be clarification on how far the definition of a “driver” can be extended in the context of an automated CMV.

First, the FMCSRs do not appear to contain an explicit requirement that CMVs be operated by a human driver, but instead present requirements that apply to human drivers. Certain sections also contain requirements that seem to implicitly assume the presence of a human driver, for example, the statement in §392.9 that a driver must inspect the cargo within the first 50 miles and reexamine the cargo every three hours or 150 miles.

Beyond the question of whether a driver is required, the FMCSRs also present potential ambiguity as to the applicability of the “driver” definition. Part 390 defines the driver as “... any person who operates any commercial motor vehicle” and a person as “...any individual, partnership, association, corporation, business trust, or any other organized group of individuals.”

With these definitions in mind, motor carriers and states may require clarification as to whether the following can constitute a “driver”:

- A human onboard an automated CMV who oversees the vehicle’s operation but is never expected to directly control its movement;
- A combination of hardware and software that constitutes an automated system (or self-driving system, as defined in an interpretation letter issued by the National Highway Traffic Safety Administration (NHTSA) to Google<sup>5</sup>);
- The manufacturer or developer of an automated system;
- The combination of a human driver and an automated system; or
- A human who remotely supervises the operation of an automated CMV.

Many of the preliminary issues identified throughout the FMCSRs may ultimately trace back to definitions contained in part 390, and language throughout the FMCSRs regarding the applicability of requirements to CMV drivers or any person who drives or operates a CMV. If the definition of a driver can indeed extend, in part or in whole, to an automated system, this may lead to a range of issues for applying FMCSR requirements to a non-human driver. However, if the definition of a driver is limited to an onboard human, automated CMVs that retain onboard human oversight may face fewer challenges

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<sup>5</sup> See: <http://isearch.nhtsa.gov/files/Google%20--%20compiled%20response%20to%2012%20Nov%20%2015%20interp%20request%20--%204%20Feb%2016%20final.htm>

from a regulatory standpoint. Automated CMVs that do not require an onboard human operator will face certain challenges in complying with the FMCSRs regardless of how the term “driver” is interpreted and applied.

## 3.2 Key Findings by Operating Concept

The review team documented quite a few potential challenges for compliance with the FMCSRs by automated CMVs, or enforcement thereof. This section highlights general findings and themes while Section 3.2.4 and Appendix B: Findings by FMCSR Part provide additional detail on the findings specific to each FMCSR part and operating concept.

It is worth noting that many of the issues identified with respect to specific operating concepts depend significantly on how the definition of “driver” or “operator” would be applied. This is particularly the case with scenarios involving onboard technicians who are not expected to drive and with concepts that do not require an onboard human operator at all. In the case of the former, one set of potential issues arises from characterizing the onboard technician as the “driver” or “operator,” whereas a separate set of issues arises in characterizing the self-driving system as the “driver” or “operator”. Similarly, the “driver” or “operator” label could be applied to the self-driving system of an unmanned truck, or potentially to an individual providing remote supervision. Each application would present a different set of challenges. This qualification regarding the applicability of the “driver” and “operator” definitions applies to most findings contained in this section, unless otherwise noted.

The review team found that the extent of potential issues identified in the FMCSRs depended largely on the nature of human involvement in each of the operating concepts. Automated CMV concepts that retain direct human driver involvement in control of the vehicle, at least occasionally, will face the fewest challenges in complying with the current FMCSRs. Operating concepts that relegate human involvement to an onboard supervisory role may face more significant challenges, both in terms of compliance with and enforcement of the FMCSRs, though the extent and nature of these challenges depend significantly on how the definitions of “driver” and “operator” are applied. Finally, operating concepts that require no onboard human operator could face the most significant challenges in meeting the current FMCSRs, though again, this may depend greatly on how the definition of “driver” and “operator”, and resultant requirements, are applied.

Table 2 summarizes the main findings (though not all findings) associated with each concept.

Table 2: Summary of issues associated with each automated CMV operating concept. Columns A-G refer to operating concepts, explained earlier in Table 1.

General Issues Identified	A	B	C	D	E	F	G
Requirement for driver to be secured by seatbelt at driver's seat	Y*	Y	Y	Y	Y	Y	Y
General requirements regarding unsafe driving and operation and installation of additional equipment that may decrease safety	Y	Y	Y	Y	Y	Y	Y
Skills, knowledge, and licensing of drivers	N <sup>†</sup>	N	N	D <sup>‡</sup>	D	D	D
Clarification of "safety-sensitive function"	N	N	D	D	D	D	D
Hours of service requirements	N	Y	N	D	D	D	D
Alcohol and controlled substance restrictions	N	Y	N	N	N	D	D
Physical qualifications for drivers	N	N	N	D	D	D	D
Inspection and cargo securement procedures	N	N	N	N	N	Y	Y
Definition of "disabling damage"	N	N	N	N	N	Y	Y

\*Y: potential challenge present

†N: challenge not present

‡D: extent of challenge depends on interpretation of definition(s) and/or applicability statement(s)

The following subsections summarize some of the more significant issues corresponding to each group of concepts.

### 3.2.1 Issues Affecting Most Concepts

Volpe’s review revealed few FMCSR requirements that would pose a challenge to all of the automated CMV concepts, including concepts that retain human drivers (concepts, A, B, and C). Moreover, these issues may be resolved through regulatory interpretations.

Certain sections of the FMCSRs include broad language about safety hazards and, therefore, could present challenges for most of the automated CMV concepts. Examples include language concerning the safety of additional equipment and operational practices in parts 393 and 396. In particular, §393.3 states: “The use of additional equipment or accessories in a manner that decreases the safety of operation of a commercial motor vehicle in interstate commerce is prohibited” while §396.3 continues: “Parts and accessories shall be in safe and proper operating condition at all times. These include those specified in part 393 of this subchapter and any additional parts and accessories which may affect safety of operation, including but not limited to, frame and frame assemblies, suspension systems, axles and attaching parts, wheels and rims, and steering systems.” Finally, §396.7 also states: “A motor vehicle shall not be operated in such a condition as to likely cause an accident or a breakdown of the vehicle.” Though quite broad, these sections could be interpreted to preclude automated driving systems, particularly those that have not undergone sufficiently rigorous development, testing, and validation processes. It remains unclear whether adding automated driving technologies could inadvertently cause or contribute to a breakdown of a vehicle.

The review team highlighted several additional potential issues that are specific to certain concepts. For example, §392.80 might prevent drivers of highly automated CMVs from moving away from the driver's seat while the automation is engaged ("No driver shall operate a commercial motor vehicle... that has a seat belt assembly installed at the driver's seat unless the driver is properly restrained by the seat belt assembly"). Also, operating concepts that incorporate platooning functionality might present a challenge for states with following distance laws, as §350.111 specifies that traffic enforcement, for purposes of qualification for Motor Carrier Safety Assistance Program (MCSAP) funds, includes (by way of an example) enforcement of following distance laws.

### **3.2.2 Issues Affecting Fully-Automated Concepts with Onboard Technicians (D, DI, E; lead vehicles in D2, D3)**

The Volpe Center's review of the FMCSRs considered several automated CMV concepts that propose a supervisory, non-driving role for an individual onboard a CMV. This individual, referred to as an "onboard technician" in the concept descriptions, would generally not be expected to drive the vehicle but would, instead, be responsible for many of the non-driving responsibilities that CMV drivers currently hold, including securing and inspecting the load, inspecting equipment, and general cargo security. These onboard technicians might also be responsible for overseeing the automated driving system (e.g., monitoring for and troubleshooting faults). The presence of an onboard technician may raise several additional issues or challenges beyond the potential challenges raised above.

First, the Volpe team noted an overarching interpretation challenge embedded in part 382, which may present confusion in applying alcohol and controlled substance testing requirements. In particular, §382.213 specifies that "No driver shall report for duty or remain on duty requiring the performance of safety sensitive functions when the driver uses any drug or substance identified in 21 Code of Federal Regulations (CFR) 1308.11 Schedule I." Section §382.107 defines "safety-sensitive function" as including:

- (1) All time at an employer or shipper plant, terminal, facility, or other property, or on any public property, waiting to be dispatched, unless the driver has been relieved from duty by the employer;*
- (2) All time inspecting equipment as required by §392.7 and §392.8 of this subchapter or otherwise inspecting, servicing, or conditioning any commercial motor vehicle at any time;*
- (3) All time spent at the driving controls of a commercial motor vehicle in operation;*
- (4) All time, other than driving time, in or upon any commercial motor vehicle except time spent resting in a sleeper berth (a berth conforming to the requirements of §393.76 of this subchapter);*
- (5) All time loading or unloading a vehicle, supervising, or assisting in the loading or unloading, attending a vehicle being loaded or unloaded, remaining in readiness to operate the vehicle, or in giving or receiving receipts for shipments loaded or unloaded; and*
- (6) All time repairing, obtaining assistance, or remaining in attendance upon a disabled vehicle.*

The Volpe team noted that parts 3 and 4 of this definition may present some uncertainty in interpreting the applicability of part 382 to onboard technicians. Specifically, it may be unclear whether an onboard technician who is monitoring an automated driving system is "at the driving controls." Moreover, the automated CMV concepts envisioned could allow for an onboard technician to rest in the sleeper berth

while the vehicle is underway. However, it is unclear whether this time would qualify as being in a safety-sensitive function under the current definitions.

A second set of issues may arise if the “driver” term were interpreted as applying to onboard technicians. In this situation, they would be subject to the same training, licensing, and operating requirements as a typical CMV driver. However, many of the skills and qualifications expected of CMV drivers might not be relevant for an individual who will never drive, including some of the basic vehicle control skills and safe on-road driving skills listed in §383.113 (e.g., ability to back a CMV in a straight line, ability to position a CMV to negotiate safely and then make left and right turns, ability to shift as required and select appropriate gear for speed and highway conditions, etc.).

Such issues may not present an explicit challenge to the operation of an automated CMV with an onboard technician. After all, a motor carrier could require their onboard technicians to satisfy the Federal training and licensing requirements for drivers. However, doing so may subject them to training and qualifications they may not need for their role and responsibilities. As the industry faces driver shortages, automation may offer a way to reduce the barriers to entry into the trucking workforce, as long as regulatory requirements are tailored to emerging job functions and duties.

Several additional issues could potentially apply to automated CMV concepts involving onboard technicians, but they seem more likely to apply to the concepts with no human drivers or technicians onboard and will, therefore, be addressed in the next section.

### **3.2.3 Issues Affecting Fully-Automated Unmanned Concepts (F, FI, G; following vehicles in D2 and D3)**

As part of its review, the Volpe team considered automated CMV concepts that may be capable enough as to obviate the need for a human driver or technician entirely. Such concepts may seem novel in the short term, but they could nonetheless present a desirable end state for AV developers and motor carriers, particularly as they could lower operating costs and circumvent limitations posed by human drivers (e.g., fatigue). Their inclusion in this analysis does not suggest that they are likely, or even possible, under the current regulatory environment, but rather that they are worth considering as part of a future scenario, however far-reaching, for the development of automated CMVs.

Similar to the previous group of concepts, many of the challenges or ambiguities identified in the current FMCSRs for unmanned automated CMVs depend on how the term “driver” is applied. Section 3.1 provides several examples of how the term driver might be applied to an automated CMV, the most relevant of which for these concepts include: (1) the software and hardware that enables automated driving; and (2) the remote supervisor who oversees or monitors the operation of an unmanned automated CMV.<sup>6</sup> This section outlines issues associated with each interpretation.

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<sup>6</sup> In light of the definition of “person” contained in the FMCSRs (“...any individual, partnership, association, corporation, business trust, or any other organized group of individuals” (§390.5)), a third potential approach could be to apply the driver designation to the corporation that developed and produces the automated driving system.

Applying the driver title to the automated driving system introduces numerous challenges. First, even if an automated CMV were able to demonstrate many of the skills specified in §383.113, the training and testing requirements to secure a Commercial Driver License (CDL) may be difficult to translate (for example, requirements in part 383 that CMV drivers possess and demonstrate knowledge necessary to drive a CMV). Moreover, applying driver physical qualifications and alcohol and controlled substance restrictions to a combination of hardware and software would make little sense; for example, requiring that a CMV driver has not lost a foot, leg, hand, or arm (see §391.41 (b)(1)) or prohibiting the use of alcohol for a driver performing a safety-sensitive function (see §382.205). Finally, although hours of service requirements could be applied, they might do little to ensure the safety of an automated “driver” that is incapable of experiencing fatigue.

The “driver” label could also be applied to supervisory personnel located in a central dispatch center who are responsible for managing and overseeing the operation of unmanned automated CMVs. In the concepts considered, the Volpe team assumed that a fleet of driverless CMVs would still require human oversight to manage their dispatch and routing and to respond to any potential faults or issues that arise. The team envisioned two conceivable levels of remote operator involvement. First, a fleet of driverless CMVs could require constant supervision, akin to an air traffic controller monitoring flight operations. Alternatively, a remote supervisor could provide more sporadic oversight, only responding to faults and issuing instructions at a vehicle’s origin and destination. This latter role would resemble a dispatcher more than an air traffic controller.

In either case, personnel in supervisory positions could conceivably comply with most of the driver requirements specified in the FMCSRs, including training, licensing, and operational rules. In fact, many would remain applicable, particularly with respect to hours of service, alcohol, and controlled substances (air traffic controllers, after all, also face work schedule limitations and drug and alcohol screening). However, similar to onboard technicians, the responsibilities of the envisioned remote supervisors may not demand that they be qualified to drive a commercial vehicle. Moreover, there may be little need for them to be qualified in securing and inspecting a cargo load or inspecting vehicle equipment, because they may never be physically near the vehicles they oversee.

Regardless of how the term “driver” is defined, unmanned automated CMV concepts present challenges for applying the FMCSRs. First, with no human onboard, these concepts may be challenged to comply with the requirements in §392.9 that a driver inspect the cargo within the first 50 miles and reexamine the cargo every three hours or 150 miles. Similar requirements for drivers to ensure that the parts and accessories on their vehicles are in good working order prior to beginning a trip could be similarly difficult for an unmanned automated CMV to satisfy, though the intent of these provisions could potentially be satisfied if personnel at the vehicle’s origin were tasked with these equipment inspections, or if automated CMVs were outfitted with equipment allowing for remote inspection. These workarounds would likely require reinterpretations of or amendments to the existing regulations to serve as comprehensive alternative compliance options.

Similar to requirements that drivers inspect their cargo, unmanned automated CMVs may also face specific requirements in the FMCSRs that drivers exchange hardcopy information with roadside

inspection personnel or provide hardcopy forms to their motor carrier.<sup>7</sup> Though this issue could be addressed through the use of electronic records transfers, in their current form, such requirements, read literally, could present a barrier.

Part 385 and accompanying definitions in part 390 present a final potential challenge for unmanned CMVs. Part 385.7 suggests that FMCSA considers a carrier's accident frequency in assigning a safety rating, with the term "accident" defined in §390.5 as:

*...an occurrence involving a commercial motor vehicle operating on a highway in interstate or intrastate commerce which results in:*

*(i) A fatality;*

*(ii) Bodily injury to a person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or*

*(iii) One or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicle(s) to be transported away from the scene by a tow truck or other motor vehicle.*

Though automated CMVs may provide a safety benefit and be less prone to accidents than human drivers, the definition of accidents involving "disabling damage" (see iii in the definition above), may set a lower threshold for reportable accidents among automated CMVs than among conventional commercial vehicles. Specifically, the definition of disabling damage, also contained in §390.5, covers "...damage which precludes departure of a motor vehicle from the scene of the accident in its usual manner in daylight after simple repairs..." and includes "...damage to motor vehicles that could have been driven, but would have been further damaged if so driven."

If current prototypes are any indication, automated CMVs will have many critical yet fragile sensors mounted to their exterior. Collisions that might not produce disabling damage in a conventional commercial vehicle could conceivably damage a sensor enough to preclude an automated CMV from departing the scene of a crash, corresponding to the definition of disabling damage. This issue could conceivably discourage some carriers from operating unmanned automated CMVs. It would not affect automated CMVs that carry a human driver and allow for manual operation.

### **3.2.4 Summary**

In summary, reviewing the FMCSRs by key operating concept revealed that much of the challenge with applying the language relies on the interpretation of the driver definition. This is most applicable in concepts that included an onboard technician and unmanned concepts that are remotely monitored. Concepts that include a human driver onboard who maintains some driving responsibility present fewer challenges for applying the FMCSRs, though some broad language concerning safe operations, the safety

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<sup>7</sup> For example 325.113 states: "The driver of any motor vehicle receiving a Form MCS-141 shall deliver such MCS-141 to the motor carrier operating the vehicle upon his/her arrival at the next terminal or facility of the motor carrier..."

of additional equipment, and the need for a driver to be restrained by a seat belt installed at the driver's seat could present some constraints for the proposed concepts.

### **3.3 Summary of Findings by FMCSR Part**

The sections below summarize the extent to which Volpe identified potential issues corresponding to each FMCSR part and automated CMV operating concept. Appendix B: Findings by FMCSR Part contains excerpts of FMCSR language, organized by part, that the Volpe team identified as needing further review to determine whether changes would be necessary to enable operation of the automated CMV operating concepts in compliance with the FMCSRs as well as clear and consistent enforcement of the regulations.

#### **3.3.1.1 Part 303 Civil Rights**

*Purpose: The purpose of this part is to provide guidelines and procedures for implementing the Federal Motor Carrier Safety Administration's (FMCSA) Title VI program under Title VI of the Civil Rights Act of 1964 and related civil rights laws and regulations. For FMCSA-only programs or activities, Federal financial assistance recipients or grantees will continue to apply and use the Departmental Title VI provisions at 49 CFR part 21. For joint and multi-agency programs/projects, FMCSA Federal assistance recipients or grantees must use the Title VI requirements at 49 CFR part 21, unless agreement is reached by the Federal funding agencies for the recipients to use the Title VI procedures of another agency.*

**No issues identified.**

#### **3.3.1.2 Part 325 Compliance with interstate motor carrier noise emission standards**

*Scope: The rules in this part prescribe procedures for inspection, surveillance, and measurement of motor vehicles and motor vehicle equipment operated by motor carriers to determine whether those vehicles and that equipment conform to the Interstate Motor Carrier Noise Emission Standards of the Environmental Protection Agency, 40 CFR part 202.*

Table 3: Summary of automated CMV concepts that may be challenged by part 325

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	No
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	No
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	No
E	Highly Automated CMV with Onboard Technician	No
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part contains requirements for vehicles to be submitted for inspection and outlines inspection procedures to determine compliance with noise emission standards. Automated CMVs without human drivers or technicians onboard will need a way to be capable of being “submitted for inspection” and must be able to complete test procedures (for example, §325.59(d) specifies: “With the motor vehicle's transmission in neutral and its clutch engaged, rapidly accelerate the vehicle's engine from idle to its maximum governed speed with wide open throttle. Return the engine's speed to idle.”). This part also includes provisions for transfer of forms from inspection personnel to a motor carrier, which may not be feasible if there is no driver present.

### 3.3.1.3 Part 350 Commercial motor carrier safety assistance program

*Purpose: The purpose of this part is to ensure the Federal Motor Carrier Safety Administration (FMCSA), States, local government agencies and other political jurisdictions work in partnership to establish programs to improve motor carrier, CMV, and driver safety to support a safe and efficient transportation system by— (a) Making targeted investments to promote safe CMV transportation, including transportation of passengers and hazardous materials; (b) Investing in activities likely to generate maximum reductions in the number and severity of CMV crashes and fatalities resulting from such crashes; (c) Adopting and enforcing effective motor carrier, CMV, and driver safety regulations and practices consistent with Federal requirements; and (d) Assessing and improving State wide performance by setting program goals and meeting performance standards, measures and benchmarks.*

Table 4: Summary of automated CMV concepts that may be challenged by part 350

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	Yes
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	Yes
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part does not appear to present a direct challenge for automated CMVs. However, because this part specifies that states must certify compliance of their programs with FMCSRs as a condition of funding eligibility, states allowing any form of automated CMV operations will likely require clarification on ambiguities contained in other parts to ensure that their laws and enforcement activities are consistent with the FMCSRs.

### 3.3.1.4 Part 355 Compatibility of State laws and regulations affecting interstate motor carrier operations

*Purpose: (a) To promote adoption and enforcement of State laws and regulations pertaining to commercial motor vehicle safety that are compatible with appropriate parts of the Federal Motor Carrier Safety Regulations. (b) To provide guidelines for a continuous regulatory review of State laws and regulations. (c) To establish deadlines for States to achieve compatibility with appropriate parts of the Federal Motor Carrier Safety Regulations with respect to interstate commerce.*

Table 5: Summary of automated CMV concepts that may be challenged by part 355

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	Yes
A1	Partially Automated CMV - Platoon	Yes
B	Conventional CMV, Limited Use Full Automation	Yes
C	Highly Automated CMV - Standalone	Yes
C1	Highly Automated CMV - Platoon	Yes
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part contains requirements for states to review their laws for compatibility with the FMCSRs. This includes guidelines for ensuring that requirements in the areas of driver licensing, hours of service, and inspection and maintenance procedures, among others, are consistent with the FMCSRs. Though this part does not directly present a challenge for automated CMVs, states may face challenges in conducting such reviews unless areas of uncertainty contained in other referenced parts are clarified.

### 3.3.1.5 Part 356 Motor Carrier Routing Regulations

No issues identified.

### 3.3.1.6 Part 360 Fees for Motor Carrier Registration and Insurance

No issues identified.

### 3.3.1.7 Part 365 Rules governing applications for operating authority

*Scope: These rules govern the handling of applications for operating authority of the following type: (a) Applications for certificates and permits to operate as a motor common or contract carrier of property or passengers. (b) Applications for permits to operate as a freight forwarder. (c) [Reserved] (d) Applications for licenses to operate as a broker of motor vehicle transportation. (e) Applications for certificates under 49 U.S.C. 13902(b)(3) to operate as a motor carrier of passengers in intrastate commerce over regular*

routes if such intrastate transportation is to be provided on a route over which the carrier provides interstate transportation of passengers. (f) [Reserved] (g) Applications for temporary motor carrier authority. (h) Applications for Mexico-domiciled motor carriers to operate in foreign commerce as common, contract or private motor carriers of property (including exempt items) between Mexico and all points in the United States. Under NAFTA Annex I, page I-U-20, a Mexico-domiciled motor carrier may not provide point-to-point transportation services, including express delivery services, within the United States for goods other than international cargo. (i) Applications for non-North America-domiciled motor carriers to operate in foreign commerce as for-hire motor carriers of property and passengers within the United States. (j) The rules in this part do not apply to “pipeline welding trucks” as defined in 49 CFR 390.38(b).

**Table 6: Summary of automated CMV concepts that may be challenged by part 365**

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
<b>A</b>	Partially Automated CMV - Standalone	No
<b>A1</b>	Partially Automated CMV - Platoon	No
<b>B</b>	Conventional CMV, Limited Use Full Automation	No
<b>C</b>	Highly Automated CMV - Standalone	No
<b>C1</b>	Highly Automated CMV - Platoon	No
<b>D</b>	Highly Automated CMV with Licensed Onboard Technician	No
<b>D1</b>	Highly Automated CMV - Platoon (Technicians in All Vehicles)	No
<b>D2</b>	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	No
<b>D3</b>	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	No
<b>E</b>	Highly Automated CMV with Onboard Technician	No
<b>F</b>	Highly Automated CMV with Licensed Remote Supervisor	Yes
<b>F1</b>	Highly Automated CMV with Remote Supervisor	Yes
<b>G</b>	Highly Automated CMV with Minimal Direct Supervision	Yes

When considering the “accident factor”, the current definition of “disabling damage” may present a disadvantage for automated CMVs with no human drivers or technicians. See section 3.2.3 for further discussion of this issue.

### **3.3.1.8 Part 366 Designation of process agent**

**No issues identified.**

### 3.3.1.9 Part 367 Standards for registration with states

No issues identified.

### 3.3.1.10 Part 368 Application for a certificate of registration to operate in municipalities in the United States on the United States-Mexico international border or within the commercial zones of such municipalities.

Table 7: Summary of automated CMV concepts that may be challenged by part 368

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	No
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	No
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	No
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part specifies that the holder of a Certificate of Registration must make it available upon request to any State or Federal inspector or enforcement officer. This may be challenging for automated CMVs with no human onboard.

### 3.3.1.11 Part 369 Reports of motor carriers

No issues identified.

### 3.3.1.12 Part 370 Principles and practices for the investigation and voluntary disposition of loss and damage claims and processing salvage

No issues identified.

### 3.3.1.13 Part 371 Brokers of property

No issues identified.

### 3.3.1.14 Part 372 Exemptions, commercial zones, and terminal areas

No issues identified.

### 3.3.1.15 Part 373 Receipts and bills

No issues identified.

### 3.3.1.16 Part 374 Passenger Carrier Regulations

Table 8: Summary of automated CMV concepts that may be challenged by part 374

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	No
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	No
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	No
E	Highly Automated CMV with Onboard Technician	No
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part contains requirement for drivers to be “identified in a manner visible to passengers”, which may present a challenge for a truly “driverless” automated bus.

**3.3.1.17 Part 375 Transportation of household goods in interstate commerce; consumer protection regulations**

Table 9: Summary of automated CMV concepts that may be challenged by part 375

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	No
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	No
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	No
E	Highly Automated CMV with Onboard Technician	No
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

Contains administrative requirements (e.g., preparing an inventory and documenting damage) that may be difficult to satisfy for automated CMVs with no humans onboard.

**3.3.1.18 Part 376 Lease and interchange of vehicles**

No issues identified.

**3.3.1.19 Part 377 Payment of transportation charges**

No issues identified.

**3.3.1.20 Part 378 Procedures governing the processing, investigation, and disposition of overcharge, duplicate payment, or overcollection claims**

No issues identified.

**3.3.1.21 Part 379 Preservation of records**

No issues identified.



### 3.3.1.22 Part 380 Special training requirements

Table 10: Summary of automated CMV concepts that may be challenged by part 380

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	Yes
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part specifies that a driver-student must pass knowledge and skills test to complete their training. If an automated system can be reclassified as a vehicle’s “driver”, this may present challenges. Alternatively, the knowledge and skills may not be fully necessary for an onboard technician or remote supervisor.

Potential ambiguities also exist in applying the requirement that no motor carrier shall allow an “individual” to operate an LCV unless they have completed required training to an automated LCV.

### 3.3.1.23 Part 381 Waivers, exemptions, and pilot programs

*Purpose: This part prescribes the rules and procedures for requesting waivers and applying for exemptions from those provisions of the Federal Motor Carrier Safety Regulations (FMCSRs) which were issued on the authority of 49 U.S.C. 31136 or chapter 313, and the initiation and administration of pilot programs.*

Table 11: Summary of automated CMV concepts that may be challenged by part 381

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part specifies that waivers, exemptions, and pilot programs only available for relief from certain regulations, including: Part 382—Controlled Substances and Alcohol Use and Testing; Part 383—Commercial Driver's License Standards; Requirements and Penalties; Part 391—Qualifications of Drivers; Part 392—Driving of Commercial Motor Vehicles; Part 393—Parts and Accessories Necessary for Safe Operation; Part 395—Hours of Service of Drivers; Part 396—Inspection, Repair, and Maintenance (except §396.25); and (10) Part 399—Step, Handhold and Deck Requirements.

FMCSA may need to consider how to evaluate the following element of applications for exemptions and waivers: “Explains how you would ensure that you could achieve a level of safety that is equivalent to, or greater than, the level of safety that would be obtained by complying with the regulation”.

### 3.3.1.24 Part 382 Controlled substances and alcohol use and testing

*Purpose: The purpose of this part is to establish programs designed to help prevent accidents and injuries resulting from the misuse of alcohol or use of controlled substances by drivers of commercial motor vehicles.*

Table 12: Summary of automated CMV concepts that may be challenged by part 382

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	Yes
C	Highly Automated CMV - Standalone	Yes
C1	Highly Automated CMV - Platoon	Yes
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part applies to “every person who operates a CMV”, so the drug/alcohol prohibitions would not ambiguously apply to a computer capable of driving a CMV. However, clarification may be required as to how this would apply to someone who is not directly driving a fully automated CMV. They would probably still be considered to be in a “safety sensitive function,” but explicit language to this effect might become necessary.

### 3.3.1.25 Part 383 Commercial driver's license standards; requirements and penalties

*Purpose: (a) The purpose of this part is to help reduce or prevent truck and bus accidents, fatalities, and injuries by requiring drivers to have a single commercial motor vehicle driver's license and by disqualifying drivers who operate commercial motor vehicles in an unsafe manner.*

Table 13: Summary of automated CMV concepts that may be challenged by part 383

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
<b>A</b>	Partially Automated CMV - Standalone	No
<b>A1</b>	Partially Automated CMV - Platoon	No
<b>B</b>	Conventional CMV, Limited Use Full Automation	No
<b>C</b>	Highly Automated CMV - Standalone	No
<b>C1</b>	Highly Automated CMV - Platoon	No
<b>D</b>	Highly Automated CMV with Licensed Onboard Technician	Yes
<b>D1</b>	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
<b>D2</b>	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
<b>D3</b>	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
<b>E</b>	Highly Automated CMV with Onboard Technician	Yes
<b>F</b>	Highly Automated CMV with Licensed Remote Supervisor	Yes
<b>F1</b>	Highly Automated CMV with Remote Supervisor	Yes
<b>G</b>	Highly Automated CMV with Minimal Direct Supervision	Yes

The licensing rules in this part apply to “every person who operates a commercial motor vehicle.” Therefore, clarification may be required as to how these rules apply to (1) an onboard technician who may never directly “drive” a CMV and (2) the automated system (software + hardware) that enables fully automated driving.

If any rules in this part apply to an automated system, numerous challenges may exist for determining whether such a system meets the requirements to obtain a CDL (e.g., whether system can demonstrate knowledge specified in § 383.111 or skills specified in § 383.113).

### **3.3.1.26 Part 384 State compliance with commercial driver's license program**

*Purpose: The purpose of this part is to ensure that the States comply with the provisions of section 12009(a) of the Commercial Motor Vehicle Safety Act of 1986 (49 U.S.C. 31311(a)).*

Table 14: Summary of automated CMV concepts that may be challenged by part 384

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	No
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part contains complementary issues to part 383; if licensing requirements extend to automated system, states may be challenged to enforce these requirements.

### 3.3.1.27 Part 385 Safety fitness procedures

*Purpose: (a) This part establishes the FMCSA's procedures to determine the safety fitness of motor carriers, to assign safety ratings, to direct motor carriers to take remedial action when required, and to prohibit motor carriers receiving a safety rating of "unsatisfactory" from operating a CMV. (b) This part establishes the safety assurance program for a new entrant motor carrier initially seeking to register with FMCSA to conduct interstate operations. It also describes the consequences that will occur if the new entrant fails to maintain adequate basic safety management controls. (c) This part establishes the safety permit program for a motor carrier to transport the types and quantities of hazardous materials listed in §385.403.*

Table 15: Summary of automated CMV concepts that may be challenged by part 385

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part does not seem to present a direct issue for automation, but it references many of the parts that do present direct issues, so it is worth including in an initial review.

### 3.3.1.28 Part 386 Rules of Practice for FMCSA Proceedings

No issues identified.

### 3.3.1.29 Part 387 Minimum levels of financial responsibility for motor carriers

*Purpose: [Subpart A] prescribes the minimum levels of financial responsibility required to be maintained by motor carriers of property operating motor vehicles in interstate, foreign, or intrastate commerce. The purpose of these regulations is to create additional incentives to motor carriers to maintain and operate their vehicles in a safe manner and to assure that motor carriers maintain an appropriate level of financial responsibility for motor vehicles operated on public highways. [Subpart B] prescribes the minimum levels of financial responsibility required to be maintained by for-hire motor carriers of passengers operating motor vehicles in interstate or foreign commerce. The purpose of these regulations is to create additional incentives to carriers to operate their vehicles in a safe manner and to assure that they maintain adequate levels of financial responsibility.*

Table 16: Summary of automated CMV concepts that may be challenged by part 387

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	No
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part specifies financial responsibility requirements for motor carriers. Documentation requirements, which are required to include the “name of the insured” may need to be clarified for concepts involving onboard technicians or remote supervisors.

**3.3.1.30 Part 388 Cooperative Agreements with States**

No issues identified.

**3.3.1.31 Part 389 Rulemaking procedures federal motor carrier safety regulations**

No issues identified.

**3.3.1.32 Part 390 Federal motor carrier safety regulations; general**

*Purpose: This part establishes general applicability, definitions, general requirements and information as they pertain to persons subject to this chapter.*

Table 17: Summary of automated CMV concepts that may be challenged by part 390

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	Yes
A1	Partially Automated CMV - Platoon	Yes
B	Conventional CMV, Limited Use Full Automation	Yes
C	Highly Automated CMV - Standalone	Yes
C1	Highly Automated CMV - Platoon	Yes
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part contains definitions and statements of applicability that create some ambiguity as to how other parts and requirements might apply to an automated CMV, particularly a fully automated CMV with or without a person onboard. In particular, this part presents definitions for driver, operator, and person that are unclear in their applicability to concepts involving onboard technicians and remote supervisors.

Section 390.17 also contains a general statement that may create some ambiguity for add-on systems that enable any level of automation: “Additional equipment and accessories. Nothing in this subchapter shall be construed to prohibit the use of additional equipment and accessories, not inconsistent with or prohibited by this subchapter, provided such equipment and accessories do not decrease the safety of operation of the commercial motor vehicles on which they are used.”

### 3.3.1.33 Part 391 Qualifications of drivers and longer combination vehicle (LCV) driver instructors

*Scope: (a) The rules in this part establish minimum qualifications for persons who drive commercial motor vehicles as, for, or on behalf of motor carriers. The rules in this part also establish minimum duties of motor carriers with respect to the qualifications of their drivers. (b) An individual who meets the definition of both a motor carrier and a driver employed by that motor carrier must comply with both the rules in this part that apply to motor carriers and the rules in this part that apply to drivers.*

Table 18: Summary of automated CMV concepts that may be challenged by part 391

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
<b>A</b>	Partially Automated CMV - Standalone	No
<b>A1</b>	Partially Automated CMV - Platoon	No
<b>B</b>	Conventional CMV, Limited Use Full Automation	No
<b>C</b>	Highly Automated CMV - Standalone	No
<b>C1</b>	Highly Automated CMV - Platoon	No
<b>D</b>	Highly Automated CMV with Licensed Onboard Technician	Yes
<b>D1</b>	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
<b>D2</b>	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
<b>D3</b>	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
<b>E</b>	Highly Automated CMV with Onboard Technician	Yes
<b>F</b>	Highly Automated CMV with Licensed Remote Supervisor	Yes
<b>F1</b>	Highly Automated CMV with Remote Supervisor	Yes
<b>G</b>	Highly Automated CMV with Minimal Direct Supervision	Yes

This part specifies the conditions under which a person is qualified to drive a CMV. If the requirements of this section can be construed as applying to an automation system, then numerous challenges arise (including, but not limited to, physical qualifications). Also, many of these requirements may not be applicable to the job functions of the onboard technician and remote supervisor roles envisioned for certain concepts.

### 3.3.1.34 Part 392 Driving of commercial motor vehicles

*Scope: (a) Every motor carrier, its officers, agents, representatives, and employees responsible for the management, maintenance, operation, or driving of commercial motor vehicles, or the hiring, supervising, training, assigning, or dispatching of drivers, shall be instructed in and comply with the rules in this part. (b) The rules in this part do not apply to drivers of “pipeline welding trucks” as defined in 49 CFR 390.38(b).*

Table 19: Summary of automated CMV concepts that may be challenged by part 392

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	Yes
C	Highly Automated CMV - Standalone	Yes
C1	Highly Automated CMV - Platoon	Yes
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

This part specifies cargo and vehicle equipment inspection requirements, which may present challenges for concepts that have no onboard driver or technician.

This part also contains a requirement for a driver to be properly restrained by a seatbelt assembly installed at the driver’s seat. This may preclude drivers or onboard technicians from moving away from the controls in a highly automated CMV.

**3.3.1.35 Part 393 Parts and accessories necessary for safe operation**

*Scope: The rules in this part establish minimum standards for commercial motor vehicles as defined in §390.5 of this title. Only motor vehicles (as defined in § 390.5) and combinations of motor vehicles which meet the definition of a commercial motor vehicle are subject to the requirements of this part. All requirements that refer to motor vehicles with a Gross Vehicle Weight Rating (GVWR) below 4,536 kg (10,001 pounds) are applicable only when the motor vehicle or combination of motor vehicles meets the definition of a commercial motor vehicle.*

Table 20: Summary of automated CMV concepts that may be challenged by part 393

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
<b>A</b>	Partially Automated CMV - Standalone	Yes
<b>A1</b>	Partially Automated CMV - Platoon	Yes
<b>B</b>	Conventional CMV, Limited Use Full Automation	Yes
<b>C</b>	Highly Automated CMV - Standalone	Yes
<b>C1</b>	Highly Automated CMV - Platoon	Yes
<b>D</b>	Highly Automated CMV with Licensed Onboard Technician	Yes
<b>D1</b>	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
<b>D2</b>	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
<b>D3</b>	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
<b>E</b>	Highly Automated CMV with Onboard Technician	Yes
<b>F</b>	Highly Automated CMV with Licensed Remote Supervisor	Yes
<b>F1</b>	Highly Automated CMV with Remote Supervisor	Yes
<b>G</b>	Highly Automated CMV with Minimal Direct Supervision	Yes

This part prohibits use of additional equipment in a manner that “decreases safety of operation.” Clarification may be required as to how this might apply to add-on automation systems.

### 3.3.1.36 Part 395 Hours of service of drivers

Table 21: Summary of automated CMV concepts that may be challenged by part 395

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	Yes
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	Yes
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
E	Highly Automated CMV with Onboard Technician	Yes
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

Provisions in this part will likely still apply to any person onboard, though they may need to be reconsidered in the case of operating concepts that reduce driver workload/fatigue or include an onboard technician. It is unclear whether/how these might apply in the case of an unmanned automated CMV.

### 3.3.1.37 Part 396 Inspection, repair, and maintenance

*Scope: (a) Every motor carrier, its officers, drivers, agents, representatives, and employees directly concerned with the inspection or maintenance of commercial motor vehicles must be knowledgeable of and comply with the rules of this part. (b) Every intermodal equipment provider, its officers, agents, representatives, and employees directly concerned with the inspection or maintenance of intermodal equipment interchanged or offered for interchange to motor carriers must be knowledgeable of and comply with the rules of this part. (c) This part does not apply to "covered farm vehicles," as defined in 49 CFR 390.5, or to the drivers of such vehicles. (d) The rules in this part do not apply to "pipeline welding trucks" as defined in 49 CFR 390.38(b).*

Table 22: Summary of automated CMV concepts that may be challenged by part 396

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
<b>A</b>	Partially Automated CMV - Standalone	Yes
<b>A1</b>	Partially Automated CMV - Platoon	Yes
<b>B</b>	Conventional CMV, Limited Use Full Automation	Yes
<b>C</b>	Highly Automated CMV - Standalone	Yes
<b>C1</b>	Highly Automated CMV - Platoon	Yes
<b>D</b>	Highly Automated CMV with Licensed Onboard Technician	Yes
<b>D1</b>	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
<b>D2</b>	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
<b>D3</b>	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
<b>E</b>	Highly Automated CMV with Onboard Technician	Yes
<b>F</b>	Highly Automated CMV with Licensed Remote Supervisor	Yes
<b>F1</b>	Highly Automated CMV with Remote Supervisor	Yes
<b>G</b>	Highly Automated CMV with Minimal Direct Supervision	Yes

This part generally prohibits operation of a CMV “...in a condition as to likely cause an accident or a breakdown of the vehicle.” This may need to be clarified with respect to any form of automation.

### 3.3.1.38 Part 397 Transportation of hazardous materials; driving and parking rules

Table 23: Summary of automated CMV concepts that may be challenged by part 397

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
<b>A</b>	Partially Automated CMV - Standalone	No
<b>A1</b>	Partially Automated CMV - Platoon	No
<b>B</b>	Conventional CMV, Limited Use Full Automation	No
<b>C</b>	Highly Automated CMV - Standalone	No
<b>C1</b>	Highly Automated CMV - Platoon	No
<b>D</b>	Highly Automated CMV with Licensed Onboard Technician	No
<b>D1</b>	Highly Automated CMV - Platoon (Technicians in All Vehicles)	Yes
<b>D2</b>	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	Yes
<b>D3</b>	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	Yes
<b>E</b>	Highly Automated CMV with Onboard Technician	Yes
<b>F</b>	Highly Automated CMV with Licensed Remote Supervisor	Yes
<b>F1</b>	Highly Automated CMV with Remote Supervisor	Yes
<b>G</b>	Highly Automated CMV with Minimal Direct Supervision	Yes

This part specifies physical requirements for a driver; though it is worded as “No person shall drive...any motor vehicle unless such person possesses the following minimum qualifications.” Therefore, it is unclear whether this section would apply to (1) onboard technicians or (2) automated driving systems. This section might also preclude the transport of hazardous materials by an automated CMV with no human onboard, as materials must be attended by a person at all times and tires must be checked each time the vehicle is parked, among other requirements.

### 3.3.1.39 Part 398 Transportation of migrant workers

Table 24: Summary of automated CMV concepts that may be challenged by part 398

Concept ID	Automated CMV Operating Concepts (see Appendix A for full descriptions)	Potential challenges identified?
A	Partially Automated CMV - Standalone	No
A1	Partially Automated CMV - Platoon	No
B	Conventional CMV, Limited Use Full Automation	No
C	Highly Automated CMV - Standalone	No
C1	Highly Automated CMV - Platoon	No
D	Highly Automated CMV with Licensed Onboard Technician	No
D1	Highly Automated CMV - Platoon (Technicians in All Vehicles)	No
D2	Highly Automated CMV - Platoon (Technician in Lead Vehicle Only)	No
D3	Highly Automated Light-Duty Van - Platoon (Technicians in Lead Vehicle Only)	No
E	Highly Automated CMV with Onboard Technician	No
F	Highly Automated CMV with Licensed Remote Supervisor	Yes
F1	Highly Automated CMV with Remote Supervisor	Yes
G	Highly Automated CMV with Minimal Direct Supervision	Yes

See comment for part 391

### 3.3.1.40 Part 399 Employee safety and health standards

No issues identified.

## 4. Preliminary Assessment of Gaps in Current Regulations

Volpe focused its review of the FMCSRs primarily on identifying challenges for the operation of automated CMVs, challenges for enforcing existing requirements for automated CMVs, and uncertainties in how to interpret existing requirements in the context of automated CMVs. However, in reviewing the regulations, the team also identified a number of broad gaps that may exist in applying the FMCSRs to automated CMVs. These gaps, while far from a comprehensive list, highlight several areas where the FMCSRs may not provide the same level of safety assurance for automated vehicles and their operators as they do for human drivers and manually-driven vehicles. These areas are presented for consideration by FMCSA and many could require extensive research before comprehensive action can be taken to address them.

### 4.1 Driver Requirement

In its review of the FMCSRs, the Volpe Center did not encounter specific language that explicitly requires a CMV to have a human driver present in the vehicle while underway. Numerous requirements specify the qualifications and licenses that a human driver must possess in order to drive a CMV; however, these requirements are generally stated in the following way: “Any person who operates a commercial motor vehicle must...” or “No person shall operate a commercial motor vehicle unless...”.<sup>8</sup> This language suggests that, although certain requirements would apply to any person who drives a CMV, read literally, they do not explicitly require a human driver.

With that said, as noted in the previous section, other requirements for activities that must be performed in the course of operating a CMV (e.g., periodically inspecting the load and equipment) may implicitly require a human driver to be present on a commercial vehicle while it is underway.

### 4.2 Safe Driving Qualifications for an Automated Driving System

Many of the existing FMCSRs are intended to ensure that a CMV driver has the knowledge and skills to operate their vehicle in a safe manner. If these requirements do not explicitly extend to automated systems (depending on the interpretation and applicability of the terms “driver” and “operator,” as discussed earlier), then the FMCSRs contain no specific requirements for the safe performance of an automated driving system. The establishment of any safe driving performance requirements would likely need to be coordinated with NHTSA, as they may blur the distinction between vehicle requirements and

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<sup>8</sup> For example, see §383.23 (a)(1): “No person shall operate a commercial motor vehicle unless such person has taken and passed written and driving tests for a CLP or CDL...”.

driver or operational requirements. Extensive research and industry coordination would surely be required to develop a set of safety requirements for automated vehicle systems that are analogous to existing requirements for obtaining a CDL.

### **4.3 Ensuring the Safe Performance of Physical Systems on AVs**

The performance of safety-critical physical equipment (e.g., brakes and tires) may degrade over time while remaining within an acceptable performance window. Experienced CMV drivers are likely to recognize when performance is degraded and tailor their driving accordingly; automated driving systems may require a similar feedback mechanism. This feedback between physical system performance and automated system behavior could be especially critical in braking systems for CMVs with automated platooning capabilities that are expected to travel with shorter headways between one another. This gap could potentially be addressed through the identification of performance requirements if they were to include the need for a feedback mechanism between physical equipment and the onboard driving system.

### **4.4 Inspections of AV Equipment**

As automated features are introduced for CMVs, FMCSA may need to specify inspection procedures for some of the systems and the hardware they rely upon. Though these systems are unlikely to be required, at least in the near-term, identifying damage or malfunctions during roadside inspections could be critical to ensuring their safe operation. Alternatively, NHTSA's Automated Vehicle Performance Guidance, released in September 2016, specifies that, "HAVs operating on the road should be capable of detecting that their HAV systems have malfunctioned, are operating in a degraded state, or are operating outside of their ODD, and of informing the human driver in a way that enables the driver to regain proper control of the vehicle or allows the HAV system to return to a minimal risk condition independently."<sup>9</sup> This suggests that any automated vehicle should have the ability to determine when its OEDR capabilities are degraded and transfer control to a human driver or revert to a minimal risk condition. Though this fallback capability may suffice absent inspection procedures for damaged sensors or software errors, FMCSA may wish to initiate research on the performance of AV systems at increasing levels of degradation (e.g., wear on or damage to sensor surfaces) in order to inform the development of inspection procedures and criteria.

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<sup>9</sup> National Highway Traffic Safety Administration, *Federal Automated Vehicles Policy*, September 2016, p. 30 (<https://www.transportation.gov/sites/dot.gov/files/docs/AV%20policy%20guidance%20PDF.pdf>)

## **4.5 Qualifications for New or Shifting Roles in CMV Operations**

As part of its review of the FMCSRs, Volpe proposed several automated CMV operating concepts that introduce new roles for CMV operations, including onboard technicians who are only responsible for non-driving tasks (e.g., ensuring cargo securement and security) and remote supervisors who monitor the operations of driverless CMVs. As automated driving systems emerge for CMVs, FMCSA may need to develop separate qualifications for these new roles. Moreover, FMCSA may wish to introduce additional qualifications for licensed drivers who plan to operate a vehicle equipped with automation.

### **4.5.1 Human Driver Qualifications to Operate Automated CMVs**

Driver education and training has been expressed as a critical area in the development of automated vehicles generally to ensure that drivers understand the functionality, capabilities, and limitations of their vehicles. As the FMCSRs already play a significant role in specifying required training, skills, and knowledge for CMV drivers, FMCSA may wish to amend the FMCSRs to ensure that CMV drivers are trained to operate new automated systems and understand their capabilities and limitations. This could include the development of a new endorsement covering one or more automated driving features.

### **4.5.2 Qualifications for an Onboard Technician and Remote Supervisor**

The automated CMV operating concepts that the Volpe Center used to structure its review of the FMCSRs proposed potential new roles for CMV operations, namely onboard (non-driving) technicians and remote supervisors. If automated driving features advance to the point where these roles become necessary, FMCSA may need to introduce new requirements pertaining to the skills, knowledge, training, and other qualifications for performing them safely.

## **4.6 Vehicles Subject to the FMCSRs**

Automation may enable new types of vehicles to serve operational needs currently met by CMVs that fall under the purview of the FMCSRs. These dynamics could potentially push some freight and passenger movement beyond the authority of FMCSA. For example, if truly driverless CMVs reach a point of technical feasibility, the operation of multiple light-duty vehicles could serve as a viable alternative to single medium- or heavy-duty vehicles. After all, if motor carriers do not need to pay for a driver for each vehicle, the business case for operating multiple small vehicles in place of a single large vehicle could be viable (or at least more viable than it is currently). This shifting cost dynamic could push freight and passenger movement away from heavy- and medium-duty vehicles that must currently comply with some or all existing FMCSRs to vehicles that are not currently subject to the FMCSRs. It may be worth considering whether this path would present any notable new hazards, or whether the distribution of loads among smaller, lighter vehicles would distribute the risk accordingly and, therefore,

present no greater risk than the operation of private passenger vehicles, which are similarly not subject to the FMCSRs.

## 5. Summary and Conclusions

This report summarizes the challenges of applying the existing FMCSRs to automated commercial vehicles, ranging from automated driver assistance features to truly driverless CMVs with remote supervision. In short, relatively few challenges exist in the current regulations for automated CMVs that retain a role, even an intermittent one, for a human driver. More significant challenges may exist for automated CMVs that require an onboard human technician who does not drive and for driverless CMV operating concepts. Not only would such concepts face challenges in meeting some existing requirements, but they also present challenges for the application of definitions and, therefore, for determining the applicability of various requirements. If not addressed, these points of ambiguity could create confusion for FMCSA and its state partners.

It should be noted that as a preliminary review, this effort was meant to highlight potential challenges and sources of ambiguity to FMCSA for its consideration. This does not suggest that every FMCSR reference highlighted in this report and in Appendix B: Findings by FMCSR Part is necessarily a barrier or challenge, but rather that as automated vehicles near deployment, FMCSA may want to review and reconsider the sections identified to ensure that (1) agency staff and their state partners are prepared to consistently apply them to emerging automated CMV concepts and (2) technology developers and motor carriers have a clear path for complying with them in a safe manner.

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# Appendix A: Summary of Automated CMV Operating Concepts

## Overview

This appendix presents a collection of hypothetical automated commercial motor vehicle (CMV) operating concepts that the Volpe Center proposes to consider as it reviews the Federal Motor Carrier Safety Regulations (FMCSRs). The Volpe Center’s approach will identify barriers or challenges that each of these operating concepts would face in complying with the current FMCSRs, or interpretation challenges that each could present for enforcement agencies and personnel. The output of this effort will be a comprehensive inventory of regulatory references and language that the Volpe Center recommends for further review; this inventory will be organized by operating concept and by the perceived nature of the potential barrier or challenge.

The following concepts cover a wide range of automated vehicle capabilities and potential deployment timelines, ranging from near-term partial automation systems (some of which are already available on light duty vehicles or undergoing testing in heavy-duty applications) to novel yet plausible (in light of the progression of automated vehicle technology and potential benefits to the industry) applications of full autonomy to CMV operations. The latter, in particular, may not see use for several decades, but are likely to have the most significant implications for current regulations and are, therefore, worth considering early.

Each concept description includes explicit details about the relevant operating and equipment characteristics. These details are not meant to suggest that automation in commercial vehicle operations will evolve in these exact ways; instead, they are presented to allow the Volpe Center team to gain a better understanding of how various operating and equipment characteristics, enabled by automation, interact with current regulations.

The concept descriptions each include the following sections:

- **EQUIPMENT DESCRIPTION**
  - What type of equipment would be applicable to this operating concept?
  - Brief description of how the equipment performs in this operating concept.
  - Operating environment (e.g., roadway type, weather conditions) limitations.
- **OVERALL VEHICLE OPERATIONS**
  - **Driving Operation**
    - How are lateral/longitudinal control and vehicle operation oversight managed and divided between onboard/remote human operators and onboard automation?
  - **Inspection of Equipment**
    - How are vehicle equipment inspection procedures performed and documented?
  - **Securement of “Cargo”**
    - How are cargo securement and inspection or passenger management procedures performed?

- **DRIVER QUALIFICATIONS AND FITNESS to DRIVE**
  - How are onboard/remote operators and automation trained and licensed in this scenario?
  - What are the safe operating parameters of this concept (in terms of hours of operation, physical state of humans involved in operating the vehicle)?
- **POTENTIAL MARKET INCENTIVE(S):** Why might motor carriers, owner-operators, or OEMs/technology companies be interested in pursuing this operating concept?

## Automated CMV Operating Concepts

### (A) Partially Automated CMV - Standalone

- **EQUIPMENT DESCRIPTION**
  - Meets Definition of a Commercial Motor Vehicle: 1) Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds; or 2) Has a gross vehicle weight rating of 26,001 or more pounds, or 3) Is designed to transport 16 or more passengers, including the driver; or 4) Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR 172, subpart F).
  - Standalone vehicle
  - Equipment has autopilot feature that driver may engage; system will notify driver with minimal notification (2-5 seconds) if manual control is required. Automation functions only on divided highways.
- **OVERALL VEHICLE OPERATIONS**
  - **Driving Operation**
    - Human driver engages part-time automation of lateral and/or longitudinal control.
    - Human driver always responsible for observing and reacting to environment, route choice
  - **Inspection of Equipment**
    - Human driver inspects equipment
    - Human driver interacts with roadside inspectors
    - Driver continues to follow standard procedure for logging inspections
  - **Securement of “Cargo”**
    - Driver continues to follow standard procedure for securing cargo at origin and in transit/managing passengers
- **DRIVER QUALIFICATIONS AND FITNESS to DRIVE**
  - Human driver continues to follow standard procedures in the areas of HOS, physical fitness, and training, knowledge, and licensing
- **POTENTIAL MARKET INCENTIVE(S):** May reduce driver stress/fatigue with equivalent or higher level of safety (assuming driver engagement issues can be mitigated).

## (AI) Partially Automated CMV – Platoon

- All characteristics equivalent to A, but vehicles are capable of safely operating with minimal following distance under certain conditions, using a combination of V2V communications and onboard sensors.
- Longitudinal and/or lateral controls can be automated for lead truck; longitudinal controls are automated for following trucks with option of lateral automation.
- **POTENTIAL MARKET INCENTIVE(S):** Improved fuel efficiency when engaged in platoon. May reduce driver stress/fatigue with equivalent or higher level of safety (assuming driver engagement issues can be mitigated).

## (B) Conventional CMV, Limited Use Full Automation

- **EQUIPMENT DESCRIPTION**
  - Meets Definition of a Commercial Motor Vehicle: 1) Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds; or 2) Has a gross vehicle weight rating of 26,001 or more pounds, or 3) Is designed to transport 16 or more passengers, including the driver; or 4) Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR 172, subpart F).
  - Standalone vehicle
  - While on private property, vehicle can be operated with no driver onboard at low speeds (< 5 mph). On public roads, vehicle is operated in a conventional manner.
- **OVERALL VEHICLE OPERATIONS**
  - **Driving Operation**
    - Human driver is responsible for all controls and decision-making while driving on public roads.
    - In private facilities (e.g., port terminal), human driver can cede full authority for longitudinal and lateral control and navigation to onboard automation.
    - Navigational directions are issued wirelessly by facility personnel.
    - No onboard human oversight is required for safe operation while automation is engaged.
  - **Inspection of Equipment**
    - Human driver inspects equipment
    - Human driver interacts with roadside inspectors
    - Driver continues to follow standard procedure for logging inspections
  - **Securement of “Cargo”**
    - Driver continues to follow standard procedure for securing cargo at origin and in transit.
- **DRIVER QUALIFICATIONS AND FITNESS TO DRIVE**
  - Human driver continues to follow standard procedures in the areas of HOS, physical fitness, and training, knowledge, and licensing.

- **POTENTIAL MARKET INCENTIVE(S):** May reduce workload for drivers in minimally complex environments.

## (C) Highly Automated CMV

- **EQUIPMENT DESCRIPTION**
  - Meets Definition of a Commercial Motor Vehicle: 1) Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds; or 2) Has a gross vehicle weight rating of 26,001 or more pounds, or 3) Is designed to transport 16 or more passengers, including the driver; or 4) Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR 172, subpart F).
  - Standalone vehicle
  - Most public roads; some restrictions based on weather and road conditions
  - Equipment has advanced autopilot feature that driver may engage for extended periods of time; system will notify driver with ample notification (at least 60 seconds) if manual control is required. If driver does not reengage, automation is capable of maneuvering to the roadside.
- **OVERALL VEHICLE OPERATIONS**
  - **Driving Operation**
    - Human driver engages automation of lateral and longitudinal control
    - When engaged, automation is responsible for physical control of longitudinal and lateral movement. Automation can also make navigational decisions and is capable of assessing environmental conditions to determine whether continued operation in automated mode is safe. Human is responsible for periodic monitoring of the automation to ensure that reengagement is not necessary.
    - When automation is not engaged, human is fully responsible for lateral and longitudinal control as well as monitoring the environment and making navigational decisions.
  - **Inspection of Equipment**
    - Human driver inspects equipment
    - Human driver interacts with roadside inspectors
    - Driver continues to follow standard procedure for logging inspections
  - **Securement of “Cargo”**
    - Driver continues to follow standard procedure for securing cargo at origin and in transit/managing passengers
- **DRIVER QUALIFICATIONS AND FITNESS to DRIVE**
  - Human driver continues to follow standard procedures in the areas of physical fitness, and training, knowledge, and licensing
- **POTENTIAL MARKET INCENTIVE(S):** May improve safety and reduce driver stress/fatigue (assuming driver engagement issues can be mitigated). Potential for modest fuel savings due to less variable acceleration/deceleration profiles.

## (CI) Highly Automated CMV – Platoon

- All characteristics equivalent to C, but vehicles are capable of safely operating with minimal following distance under certain conditions, using a combination of V2V communications and onboard sensors.
- **POTENTIAL MARKET INCENTIVE(S):** May improve fuel efficiency when engaged in platoon. May also reduce driver stress/fatigue with equivalent or higher level of safety (assuming driver engagement issues can be mitigated).

## (D) Highly Automated CMV with Licensed Onboard Technician

- **EQUIPMENT DESCRIPTION**
  - Meets Definition of a Commercial Motor Vehicle: 1) Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds; or 2) Has a gross vehicle weight rating of 26,001 or more pounds, or 3) Is designed to transport 16 or more passengers, including the driver; or 4) Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR 172, subpart F).
  - Standalone vehicle
  - All public roads and conditions
  - Vehicle operates autonomously from origin to destination. Onboard technician is available to perform non-driving functions and troubleshoot any potential faults.
  - Vehicles retain manual controls to allow for onboard technician to maneuver truck into specific loading docks.
- **OVERALL VEHICLE OPERATIONS**
  - **Driving Operation**
    - Longitudinal and lateral movement is controlled by automation
    - Observing and reacting to environment and route choice are the direct responsibility of the automation; onboard technician monitors these decisions and has the ability to override the automation (e.g., reroute truck, or direct the truck to pull off the road in adverse conditions)
  - **Inspection of Equipment**
    - Onboard technician inspects equipment
    - Onboard technician interacts with roadside inspectors
    - Onboard technician continues to follow standard procedure for logging inspections
  - **Securement of “Cargo”**
    - Onboard technician continues to follow standard procedure for securing cargo at origin and in transit/managing passengers
- **DRIVER QUALIFICATIONS AND FITNESS to DRIVE**
  - Onboard technician is trained and licensed as a commercial vehicle driver
  - Vehicles can operate safely without constant supervision by the onboard technician or their continuous presence at the “controls”.

- The artificial intelligence “driver” can demonstrate the driving competencies required to secure a CDL.
- **POTENTIAL MARKET INCENTIVE(S):** May improve safety and reduce driver stress/fatigue (assuming driver engagement issues can be mitigated). Potential for modest fuel savings due to less variable acceleration/deceleration profiles. Potential for faster long-distance travel times.

## (D1) Highly Automated CMV – Platoon (Technicians in All Vehicles)

- All characteristics equivalent to D, but vehicles are capable of safely operating with minimal following distance on high-speed, divided highways using a combination of V2V communications and onboard sensors.
- All vehicles have onboard technician.
- **POTENTIAL MARKET INCENTIVE(S):** May improve fuel efficiency when engaged in platoon.

## (D2) Highly Automated CMV – Platoon (Technician in Lead Vehicle Only)

- Vehicles leading platoons are equivalent to scenario D, following vehicles are equivalent to F.
- **POTENTIAL MARKET INCENTIVE(S):** May improve fuel efficiency when engaged in platoon and reduce operating expenses for following vehicles

## (D3) Highly Automated Light-Duty Van (Cargo or Passenger) – Platoon (Technicians in Lead Vehicle Only)

- Equivalent to scenario D2, but vehicles are light/medium-duty cargo or passenger vans.
- Vehicles leading platoons are equivalent to scenario D, following vehicles are equivalent to scenario F.
- **POTENTIAL MARKET INCENTIVE(S):** May improve fuel efficiency when engaged in platoon and reduce operating expenses for following vehicles

## (E) Highly Automated CMV with Onboard Technician

- **EQUIPMENT DESCRIPTION**
  - Meets Definition of a Commercial Motor Vehicle: 1) Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds; or 2) Has a gross vehicle weight rating of 26,001 or more pounds, or 3) Is designed to transport 16 or more passengers, including the driver; or 4) Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR 172, subpart F).
  - Standalone vehicle
  - All public roads and conditions
  - Vehicle has no manual controls; all movement tasks are handled by the automation.

- Onboard technician may use a tablet computer to override the automation, including changing the destination or route of the vehicle, instructing the vehicle to pull over. Since the vehicle does not have manual controls, technical cannot override direct control inputs.
- Vehicle operates autonomously from origin to destination. Onboard technician is available to perform non-driving functions and troubleshoot any potential faults.
- The tractor has a sleeper cab for the onboard technician.
- **OVERALL VEHICLE OPERATIONS**
  - **Driving Operation**
    - Longitudinal and lateral movement is controlled by automation
    - Observing and reacting to environment and route choice are the direct responsibility of the automation; onboard technician monitors these decisions and has the ability to override the automation (e.g., reroute truck, or direct the truck to pull off the road in adverse conditions). Onboard technician has no direct responsibility for the movement of the vehicle.
    - Given that the “driver” is the artificial intelligence system – a system that does not tire or fatigue from roadway operations – the vehicle can travel nearly 24 hours per day.
  - **Inspection of Equipment**
    - Automation system includes sensors and fault indicators that feed into the artificial intelligence system control logic. In the event of some fault indicators (blown tire, brake lock up, etc.), the vehicle may automatically pull over at the first available safe opportunity and continue travel only after confirmation from a human.
    - Onboard technician inspects equipment and maintains inspection logs.
    - Onboard technician interacts with roadside inspectors.
    - Onboard technician continues to follow standard procedure for logging inspections.
  - **Securement of “Cargo”**
    - Onboard technician continues to follow standard procedure for securing cargo at origin and in transit/managing passengers
- **DRIVER QUALIFICATIONS AND FITNESS to DRIVE**
  - Onboard technician is trained in property security, vehicle maintenance, and artificial intelligence trouble-shooting. This training regimen is administered by the transport company.
  - The onboard technician has no state issued CDL.
  - Vehicle can operate safely without constant human supervision. The highly automated vehicle artificial intelligence “driver” can demonstrate the driving competencies required to secure a CDL.
- **POTENTIAL MARKET INCENTIVE(S):** May lower operating costs and introduce flexibility for labor force. May improve equipment utilization modestly improve fuel economy due to less variable acceleration/deceleration profiles. Potential for faster long-distance travel times.

## (F) Highly Automated CMV with Licensed Remote Supervisor

- **EQUIPMENT DESCRIPTION**

- Meets Definition of a Commercial Motor Vehicle: 1) Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds; or 2) Has a gross vehicle weight rating of 26,001 or more pounds, or 3) Is designed to transport 16 or more passengers, including the driver; or 4) Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR 172, subpart F).
- Tractor trailer configuration has no cab for human occupants on the tractor. There are no manual controls on-board.
- Bus configuration has traditional seating for passengers, but no provision for a driver.
- Standalone vehicle
- All public roads and conditions
- Vehicle operates autonomously from origin to destination with no human onboard. A person in a remote command center constantly monitors vehicle location and operations while vehicle is in transit. This individual can be responsible for monitoring up to four trucks simultaneously.
- Vehicle has no manual controls; all movement tasks are handled by the automation.

- **OVERALL VEHICLE OPERATIONS**

- **Driving Operation**
  - Longitudinal and lateral movement is controlled by automation
  - Observing and reacting to environment and route choice are the direct responsibility of the automation; remote supervisor monitors these decisions has the ability to override the automation (e.g., reroute truck, or direct the truck to pull off the road in adverse conditions)
- **Inspection of Equipment**
  - Equipment is physically inspected by depot worker(s) prior to departure; onboard sensors and cameras provide vehicle condition information to remote supervisor while in transit
  - Automation system includes sensors and fault indicators that feed into the artificial intelligence system control logic. In the event of some fault indicators (blown tire, brake lock up, etc.), the vehicle may automatically pull over at the first available safe opportunity and continue travel only after confirmation from a human.
  - Vehicle can be summoned to inspection stations
  - Inspection information is logged onboard and transmitted to remote supervisor electronically
- **Securement of “Cargo”**
  - Depot worker(s) secure load prior to departure
  - Onboard sensors and cameras provide vehicle condition information to remote supervisor while in transit

- Cargo fits into modular dunnage bins with any locking fault feedback provided to the artificial intelligence “driver”.
  - Bus features onboard cameras to monitor passenger safety and emergency call units throughout the cabin that link directly to the remote supervisor
- **DRIVER QUALIFICATIONS AND FITNESS to DRIVE**
  - Remote supervisor is trained and licensed as a commercial vehicle driver.
  - The highly automated vehicle artificial intelligence “driver” can demonstrate the driving competencies required to secure a CDL.
  - Trucks can operate continuously, with remote supervisors working eight-hour shifts and transferring oversight of trucks at the end of each shift
- **POTENTIAL MARKET INCENTIVE(S):** Potential for lower operating costs and faster long-distance travel times.

## (FI) Highly Automated CMV with Remote Supervisor

- **EQUIPMENT DESCRIPTION**
  - Meets Definition of a Commercial Motor Vehicle: 1) Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds; or 2) Has a gross vehicle weight rating of 26,001 or more pounds, or 3) Is designed to transport 16 or more passengers, including the driver; or 4) Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR 172, subpart F).
  - Tractor trailer configuration has no cab for human occupants on the tractor. There are no manual controls on-board.
  - Bus configuration has traditional seating for passengers, but no provision for a driver.
  - Vehicle operates autonomously from origin to destination with no human operator onboard. A person in a remote command center constantly monitors vehicle location and operations while vehicle is in transit. This individual can be responsible for monitoring up to four vehicles simultaneously.
  - In the event of a fault, an observer from the remote command center can provide the AI driving system with guidance to pull-over and await roadside assistance.
  - Facetime-like communication equipment is on-board for other humans (police, inspectors, maintenance, passengers, etc.) to communicate with the observer in the remote command center.
  - Standalone vehicle
  - All public roads and conditions
- **OVERALL VEHICLE OPERATIONS**
  - **Driving Operation**
    - Longitudinal and lateral movement is controlled by automation
    - Observing and reacting to environment and route choice are the direct responsibility of the automation; remote supervisor monitors these decisions and has the ability to override the automation (e.g., reroute truck, or direct the truck to pull off the road in adverse conditions)

- Given that the “driver” is the artificial intelligence system – a system that does not tire or fatigue from roadway operations – the vehicle can travel nearly 24 hours per day.
    - Remote assistant has no responsibility for the movement of the vehicle on a second-by-second basis.
  - **Inspection of Equipment**
    - Equipment is physically inspected by depot worker(s) prior to departure; onboard sensors and cameras provide vehicle condition information to remote supervisor while in transit.
    - Vehicle can be summoned or directed to inspection stations by the remote supervisor.
    - Inspection information is logged onboard and transmitted to remote supervisor electronically.
    - On-board cameras allow the remote supervisor to observe cargo, equipment (tires, brakes, lights, etc.), and road views.
    - Automation system includes sensors and fault indicators that feed into the artificial intelligence system control logic. In the event of some fault indicators (blown tire, brake lock up, etc.), the vehicle may automatically pull over at the first available safe opportunity and continue travel only after confirmation from a human.
  - **Securement of “Cargo”**
    - Depot worker(s) secure load prior to departure
    - Cargo fits into modular dunnage bins with any locking fault feedback provided to the artificial intelligence “driver”.
    - Onboard sensors and cameras provide vehicle condition information to remote supervisor while in transit.
    - Remote assistant may monitor the cargo, but the artificial intelligence system – in combination with secure cargo containers and loading dock process – assure that the load is secured.
    - Bus features onboard cameras to monitor passenger safety and emergency call units throughout the cabin that link directly to the remote supervisor.
- **DRIVER QUALIFICATIONS AND FITNESS to DRIVE**
  - Vehicle can operate safely without constant human supervision. The highly automated vehicle artificial intelligence “driver” can demonstrate the driving competencies required to secure a CDL.
  - Trucks can operate continuously, with remote supervisors working eight-hour shifts and transferring oversight of trucks at the end of each shift.
  - Remote supervisor is trained in property security, vehicle maintenance, and artificial intelligence trouble-shooting. This training regimen is administered by the transport company.
  - Remote assistant has no state issued CDL.
- **POTENTIAL MARKET INCENTIVE(S):** Potential for lower operating costs and faster long-distance travel times.

## (G) Highly Automated CMV with Minimal Direct Supervision

- **EQUIPMENT DESCRIPTION**

- Meets Definition of a Commercial Motor Vehicle: 1) Has a gross combination weight rating of 26,001 or more pounds inclusive of a towed unit with a gross vehicle weight rating of more than 10,000 pounds; or 2) Has a gross vehicle weight rating of 26,001 or more pounds, or 3) Is designed to transport 16 or more passengers, including the driver; or 4) Is of any size and is used in the transportation of materials found to be hazardous for the purposes of the Hazardous Materials Transportation Act and which require the motor vehicle to be placarded under the Hazardous Materials Regulations (49 CFR 172, subpart F).
- Tractor trailer configuration has no cab for human occupants on the tractor. There are no manual controls on-board.
- Bus configuration has traditional seating for passengers, but no provision for a driver.
- Standalone vehicle
- All public roads and conditions
- Vehicle operates autonomously from origin to destination with no human onboard and only infrequent remote supervision in-transit. Remote monitors are responsible for up to ten vehicles at once.
- Vehicles retain manual controls to allow for depot workers to maneuver trucks into specific loading docks; manual controls can be locked out electronically to prevent unauthorized usage.

- **OVERALL VEHICLE OPERATIONS**

- **Driving Operation**
  - Longitudinal and lateral movement is controlled by automation
  - Observing and reacting to environment and route choice are the direct responsibility of the automation. Automation can alert a remote supervisor of equipment problems or operating limitations, but otherwise, remote supervisor will only infrequently check on vehicle status.
- **Inspection of Equipment**
  - Equipment is physically inspected by depot worker(s) prior to departure; onboard sensors and cameras provide vehicle condition information to remote supervisor while in transit
  - Vehicle can be summoned to inspection stations
  - Inspection information is logged onboard and transmitted to remote supervisor electronically
  - Automation system includes sensors and fault indicators that feed into the artificial intelligence system control logic. In the event of some fault indicators (blown tire, brake lock up, etc.), the vehicle may automatically pull over at the first available safe opportunity and continue travel only after confirmation from a human.
- **Securement of “Cargo”**
  - Depot worker(s) secure load prior to departure
  - Cargo fits into modular dunnage bins with any locking fault feedback provided to the artificial intelligence “driver”.

- Onboard sensors and cameras provide vehicle condition information to remote supervisor while in transit
  - Bus features onboard cameras to monitor passenger safety and emergency call units throughout the cabin that link directly to the remote supervisor
- **DRIVER QUALIFICATIONS AND FITNESS to DRIVE**
  - Vehicle can operate continuously; remote supervisors work eight-hour shifts and transfer oversight of vehicles at the end of each shift.
  - Remote supervisor does not have comprehensive commercial driver training or a commercial driver’s license. They are trained in the safe operation of fully automated vehicles and in appropriately reviewing, interpreting, and responding to information available to them (including sensor data, fault codes, inspection reports, and camera feeds).
  - The highly automated vehicle artificial intelligence “driver” can demonstrate the driving competencies required to secure a CDL.
- **POTENTIAL MARKET INCENTIVE(S):** Potential for lower operating costs and faster long-distance travel times.

# Appendix B: Findings by FMCSR Part

Part	Subject	FMCSR Language
303	CIVIL RIGHTS	
325	COMPLIANCE WITH INTERSTATE MOTOR CARRIER NOISE EMISSION STANDARDS	
325.13	COMPLIANCE WITH INTERSTATE MOTOR CARRIER NOISE EMISSION STANDARDS	<p>(b) <b>A motor carrier, its officers, drivers, agents, and employees must, at any time, submit a motor vehicle used in its operations for inspection, examination, and testing</b> for the purpose of ascertaining whether the motor vehicle and equipment installed on it conforms to the Interstate Motor Carrier Noise Emission Standards of the Environmental Protection Agency, 40 CFR part 202.</p> <p>(d) Motor carrier's disposition of form MCS-141.</p> <p>(1) <b>The driver of any motor vehicle receiving a Form MCS-141 shall deliver such MCS-141 to the motor carrier operating the vehicle upon his/her arrival at the next terminal or facility of the motor carrier</b>, if such arrival occurs within twenty-four (24) hours. If the driver does not arrive at a terminal or facility of the motor carrier operating the vehicle within twenty-four (24) hours he/she shall immediately mail the Form MCS-141 to the motor carrier. For operating convenience, motor carriers may designate any shop, terminal, facility, or person to which it may instruct its drivers to deliver or forward Form MCS-141. It shall be the sole responsibility of the motor carrier that Form MCS-141 is returned to the Federal Motor Carrier Safety Administration, in accordance with the terms prescribed thereon and in paragraphs (d) (2) and (3) of this section. <b>A driver, if himself/herself is a motor carrier, shall return Form MCS-141 to the Federal Motor Carrier Safety Administration, in accordance with the terms prescribed thereon and in paragraphs (d) (2) and (3) of this section.</b></p>

Part	Subject	FMCSR Language
325.27	COMPLIANCE WITH INTERSTATE MOTOR CARRIER NOISE EMISSION STANDARDS	<b>A properly installed windscreen</b> , of the type recommended by the manufacturer of the Sound Level Measurement System, shall be used during the time that noise emission measurements are being taken.
325.59	COMPLIANCE WITH INTERSTATE MOTOR CARRIER NOISE EMISSION STANDARDS	(d) With the motor vehicle's transmission in neutral and its clutch engaged, rapidly accelerate the vehicle's engine from idle to its maximum governed speed with wide open throttle. Return the engine's speed to idle.
350	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	
350.103	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>The purpose of this part is to ensure the Federal Motor Carrier Safety Administration (FMCSA), States, local government agencies and other political jurisdictions work in partnership to establish programs to improve motor carrier, CMV, and driver safety to support a safe and efficient transportation system by—</p> <p>(c) <b>Adopting and enforcing effective motor carrier, CMV, and driver safety regulations and practices consistent with Federal requirements;</b> and</p>
350.111	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>What constitutes traffic enforcement for the purpose of the MCSAP?</p> <p>Traffic enforcement means enforcement activities of State or local officials, including the stopping of vehicles operating on highways, streets, or roads for moving violations of State or local motor vehicle or traffic laws (e.g., speeding, <b>following too closely</b>, reckless driving, improper lane changes).</p>

Part	Subject	FMCSR Language
350.201	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>Each State must meet the following 25 conditions:</p> <p>(i) Adopt and use the <b>reporting standards</b> and forms required by the FMCSA to record work activities performed under the CVSP.</p> <p>(r) <b>Enforce requirements relating to the licensing of CMV drivers</b>, including checking the status of commercial drivers' licenses (CDL).</p> <p>(t)—</p> <p>(1) Enforce registration (i.e., operating authority) requirements under 49 U.S.C. 13902, 49 CFR part 365, 49 CFR part 368, and 49 CFR 392.9a by prohibiting the operation of (i.e., placing out of service) any vehicle discovered to be operating without the required operating authority or beyond the scope of the motor carrier's operating authority.</p> <p>(x) Conduct comprehensive and highly visible traffic enforcement and CMV safety inspection programs in high-risk locations and corridors.</p> <p>(z) Ensure transmittal to roadside inspectors the notice of each Federal exemption the State receives from FMCSA pursuant to 49 CFR part 381 subpart C, <b>including the name of the person granted the exemption and any terms and conditions that apply to the exemption.</b></p>
350.211	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>(a). The State has adopted commercial motor carrier and highway hazardous materials <b>safety rules and regulations that are compatible</b> with the FMCSRs and the HMRs.</p> <p>(o). The <b>State will ensure that requirements relating to the licensing of CMV drivers are enforced</b>, including checking the status of CDLs.</p> <p>(t). The State will conduct comprehensive and highly visible <b>traffic enforcement and CMV safety inspection programs</b> in high-risk locations and corridors.</p> <p>(v). The State will transmit to its roadside inspectors the notice of each Federal exemption granted pursuant to 49 U.S.C. 31315(b) as provided to the State by FMCSA, including the name of the person granted the exemption and any terms and conditions that apply to the exemption.</p>

Part	Subject	FMCSR Language
350.327	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>(a) A State may qualify for Incentive Funds if it can demonstrate that its CMV safety program has shown improvement in any or all of the following five categories:</p> <ul style="list-style-type: none"> <li>(1) Reduction of large truck-involved fatal accidents.</li> <li>(2) Reduction of large truck-involved fatal accident rate or maintenance of a large truck-involved fatal accident rate that is among the lowest 10 percent of such rates of MCSAP recipients.</li> <li><b>(3) Upload of CMV accident reports in accordance with current FMCSA policy guidelines.</b></li> <li><b>(4) Verification of CDLs during all roadside inspections.</b></li> <li>(5) Upload of CMV inspection data in accordance with current FMCSA policy guidelines.</li> </ul>
350.329	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>§ 350.329 How may a State or local agency qualify for High Priority Funds?</p> <p>(a) States must meet the requirements of §350.201, as applicable</p>
350.331	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>§ 350.331 How does a State ensure its laws and regulations are compatible with the FMCSRs and HMRs?</p> <p>(a) A <b>State must review any new law or regulation affecting CMV safety</b> as soon as possible, but in any event immediately after enactment or issuance, <b>for compatibility with the FMCSRs and HMRs.</b></p> <p>(b) <b>If the review determines that the new law or regulation is incompatible with the FMCSRs and/or HMRs, the State must immediately notify the Division Administrator/State Director.</b></p> <p>(c) A State must conduct an annual review of its laws and regulations for compatibility and report the results of that review in the annual CVSP in accordance with §350.213(l) along with a certification of compliance, no later than August 1 of each year. The report must include the following two items:</p>

Part	Subject	FMCSR Language
		<p>(1) A copy of the State law, regulation, or policy relating to CMV safety that was adopted since the State's last report.</p> <p>(2) A certification, executed by the State's Governor, Attorney General, or other State official specifically designated by the Governor, <b>stating that the annual review was performed and that State CMV safety laws remain compatible with the FMCSRs and HMRs.</b> If State CMV laws are no longer compatible, the certifying official shall explain.</p> <p>(d) As soon as practical after the effective date of any newly enacted regulation or amendment to the FMCSRs or HMRs, but no later than three years after that date, <b>the State must amend its laws or regulations to make them compatible with the FMCSRs and/or HMRs, as amended.</b></p>
350.333	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>What are the guidelines for the compatibility review?</p> <p>(c) Definitions of words or terms must be consistent with those in the FMCSRs and HMRs.</p>
350.337	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>States are not required to adopt 49 CFR parts 398 and 399, subparts A through E and H of part 107, and §§171.15 and 171.16, as applicable to either interstate or intrastate commerce.</p>

Part	Subject	FMCSR Language
350.341	COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM	<p>(a) A State may exempt a CMV from all or part of its laws or regulations applicable to intrastate commerce, provided that neither the GVW, GVWR, GCW, nor GCWR of the vehicle equals or exceeds 11,801 kg (26,001 lbs.). However, a State may not exempt a CMV from such laws or regulations if the vehicle:</p> <ul style="list-style-type: none"> <li>(1) Transports hazardous materials requiring a placard.</li> </ul> <p>[or]</p> <ul style="list-style-type: none"> <li>(2) Is designed or used to transport 16 or more people, including the driver.</li> </ul> <p>(d) State laws and regulations applicable to intrastate commerce must not include exemptions based upon the distance a motor carrier or driver operates from the work reporting location. This prohibition does not apply to those exemptions already contained in the FMCSRs nor to the extension of the mileage radius exemption contained in 49 CFR 395.1(e) from 100 to 150 miles.</p> <p>(e) Hours of service—State hours-of-service limitations applied to intrastate transportation may vary to the extent of allowing the following:</p> <ul style="list-style-type: none"> <li>(1) A 12-hour driving limit, provided driving a CMV after having been on duty more than 16 hours is prohibited.</li> <li>(2) Driving prohibitions for drivers who have been on duty 70 hours in 7 consecutive days or 80 hours in 8 consecutive days.</li> </ul>
355	COMPATIBILITY OF STATE LAWS AND REGULATIONS AFFECTING INTERSTATE MOTOR CARRIER OPERATIONS	

Part	Subject	FMCSR Language
355.25	COMPATIBILITY OF STATE LAWS AND REGULATIONS AFFECTING INTERSTATE MOTOR CARRIER OPERATIONS	<p>§ 355.25 Adopting and enforcing compatible laws and regulations.</p> <p>(a) General. <b>No State shall have in effect or enforce any State law or regulation pertaining to commercial motor vehicle safety in interstate commerce which the Administrator finds to be incompatible with the provisions of the Federal Motor Carrier Safety Regulations.</b></p> <p>(b) New state requirements. No State shall implement any changes to a law or regulation which makes that or any other law or regulation incompatible with a provision of the Federal Motor Carrier Safety Regulations.</p>
355.A	COMPATIBILITY OF STATE LAWS AND REGULATIONS AFFECTING INTERSTATE MOTOR CARRIER OPERATIONS	<p><u>Driver Qualifications</u></p> <p><b>Require a driver to be properly licensed to drive a commercial motor vehicle;</b> require a driver to be in good physical health, at least 21 years of age, able to operate a vehicle safely, and maintain a good driving record; prohibit drug and alcohol abuse; require a motor carrier to maintain a driver qualification file for each driver; and require a motor carrier to ensure that a driver is medically qualified.</p> <p>Note: The requirements for testing apply only to drivers of commercial motor vehicles as defined in 49 CFR part 383.</p> <p><u>Hours of Service of Drivers</u></p> <p>The following is a high-level summary of the hours-of-service regulations governing property and passenger carriers. The description below outlines only some of the major provisions but does not capture all the detailed requirements. For the detailed provisions, which include rest breaks, sleeper berth, and records of duty status issues, see part 395 of this subchapter. <b>The hours-of-service regulations prohibit both property and passenger carriers from allowing or requiring any driver to drive as follows:</b></p> <p><u>Inspection and Maintenance</u></p> <p><b>Prohibit a commercial motor vehicle from being operated when it is likely to cause an accident or a breakdown; require the driver to conduct a walk-around inspection of the vehicle before driving it to ensure that it can be safely operated; require the driver to</b></p>

Part	Subject	FMCSR Language
		<b>prepare a driver vehicle inspection report; and require commercial motor vehicles to be inspected at least annually.</b>
356	MOTOR CARRIER ROUTING REGULATIONS	
360	FEES FOR MOTOR CARRIER REGISTRATION AND INSURANCE	
365	RULES GOVERNING APPLICATIONS FOR OPERATING AUTHORITY	
365.109	RULES GOVERNING APPLICATIONS FOR OPERATING AUTHORITY	<p>(a)—</p> <p>(3) All motor carrier applications will be reviewed for consistency with the FMCSA's operational safety fitness policy. Applicants with “Unsatisfactory” safety fitness ratings from DOT will have their applications rejected.</p> <p>(4) FMCSA staff will review completed applications that conform with the FMCSA's safety fitness policy and that are accompanied by evidence of adequate financial responsibility.</p>

Part	Subject	FMCSR Language
365.A	RULES GOVERNING APPLICATIONS FOR OPERATING AUTHORITY	<p>(c) The safety audit will include:</p> <ul style="list-style-type: none"> <li>(3) Verification of the carrier's system of compliance with hours-of-service rules in part 395 of this subchapter, including recordkeeping and retention;</li> <li>(5) Review of available data concerning the carrier's safety history, and other information necessary to determine the carrier's preparedness to comply with the Federal Motor Carrier Safety Regulations, parts 382 through 399 of this subchapter, and the Federal Hazardous Material Regulations, parts 171 through 180 of this title;</li> <li>(8) Verification of drivers' qualifications, including confirmation of the validity of the Licencia de Federal de Conductor of each driver the carrier intends to assign to operate under its provisional operating authority; and</li> </ul> <p>(j) Accident Factor.</p> <ul style="list-style-type: none"> <li>(1) In addition to the five regulatory factors, a sixth factor is included in the process to address the accident history of the motor carrier. This factor is the recordable accident rate, which the carrier has experienced during the past 12 months. Recordable accident, as defined in 49 CFR 390.5, means an accident involving a commercial motor vehicle operating on a public road in interstate or intrastate commerce which results in a fatality; a bodily injury to a person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or <b>one or more motor vehicles incurring disabling damage as a result of the accident requiring the motor vehicle to be transported away from the scene by a tow truck or other motor vehicle.</b></li> <li>(4) The FMCSA will continue to consider preventability when a new entrant contests the evaluation of the accident factor by presenting compelling evidence that the recordable rate is not a fair means of evaluating its accident factor. Preventability will be determined according to the following standard: "If a driver, who exercises normal judgment and foresight, could have foreseen the possibility of the accident that in fact occurred, and avoided it by taking steps within his/her control which would not have risked causing another kind of mishap, the accident was preventable."</li> </ul>

Part	Subject	FMCSR Language
366	DESIGNATION OF PROCESS AGENT	
367	STANDARDS FOR REGISTRATION WITH STATES	
368	APPLICATION FOR A CERTIFICATE OF REGISTRATION TO OPERATE IN MUNICIPALITIES IN THE UNITED STATES ON THE UNITED STATES-MEXICO INTERNATIONAL BORDER OR WITHIN THE COMMERCIAL ZONES OF SUCH MUNICIPALITIES.	
<b>368.7</b>	APPLICATION FOR A CERTIFICATE OF REGISTRATION TO OPERATE IN MUNICIPALITIES IN THE UNITED STATES ON THE UNITED STATES-MEXICO INTERNATIONAL BORDER OR WITHIN THE COMMERCIAL ZONES OF SUCH MUNICIPALITIES.	A holder of a Certificate of Registration must maintain a copy of the Certificate of Registration in any vehicle providing transportation service within the scope of the Certificate, and <b>make it available upon request to any State or Federal authorized inspector or enforcement officer.</b>
369	REPORTS OF MOTOR CARRIERS	
370	PRINCIPLES AND PRACTICES FOR THE INVESTIGATION AND VOLUNTARY DISPOSITION OF LOSS AND DAMAGE CLAIMS AND PROCESSING SALVAGE	
371	BROKERS OF PROPERTY	
372	EXEMPTIONS, COMMERCIAL ZONES, AND TERMINAL AREAS	

Part	Subject	FMCSR Language
373	RECEIPTS AND BILLS	
374	PASSENGER CARRIER REGULATIONS	
374.317	PASSENGER CARRIER REGULATIONS	Each bus and <b>driver providing service shall be identified in a manner visible to passengers.</b> The driver may be identified by name or company number.
375	TRANSPORTATION OF HOUSEHOLD GOODS IN INTERSTATE COMMERCE; CONSUMER PROTECTION REGULATIONS	
375.503	TRANSPORTATION OF HOUSEHOLD GOODS IN INTERSTATE COMMERCE; CONSUMER PROTECTION REGULATIONS	(d) Upon delivery, you must provide the individual shipper with the opportunity to observe and verify that the same articles are being delivered and the condition of those articles. You must also provide the individual shipper the opportunity to note in writing any missing articles and the condition of any damaged or destroyed articles. In addition, you must also provide the shipper with a copy of all such notations.
375.605	TRANSPORTATION OF HOUSEHOLD GOODS IN INTERSTATE COMMERCE; CONSUMER PROTECTION REGULATIONS	(b)—  (4) You must furnish a copy of the notice to the individual shipper by first class mail or in person if the individual shipper requests a copy of the notice.
375.A	TRANSPORTATION OF HOUSEHOLD GOODS IN INTERSTATE COMMERCE; CONSUMER PROTECTION REGULATIONS	Your mover must prepare an inventory of your shipment before or at the time of loading. If your mover's driver fails to prepare an inventory, you should write a detailed inventory of your shipment listing any damage or unusual wear to any items.
376	LEASE AND INTERCHANGE OF VEHICLES	
377	PAYMENT OF TRANSPORTATION CHARGES	

Part	Subject	FMCSR Language
378	PROCEDURES GOVERNING THE PROCESSING, INVESTIGATION, AND DISPOSITION OF OVERCHARGE, DUPLICATE PAYMENT, OR OVERCOLLECTION CLAIMS	
379	PRESERVATION OF RECORDS	
380	SPECIAL TRAINING REQUIREMENTS	
<b>380.103</b>	SPECIAL TRAINING REQUIREMENTS	The rules in this part apply to all operators of LCVs in interstate commerce
<b>380.105</b>	SPECIAL TRAINING REQUIREMENTS	Longer combination vehicle (LCV) means any combination of a truck-tractor and two or more trailers or semi-trailers, which operate on the National System of Interstate and Defense Highways with a gross vehicle weight (GVW) greater than 36,288 kilograms (80,000 pounds).
<b>380.107</b>	SPECIAL TRAINING REQUIREMENTS	<p>§ 380.107 General requirements.</p> <p>(a) Except as provided in §380.111, a driver who wishes to operate an LCV shall first take and successfully complete an LCV driver-training program that provides the <b>knowledge</b> and skills necessary to operate an LCV. The specific types of knowledge and skills that a training program shall include are outlined in the appendix to this part.</p> <p>(b) Before a person receives training:</p> <ol style="list-style-type: none"> <li>(1) That person shall present evidence to the LCV driver-instructor showing that he/she meets the general requirements set forth in subpart B of this part for the specific type of LCV training to be taken.</li> <li>(2) The LCV driver-instructor shall verify that each trainee applicant meets the general requirements for the specific type of LCV training to be taken.</li> </ol>

Part	Subject	FMCSR Language
		(c) Upon successful completion of the training requirement, the driver-student shall be issued an LCV Driver Training Certificate by a certifying official of the training entity in accordance with the requirements specified in subpart D of this part.
380.109	SPECIAL TRAINING REQUIREMENTS	<p>§ 380.109 Driver testing.</p> <p>(a) Testing methods. The driver-student must pass <b>knowledge and skills tests</b> in accordance with the following requirements, to determine whether a driver-student has successfully completed an LCV driver-training program as specified in subpart B of this part. The written knowledge test may be administered by any qualified driver-instructor. The skills tests, based on actual operation of an LCV, must be administered by a qualified LCV skills instructor.</p> <p>(1) All tests shall be constructed to determine if the driver-student possesses the required knowledge and skills set forth in the appendix to this part for the specific type of LCV training program being taught.</p> <p>(2) Instructors shall develop their own tests for the specific type of LCV-training program being taught, but those tests must be at least as stringent as the requirements set forth in paragraph (b) of this section.</p> <p>(3) LCV driver-instructors shall establish specific methods for scoring the knowledge and skills tests.</p> <p>(4) Passing scores must meet the requirements of paragraph (b) of this section.</p> <p>(5) Knowledge and skills tests shall be based upon the information taught in the LCV training programs as set forth in the appendix to this part.</p> <p>(6) Each knowledge test shall address the training provided during both theoretical and behind-the-wheel instruction, and include at least one question from each of the units listed in the table to the appendix to this part, for the specific type of LCV training program being taught.</p> <p>(7) Each skills test shall include all the maneuvers and operations practiced during the Proficiency Development unit of instruction (behind-the-wheel instruction), as</p>

Part	Subject	FMCSR Language
		<p>described in the appendix to this part, for the specific type of LCV training program being taught.</p> <p>(b) Proficiency determinations. The driver-student must meet the following conditions to be certified as an LCV driver:</p> <ul style="list-style-type: none"> <li>(1) Answer correctly at least 80 percent of the questions on each knowledge test; and</li> <li>(2) Demonstrate that he/she can successfully perform all of the skills addressed in paragraph (a)(7) of this section.</li> </ul> <p>(c) Automatic test failure. Failure to obey traffic laws or involvement in a preventable crash during the skills portion of the test will result in automatic failure. Automatic test failure determinations are made at the sole discretion of the qualified LCV driver-instructor.</p> <p>(d) Guidance for testing methods and proficiency determinations. Motor carriers should refer to the Examiner's Manual for Commercial Driver's License Tests for help in developing testing methods and making proficiency determinations. You may obtain a copy of this document by contacting the American Association of Motor Vehicle Administrators (AAMVA), 4300 Wilson Boulevard, Suite 400, Arlington, Virginia 22203.</p>
380.113	SPECIAL TRAINING REQUIREMENTS	<p>§ 380.113 Employer responsibilities.</p> <p>(a) No motor carrier shall:</p> <ul style="list-style-type: none"> <li>(1) <b>Allow, require, permit or authorize an individual to operate an LCV unless he/she meets the requirements in §§380.203 or 380.205 and has been issued the LCV driver-training certificate described in §380.401.</b> This provision does not apply to individuals who are eligible for the substitute for driver training provision in §380.111.</li> <li>(2) Allow, require, permit, or authorize an individual to operate an LCV which the LCV driver-training certificate, CDL, and CDL endorsement(s) do not authorize the driver to operate. This provision applies to individuals employed by or under contract to the motor carrier.</li> </ul>

Part	Subject	FMCSR Language
		(b) A motor carrier that employs or has under contract LCV drivers shall provide evidence of the certifications required by §380.401 or §380.111 of this part when requested by an authorized FMCSA, State, or local official in the course of a compliance review.
380.203	SPECIAL TRAINING REQUIREMENTS	<p>§ 380.203 LCV Doubles.</p> <p>(a) To qualify for the training necessary to operate an LCV Double, a driver-student shall, during the 6 months immediately preceding application for training, have:</p> <ul style="list-style-type: none"> <li>(1) A valid Class A CDL with a double/triple trailer endorsement;</li> <li><b>(2) Driving experience in a Group A vehicle as described in §383.91 of this subchapter. Evidence of driving experience shall be an employer's written statement that the driver has, for at least 6 months immediately preceding application, operated a Group A vehicle while under his/her employ;</b></li> <li>(3) No more than one driver's license;</li> <li>(4) No suspension, revocation, or cancellation of his/her CDL;</li> <li>(5) No convictions for a major offense, as defined in §383.51(b) of this subchapter, while operating a CMV;</li> <li>(6) No convictions for a railroad-highway grade crossing offense, as defined in §383.51(d) of this subchapter, while operating a CMV;</li> <li>(7) No convictions for violating an out-of-service order as defined in §383.51(e) of this subchapter;</li> <li>(8) No more than one conviction for a serious traffic violation, as defined in §383.5 of this subchapter, while operating a CMV; and</li> <li>(9) No convictions for a violation of State or local law relating to motor vehicle traffic control arising in connection with any traffic crash while operating a CMV.</li> </ul> <p>(b) Driver-students meeting the preliminary requirements in paragraph (a) of this section shall successfully complete a training program that meets the minimum unit requirements for LCV Doubles as set forth in the appendix to this part.</p>

Part	Subject	FMCSR Language
		(c) Driver-students who successfully complete the Driver Training Program for LCV Doubles shall be issued a certificate, in accordance with subpart D of this part, indicating the driver is qualified to operate an LCV Double.
<b>380.205</b>	SPECIAL TRAINING REQUIREMENTS	<p>§ 380.205 LCV Triples.</p> <p>(a) To qualify for the training necessary to operate an LCV Triple, a driver-student shall, during the 6 months immediately preceding application for training, have:</p> <ol style="list-style-type: none"> <li>(1) A valid Class A CDL with a double/triple trailer endorsement;</li> <li>(2) Experience operating the vehicle listed under paragraph (a)(2)(i) or (a)(2)(ii) of this section. Evidence of driving experience shall be an employer's written statement that the driver has, during the 6 months immediately preceding application, operated the applicable vehicle(s): <ol style="list-style-type: none"> <li>(i) Group A truck-tractor/semi-trailer combination as described in §383.91 of this subchapter; or</li> <li>(ii) Group A truck-tractor/semi-trailer/trailer combination that operates at a gross vehicle weight of 80,000 pounds or less;</li> </ol> </li> <li>(3) No more than one driver's license;</li> <li>(4) No suspension, revocation, or cancellation of his/her CDL;</li> <li>(5) No convictions for a major offense, as defined in §383.51(b) of this subchapter, while operating a CMV;</li> <li>(6) No convictions for a railroad-highway grade crossing offense, as defined in §383.51(d) of this subchapter, while operating a CMV;</li> <li>(7) No convictions for violating an out-of-service order, as defined in §383.51(e) of this subchapter;</li> <li>(8) No more than one conviction for a serious traffic violation, as defined in §383.5 of this subchapter, while operating a CMV; and</li> </ol>

Part	Subject	FMCSR Language
		<p>(9) No convictions for a violation of State or local law relating to motor vehicle traffic control arising in connection with any traffic crash, while operating a CMV.</p> <p>(b) Driver-students meeting the preliminary requirements in paragraph (a) of this section shall successfully complete a training program that meets the minimum unit requirements for LCV Triples as set forth in the appendix to this part.</p> <p>(c) Driver-students who successfully complete the Driver Training Program for LCV Triples shall be issued a certificate, in accordance with subpart D of this part, indicating the driver is qualified to operate an LCV Triple.</p>
380.401	SPECIAL TRAINING REQUIREMENTS	<p>(a) A student who successfully completes LCV driver training shall be issued a Driver-Training Certificate</p> <p>(b) An LCV driver must provide a copy of the Driver-Training Certificate to his/her employer to be filed in the Driver Qualification File.</p>
380.502	SPECIAL TRAINING REQUIREMENTS	§ 380.502 <b>Entry-level driver is a driver with less than one year of experience operating a CMV with a CDL in interstate commerce</b>
380.505	SPECIAL TRAINING REQUIREMENTS	§ 380.505 An employer who uses an entry-level driver must ensure the driver has received a training certificate containing all the information contained in §380.513 from the training provider.
380.507	SPECIAL TRAINING REQUIREMENTS	§ 380.507 Each entry-level driver must receive training required by §380.503.
380.603	SPECIAL TRAINING REQUIREMENTS	(a) The rules in this subpart apply to all entry-level drivers, as defined in this subpart, who intend to drive CMVs as defined in § 383.5 of this chapter in interstate and/or intrastate commerce, except:
380.605	SPECIAL TRAINING REQUIREMENTS	Entry-level driver means an individual who must complete the CDL skills test requirements under § 383.71 prior to receiving a CDL for the first time, upgrading to a Class A or Class B CDL, or obtaining a hazardous materials, passenger, or school bus endorsement for the first time. This definition does

Part	Subject	FMCSR Language
		not include individuals for whom States waive the CDL skills test under § 383.77 or individuals seeking to remove a restriction in accordance with § 383.135(b)(7).
<b>380.609</b>	SPECIAL TRAINING REQUIREMENTS	(a) An individual who applies, for the first time, for a Class A or Class B CDL, or who upgrades to a Class A or B CDL, must complete driver training from a provider listed on the Training Provider Registry (TPR), as set forth in subpart G. (b) An individual seeking to obtain a passenger (P), school bus (S), or hazardous materials (H) endorsement for the first time, must complete the training related to that endorsement from a training provider listed on the TPR, as set forth in subpart G.
<b>380.AppA</b>	SPECIAL TRAINING REQUIREMENTS	Class A CDL applicants must complete the Class A CDL curriculum outlined in this Appendix.
<b>380.AppB</b>	SPECIAL TRAINING REQUIREMENTS	Class B CDL applicants must complete the Class B CDL curriculum outlined in this Appendix.
<b>380.AppC</b>	SPECIAL TRAINING REQUIREMENTS	Passenger (P) endorsement applicants must complete the curriculum outlined in this section, which applies to driver-trainees who expect to operate CMVs in the any of the vehicle groups defined in §383.91(a)(1)-(3) for which a P endorsement is required.
<b>380.AppD</b>	SPECIAL TRAINING REQUIREMENTS	School bus (S) endorsement applicants must complete the curriculum outlined in this section, which applies to driver-trainees who expect to operate a “school bus” as defined in §383.5.
<b>380.AppE</b>	SPECIAL TRAINING REQUIREMENTS	Hazardous materials (H) endorsement applicants must complete the Hazardous materials curriculum, which apply to driver-trainees who intend to operate CMVs used in the transportation of hazardous materials (HM) as defined in §383.5.
<b>380.AppF</b>	SPECIAL TRAINING REQUIREMENTS	Unit 2.5—Proficiency development: basic operations. The activities of this unit must consist of driving exercises that provide practice for the development of basic control skills and mastery of basic maneuvers. Driver-students practice skills and maneuvers learned in the Basic Control and Handling; Basic Maneuvers; and Turning, Steering and Tracking units. Unit 3.6—Proficiency development. Driver-student performance progress must be closely monitored to determine when the level of proficiency required has been attained. The driver-student must also be assessed for regulatory compliance with all traffic laws.

Part	Subject	FMCSR Language
		Unit 5.2—Cargo and weight considerations. This unit must address the importance of proper cargo documentation, loading, securing and unloading cargo, weight distribution, load sequencing and trailer placement. Emphasis must be placed on the importance of axle weight distribution, as well as on trailer placement and its effect on vehicle handling.
381	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	
381.110	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	“You” means an individual or motor carrier or other entity that is, or will be, responsible for the operation of a CMV(s). The term includes...employees concerned with the installation, inspection, and maintenance of motor vehicle equipment and/or accessories.
381.200	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	<p>§ 381.200 What is a waiver?</p> <p>(a) A waiver is temporary regulatory relief from one or more FMCSR <b>given to a person subject to the regulations, or a person who intends to engage in an activity that would be subject to the regulations.</b></p> <p>(b) A waiver provides the person with relief from the regulations for up to three months.</p> <p>(c) A waiver is intended for unique, non-emergency events and is subject to conditions imposed by the Administrator.</p> <p>(d) Waivers may only be granted from one or more of the requirements contained in the following parts and sections of the FMCSRs:</p> <ul style="list-style-type: none"> <li>(1) Part 382—Controlled Substances and Alcohol Use and Testing;</li> <li><b>(2) Part 383—Commercial Driver's License Standards; Requirements and Penalties;</b></li> <li>(3) § 390.19 Motor Carrier Identification Report;</li> <li>(4) § 390.21 Marking of commercial motor vehicles;</li> <li><b>(5) Part 391—Qualifications of Drivers;</b></li> <li><b>(6) Part 392—Driving of Commercial Motor Vehicles;</b></li> <li>(7) Part 393—Parts and Accessories Necessary for Safe Operation;</li> </ul>

Part	Subject	FMCSR Language
		<p><b>(8) Part 395—Hours of Service of Drivers;</b></p> <p>(9) Part 396—Inspection, Repair, and Maintenance (except §396.25); and</p> <p>(10) Part 399—Step, Handhold and Deck Requirements.</p>
381.205	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	(a) You may request a waiver if one or more FMCSR would prevent you from using or operating CMVs, or make it unreasonably difficult to do so, during a unique, non-emergency event that will take no more than three months to complete.
381.210	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	<p>(c) You must provide a written statement that:</p> <p>(4) Explains how you would ensure that you could achieve a level of safety that is equivalent to, or greater than, the level of safety that would be obtained by complying with the regulation.</p>
381.300	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	<p>§ 381.300 What is an exemption?</p> <p>(a) An exemption is temporary regulatory relief from one or more FMCSR given to a person or class of persons subject to the regulations, or who intend to engage in an activity that would make them subject to the regulations.</p>
381.305	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	(a) You may apply for an exemption if one or more FMCSR prevents you from implementing more efficient or effective operations that would maintain a level of safety equivalent to, or greater than, the level achieved without the exemption.
381.310	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	<p>(c) You must provide a written statement that:</p> <p>(4) Assesses the safety impacts the exemption may have;</p> <p>(5) Explains how you would ensure that you could achieve a <b>level of safety that is equivalent to, or greater than, the level of safety that would be obtained by complying with the regulation;</b> and</p>

Part	Subject	FMCSR Language
<b>381.330</b>	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	<p>(b) The FMCSA will immediately revoke your exemption if:</p> <ul style="list-style-type: none"> <li>(2) The exemption has resulted in a lower level of safety than was maintained before the exemption was granted; or</li> <li>(3) Continuation of the exemption is determined by the FMCSA to be inconsistent with the goals and objectives of the FMCSRs.</li> </ul>
<b>381.400</b>	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	<p>(a) A pilot program is a study in which temporary regulatory relief from one or more FMCSR is given to a person or class of persons subject to the regulations, or a person or class of persons who intend to engage in an activity that would be subject to the regulations.</p> <p>(f) Exemptions for pilot programs may be granted only from one or more of the requirements contained in the following parts and sections of the FMCSRs:</p> <ul style="list-style-type: none"> <li>(1) Part 382—Controlled Substances and Alcohol Use and Testing;</li> <li>(2) Part 383—Commercial Driver's License Standards; Requirements and Penalties;</li> <li>(3) Part 391—Qualifications of Drivers;</li> <li>(4) Part 392—Driving of Commercial Motor Vehicles;</li> <li>(5) Part 393—Parts and Accessories Necessary for Safe Operation;</li> <li>(6) Part 395—Hours of Service of Drivers;</li> <li>(7) Part 396—Inspection, Repair, and Maintenance (except for §396.25); and</li> <li>(8) Part 399—Step, Handhold and Deck Requirements.</li> </ul>
<b>381.405</b>	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	<p>(a) Generally, pilot programs are initiated by the FMCSA....</p> <p>(b) You may request the FMCSA to initiate a pilot program. However, the decision of whether to propose a pilot program will be made at the discretion of the FMCSA.</p>

Part	Subject	FMCSR Language
381.505	WAIVERS, EXEMPTIONS, AND PILOT PROGRAMS	(a) Safety measures. Before granting exemptions for a pilot program, the FMCSA will ensure that the safety measures in a pilot program are designed to achieve a <b>level of safety that is equivalent to, or greater than, the level of safety that would be achieved by complying with the regulations.</b>
382	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	
382.101	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	<p>§ 382.101 Purpose.</p> <p>The purpose of this part is to establish programs designed to help prevent accidents and injuries resulting from the misuse of alcohol or use of controlled substances by drivers of commercial motor vehicles.</p>
382.103	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	<p>§ 382.103 Applicability.</p> <p>(a) This part applies to every person and to all employers of such persons who operate a commercial motor vehicle in commerce in any State, and is subject to:</p> <p>(1) The commercial driver's license requirements of part 383 of this subchapter;</p>

Part	Subject	FMCSR Language
382.107	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	<p>§ 382.107 Definitions.</p> <p><i>Driver</i> means any person who operates a commercial motor vehicle. This includes, but is not limited to: Full time, regularly employed drivers; casual, intermittent or occasional drivers; leased drivers and independent owner-operator contractors.</p> <p><i>Performing (a safety-sensitive function)</i> means a driver is considered to be performing a safety-sensitive function during any period in which he or she is actually performing, ready to perform, or immediately available to perform any safety-sensitive functions.</p> <p><i>Safety-sensitive function</i> means all time from the time a driver begins to work or is required to be in readiness to work until the time he/she is relieved from work and all responsibility for performing work. Safety-sensitive functions shall include:</p> <ul style="list-style-type: none"> <li>(1) All time at an employer or shipper plant, terminal, facility, or other property, or on any public property, waiting to be dispatched, unless the driver has been relieved from duty by the employer;</li> <li>(2) All time inspecting equipment as required by §§392.7 and 392.8 of this subchapter or otherwise inspecting, servicing, or conditioning any commercial motor vehicle at any time;</li> <li>(3) All time spent at the driving controls of a commercial motor vehicle in operation;</li> <li>(4) All time, other than driving time, in or upon any commercial motor vehicle except time spent resting in a sleeper berth (a berth conforming to the requirements of §393.76 of this subchapter);</li> <li>(5) All time loading or unloading a vehicle, supervising, or assisting in the loading or unloading, attending a vehicle being loaded or unloaded, remaining in readiness to operate the vehicle, or in giving or receiving receipts for shipments loaded or unloaded; and</li> <li>(6) All time repairing, obtaining assistance, or remaining in attendance upon a disabled vehicle.</li> </ul>

Part	Subject	FMCSR Language
382.217	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	<p>No employer may allow, require, permit or authorize a driver to operate a commercial motor vehicle during any period in which...</p> <p>(e) An employer has actual knowledge, as defined at § 382.107, that a driver has:</p> <ul style="list-style-type: none"> <li>(1) Used alcohol while performing safety-sensitive functions in violation of § 382.205;</li> <li>(2) Used alcohol within four hours of performing safety-sensitive functions in violation of § 382.207; or</li> </ul>
382.303	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	<p>(a) As soon as practicable following an occurrence involving a commercial motor vehicle operating on a public road in commerce, each employer shall test for alcohol for each of its surviving drivers:</p> <ul style="list-style-type: none"> <li>(1) Who was performing safety-sensitive functions with respect to the vehicle, if the accident involved the loss of human life</li> </ul>
382.501	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	<p>§ 382.501 Removal from safety-sensitive function.</p> <p>[Interpretations]</p> <p>(a) Except as provided in subpart F of this part, no driver shall perform safety-sensitive functions, including driving a commercial motor vehicle, if the driver has engaged in conduct prohibited by subpart B of this part or an alcohol or controlled substances rule of another DOT agency.</p> <p>(b) No employer shall permit any driver to perform safety-sensitive functions; including driving a commercial motor vehicle, if the employer has determined that the driver has violated this section.</p>

Part	Subject	FMCSR Language
382.503	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	<p>§ 382.503 Required evaluation and testing.</p> <p>[Interpretations]</p> <p>No driver who has engaged in conduct prohibited by subpart B of this part shall perform <b>safety-sensitive functions</b>, including driving a commercial motor vehicle, unless the driver has met the requirements of part 40, subpart O, of this title. No employer shall permit a driver who has engaged in conduct prohibited by subpart B of this part to perform safety-sensitive functions, including driving a commercial motor vehicle, unless the driver has met the requirements of part 40, subpart O, of this title.</p>
382.701	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	<p>(a) Pre-employment query required.</p> <p>(1) Employers must not employ a driver subject to controlled substances and alcohol testing under this part to perform a safety-sensitive function without first conducting a pre-employment query of the Clearinghouse to obtain information about whether the driver has a verified positive, adulterated, or substituted controlled substances test result; has an alcohol confirmation test with a concentration of 0.04 or higher; has refused to submit to a test in violation of § 382.211; or that an employer has reported actual knowledge, as defined at § 382.107, that the driver used alcohol on duty in violation of § 382.205, used alcohol before duty in violation of § 382.207, used alcohol following an accident in violation of § 382.209, or used a controlled substance, in violation of § 382.213.</p> <p>(d) Prohibition. No employer may allow a driver to perform any safety-sensitive function if the results of a Clearinghouse query demonstrate that the driver has a verified positive, adulterated, or substituted controlled substances test result; has an alcohol confirmation test with a concentration of 0.04 or higher; has refused to submit to a test in violation of § 382.211; or that an employer has reported actual knowledge, as defined at § 382.107, that the driver used alcohol on duty in violation of § 382.205, used alcohol before duty in violation of § 382.207, used alcohol following an accident in violation of § 382.209, or used a controlled substance in violation of § 382.213, except where a query of the Clearinghouse demonstrates:</p>

Part	Subject	FMCSR Language
382.703	CONTROLLED SUBSTANCES AND ALCOHOL USE AND TESTING	(c) No employer may permit a driver to perform a safety-sensitive function if the driver refuses to grant the consent required by paragraphs (a) and (b) of this section.
383	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	
383.3	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(a) The rules in this part <b>apply to every person</b> who operates a commercial motor vehicle (CMV) in interstate, foreign, or intrastate commerce, to all employers of such persons, and to all States.
383.5	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p><b>CDL driver</b> means a <b>person</b> holding a CDL or a person required to hold a CDL.</p> <p><b>Driver's license</b> means a license issued by a State or other jurisdiction, <b>to an individual</b> which authorizes the individual to operate a motor vehicle on the highways.</p> <p><b>Employee</b> means any <b>operator of a commercial motor vehicle</b>, including full time, regularly employed drivers; casual, intermittent or occasional drivers; leased drivers and independent, owner-operator contractors (while in the course of operating a commercial motor vehicle) who are either directly employed by or under lease to an employer.</p> <p><b>Imminent hazard</b> means the existence of any condition of vehicle, employee, or commercial motor vehicle operations that <b>substantially increases the likelihood of serious injury or death if not discontinued immediately</b>; or a condition relating to hazardous material that presents a substantial likelihood that death, serious illness, severe personal injury, or a substantial endangerment to health, property, or the environment may occur before the reasonably foreseeable completion date of a formal proceeding begun to lessen the risk of that death, illness, injury or endangerment.</p>

Part	Subject	FMCSR Language
383.23	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>§ 383.23 Commercial driver's license.</p> <p>[Interpretations]</p> <p>(a) General rule.</p> <p>(1) <b>No person shall operate a commercial motor vehicle unless such person has taken and passed written and driving tests</b> for a CLP or CDL that meet the Federal standards contained in subparts F, G, and H of this part for the commercial motor vehicle that person operates or expects to operate.</p> <p>(2) Except as provided in paragraph (b) of this section, <b>no person may legally operate a CMV unless such person possesses a CDL</b> which meets the standards contained in subpart J of this part, issued by his/her State or jurisdiction of domicile.</p>
383.25	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>§ 383.25 Commercial learner's permit (CLP).</p> <p>(a) A CLP is considered a valid CDL for purposes of behind-the-wheel training on public roads or highways, if all of the following minimum conditions are met:</p> <p>(1) The CLP holder is at all times accompanied by the holder of a valid CDL who has the proper CDL group and endorsement(s) necessary to operate the CMV. The CDL holder must at all times be physically present in the front seat of the vehicle next to the CLP holder or, in the case of a passenger vehicle, directly behind or in the first row behind the driver and must have the CLP holder under observation and direct supervision.</p> <p>(2) The CLP holder holds a valid driver's license issued by the same jurisdiction that issued the CLP.</p> <p>(3) The <b>CLP holder must have taken and passed a general knowledge test</b> that meets the Federal standards contained in subparts F, G, and H of this part for the commercial motor vehicle that person operates or expects to operate.</p> <p>(4) The <b>CLP holder must be 18 years of age or older.</b></p>

Part	Subject	FMCSR Language
383.31	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>(a) Except as provided in paragraph (d) of this section, <b>each person who operates a commercial motor vehicle</b>, who has a commercial learner's permit or commercial driver's license issued by a State or jurisdiction, and who is convicted of violating, in any type of motor vehicle, a State or local law relating to motor vehicle traffic control (other than a parking violation) in a State or jurisdiction other than the one which issued his/her permit or license, shall notify an official designated by the State or jurisdiction which issued such permit or license, of such conviction. The notification must be made within 30 days after the date that the person has been convicted.</p> <p>(b) <b>Each person who operates a commercial motor vehicle</b>, who has a commercial driver's license issued by a State or jurisdiction, and who is convicted of violating, in any type of motor vehicle, a State or local law relating to motor vehicle traffic control (other than a parking violation), shall notify his/her current employer of such conviction. The notification must be made within 30 days after the date that the person has been convicted. If the driver is not currently employed, he/she must notify the State or jurisdiction which issued the license according to §383.31(a).</p>
383.33	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	Employee who has a driver's license suspended, revoked, or canceled by a State or jurisdiction, who loses the right to operate a CMV in a State or jurisdiction for any period, or who is disqualified from operating a CMV for any period, shall notify his/her current employer of such suspension, revocation, cancellation, lost privilege, or disqualification.

Part	Subject	FMCSR Language
383.37	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>§ 383.37 Employer responsibilities.</p> <p>[Interpretations]</p> <p><b>No employer may allow, require, permit, or authorize a driver to operate a CMV</b> in the United States if he or she knows or should reasonably know that any of the following circumstances exist:</p> <p>(a) During any period in which the <b>driver does not have a current CLP or CDL</b> or does not have a CLP or CDL with the proper class or endorsements. An employer may not use a driver to operate a CMV who violates any restriction on the driver's CLP or CDL.</p> <p>(b) During any period in which the driver has a CLP or CDL disqualified by a State, has lost the right to operate a CMV in a State, or has been disqualified from operating a CMV.</p> <p>(c) During any period in which the driver has more than one CLP or CDL.</p> <p>(d) During any period in which the driver, or the CMV he/she is driving, or the motor carrier operation, is subject to an out-of-service order.</p> <p>(e) In violation of a Federal, State, or local law or regulation pertaining to railroad-highway grade crossings.</p>
383.51	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>(a)—</p> <p>(2) An employer must not knowingly allow, require, permit, or authorize a <b>driver who is disqualified to drive a CMV.</b></p>
383.52	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>§ 383.52 Disqualification of drivers determined to constitute an imminent hazard.</p> <p>(a) The Assistant Administrator or his/her designee <b>must disqualify from operating a CMV any driver whose driving is determined to constitute an imminent hazard</b>, as defined in §383.5.</p>

Part	Subject	FMCSR Language
383.53	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(b) Special penalties pertaining to violation of out-of-service orders—  (1) Driver violations. <b>A driver who is convicted</b> of violating an out-of-service order shall be subject to a civil penalty as stated in part 386 Appendix B, in addition to disqualification under § 383.51(e).
383.71	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(a)—  (2)—  (viii) A person seeking a passenger (P), school bus (S) or tank vehicle (N) endorsement must have taken and passed the endorsement knowledge test for the specific endorsement.
383.71	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(a)—  (3) Beginning on February 7, 2020, a person must complete the training prescribed in subpart F of part 380 of this chapter before taking the skills test for a Class A or B CDL for the first time, or a skills test for a passenger (P) or school bus (S) endorsement for the first time, or the knowledge test for a hazardous materials (H) endorsement for the first time. The training must be administered by a provider listed on the Training Provider Registry.
383.71	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	Paragraph (h) describes medical certification documentation for an applicant or CLP or CDL holder who certifies to non-excepted, interstate driving operations according to §383.71(b)(1)(i).
383.72	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	Any person who holds a CLP or CDL or is required to hold a CLP or CDL is considered to have consented to such testing as is required by any State or jurisdiction... <b>Consent is implied by driving a commercial motor vehicle.</b>
383.73	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	

Part	Subject	FMCSR Language
383.73	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(a)— (2) ...Prior to issuing a CLP <b>to a person</b> on or after July 8, 2015, a State must: (i) Require the applicant to make the certifications, pass the tests, and provide the information as described in §383.71(a)(2);
383.73	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(a)— (2) ...Prior to issuing a CLP to a person on or after July 8, 2015, a State must: (iv) Allow only a group-specific passenger (P) and school bus (S) endorsement and tank vehicle (N) endorsement on a CLP, provided the applicant has taken and passed the knowledge test for the specified endorsement. <b>All other Federal endorsements are prohibited on a CLP;</b> and
383.73	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(b) Initial CDL. Prior to issuing a CDL <b>to a person</b> , a State must: (1) Require the driver applicant to certify, pass tests, and provide information as described in §383.71(b);
383.73	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	Paragraph (b) describes records checks that State must perform on an applicant for a CDL (e.g., driving records from other States).
383.73	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(c) License transfers. Prior to issuing a CDL <b>to a person</b> who has a CDL from another State, a State must: (1) Require the driver applicant to make the certifications contained in §383.71(b)(1) and §383.71(b)(5); (2) Complete a check of the driver applicant's record as contained in paragraph (b)(3) of this section; (3) Request and receive updates of information specified in subpart J of this part;

Part	Subject	FMCSR Language
383.91	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(a)—  (3) Small Vehicle (Group C)—Any single vehicle, or combination of vehicles, that meets neither the definition of Group A nor that of Group B as contained in this section, but that either is designed to transport 16 or more passengers including the driver, or is used in the transportation of hazardous materials as defined in § 383.5.
383.93	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	Specifies the allowable endorsements to CLPs and CDLs and describes testing requirements.
383.110	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	§ 383.110 General requirement.  All drivers of CMVs must have the knowledge and skills necessary to operate a CMV safely as contained in this subpart. The specific types of items that a State must include in the knowledge and skills tests that it administers to CDL applicants are included in this subpart.
383.111	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	§ 383.111 Required knowledge.  (a) All CMV operators must have knowledge of the following 20 general areas:
383.113	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	(a) <b>...Applicants for a CDL must possess the following basic pre-trip vehicle inspection skills...</b>  (b) <b>...All applicants for a CDL must possess and demonstrate the following basic motor vehicle control skills...</b>  (c) <b>...All applicants for a CDL must possess and demonstrate the following safe on-road driving skills...</b>
383.115	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	§ 383.115 Requirements for double/triple trailers endorsement.  In order to obtain a double/triple trailers endorsement each applicant must have knowledge covering:

Part	Subject	FMCSR Language
<b>383.117</b>	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>§ 383.117 Requirements for passenger endorsement. An applicant for the passenger endorsement must satisfy both of the following additional knowledge and skills test requirements.</p> <p>(a) Knowledge test. All applicants for the passenger endorsement must have knowledge covering the following topics:</p> <ul style="list-style-type: none"> <li>(1) Proper procedures for loading/unloading passengers;</li> <li>(2) Proper use of emergency exits, including push-out windows;</li> <li>(3) Proper responses to such emergency situations as fires and unruly passengers;</li> <li>(4) Proper procedures at railroad-highway grade crossings and drawbridges;</li> <li>(5) Proper braking procedures ; and(6) Operating practices and procedures not otherwise specified.</li> </ul> <p>(b) Skills test. To obtain a passenger endorsement applicable to a specific vehicle class, an applicant must take his/her skills test in a passenger vehicle satisfying the requirements of that vehicle group as defined in §383.91.</p>
<b>383.117</b>	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	Specifies required knowledge and skills for various endorsements.

Part	Subject	FMCSR Language
383.119	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>§ 383.119 Requirements for tank vehicle endorsement.</p> <p>In order to obtain a tank vehicle endorsement, each applicant must have knowledge covering the following:</p> <ul style="list-style-type: none"> <li>(a) Causes, prevention, and effects of cargo surge on motor vehicle handling;</li> <li>(b) Proper braking procedures for the motor vehicle when it is empty, full and partially full;</li> <li>(c) Differences in handling of baffled/compartmented tank interiors versus non-baffled motor vehicles;</li> <li>(d) Differences in tank vehicle type and construction;</li> <li>(e) Differences in cargo surge for liquids of varying product densities;</li> <li>(f) Effects of road grade and curvature on motor vehicle handling with filled, half-filled and empty tanks;</li> <li>(g) Proper use of emergency systems; and</li> <li>(h) For drivers of DOT specification tank vehicles, retest and marking requirements; and</li> <li>(i) Operating practices and procedures not otherwise specified.</li> </ul>
383.119	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	Specifies required knowledge and skills for various endorsements.

Part	Subject	FMCSR Language
383.121	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>§ 383.121 Requirements for hazardous materials endorsement.</p> <p>In order to obtain a hazardous material endorsement each applicant must have such knowledge as is required of a driver of a hazardous materials laden vehicle, from information contained in 49 CFR parts 171, 172, 173, 177, 178, and 397 on the following:</p> <p>(a) Hazardous materials regulations including:</p> <ul style="list-style-type: none"> <li>(1) Hazardous materials table;</li> <li>(2) Shipping paper requirements;</li> <li>(3) Marking;</li> <li>(4) Labeling;</li> <li>(5) Placarding requirements;</li> <li>(6) Hazardous materials packaging;</li> <li>(7) Hazardous materials definitions and preparation;</li> <li>(8) Other regulated material (e.g., ORM-D);</li> <li>(9) Reporting hazardous materials accidents; and</li> <li>(10) Tunnels and railroad crossings.</li> </ul> <p>(b) Hazardous materials handling including:</p> <ul style="list-style-type: none"> <li>(1) Forbidden materials and packages;</li> <li>(2) Loading and unloading materials;</li> <li>(3) Cargo segregation;</li> <li>(4) Passenger carrying buses and hazardous materials;</li> <li>(5) Attendance of motor vehicles;</li> <li>(6) Parking;</li> <li>(7) Routes;</li> </ul>

Part	Subject	FMCSR Language
		<p>(8) Cargo tanks; and</p> <p>(9) "Safe havens."</p> <p>(c) Operation of emergency equipment including:</p> <p>(1) Use of equipment to protect the public;</p> <p>(2) Special precautions for equipment to be used in fires;</p> <p>(3) Special precautions for use of emergency equipment when loading or unloading a hazardous materials laden motor vehicle; and</p> <p>(4) Use of emergency equipment for tank vehicles.</p> <p>(d) Emergency response procedures including:</p> <p>(1) Special care and precautions for different types of accidents;</p> <p>(2) Special precautions for driving near a fire and carrying hazardous materials, and smoking and carrying hazardous materials;</p> <p>(3) Emergency procedures; and</p> <p>(4) Existence of special requirements for transporting Class 1.1 and 1.2 explosives.</p> <p>(e) Operating practices and procedures not otherwise specified.</p>

Part	Subject	FMCSR Language
383.123	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>§ 383.123 Requirements for a school bus endorsement.</p> <p>(a) An applicant for the school bus endorsement must satisfy the following three requirements:</p> <ul style="list-style-type: none"> <li>(1) Qualify for passenger vehicle endorsement. Pass the knowledge and skills test for obtaining a passenger vehicle endorsement.</li> <li>(2) Knowledge test. Must have knowledge covering the following topics: <ul style="list-style-type: none"> <li>(i) Loading and unloading children, including the safe operation of stop signal devices, external mirror systems, flashing lights, and other warning and passenger safety devices required for school buses by State or Federal law or regulation.</li> <li>(ii) Emergency exits and procedures for safely evacuating passengers in an emergency.</li> <li>(iii) State and Federal laws and regulations related to safely traversing railroad-highway rail grade crossings; and</li> <li>(iv) Operating practices and procedures not otherwise specified.</li> </ul> </li> <li>(3) Skills test. Must take a driving skills test in a school bus of the same vehicle group (see §383.91(a)) as the school bus applicant will drive.</li> </ul> <p>(b) Exception. Knowledge and skills tests administered before September 30, 2002 and approved by FMCSA as meeting the requirements of this section, meet the requirements of paragraphs (a)(2) and (3) of this section.</p>
383.131	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	Specifies test methods and procedures for CLPs and CDLs.

Part	Subject	FMCSR Language
383.133	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>(b) Knowledge tests:</p> <p>(3) Each knowledge test must be valid and reliable so as to ensure that driver applicants possess the knowledge required under §383.111. The knowledge tests may be administered in written form, verbally, or in automated format and can be administered in a foreign language, provided no interpreter is used in administering the test.</p> <p>(5) Interpreters are prohibited during the administration of skills tests. <b>Applicants must be able to understand and respond to verbal commands and instructions in English by a skills test examiner.</b> Neither the applicant nor the examiner may communicate in a language other than English during the skills test.</p>
383.135	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>(a) Knowledge tests.</p> <p>(1) To achieve a passing score on each of the knowledge tests, a driver applicant must correctly answer at least 80 percent of the questions.</p> <p>(b) Skills Tests.</p> <p>(1) To achieve a passing score on each segment of the skills test, the driver applicant must demonstrate that he/she can successfully perform all of the skills listed in § 383.113 and attain the scores listed in Appendix A of the examiner manual referred to in § 383.131(b) for the type of vehicle being used in the test.</p>
383.153	COMMERCIAL DRIVER'S LICENSE STANDARDS; REQUIREMENTS AND PENALTIES	<p>(a) Commercial Driver's License. All CDLs must contain all of the following information:</p> <p>(2) The full name, signature, and mailing or residential address in the licensing State of the person to whom such license is issued.</p> <p>(3) Physical and other information to identify and describe such person including date of birth (month, day, and year), sex, and height.</p> <p>(4) Color photograph, digitized color image, or black and white laser engraved photograph of the driver. The State may issue a temporary CDL without a photo or image, if it is valid for no more than 60 days.</p>

Part	Subject	FMCSR Language
384	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	
384.107	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	(b)—  (1) "Commercial Driver's License Information System (CDLIS) State Procedures Manual," Release 5.3.2.1, August 2013, incorporation by reference approved for §§ 384.225(f) and 384.231(d).
384.201	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	(a) The State shall adopt and administer a program for testing and ensuring the fitness of <b>persons to operate commercial motor vehicles (CMVs)</b> in accordance with the minimum Federal standards contained in part 383 of this title.
384.202	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	§ 384.202 Test standards.  No State shall authorize a person to operate a CMV unless such person passes a knowledge and driving skills test for the operation of a CMV in accordance with part 383 of this title.
384.203	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	(a) The State must have in effect and enforce through licensing sanctions the disqualifications prescribed in §383.51(b) of this subchapter <b>for driving a CMV with a 0.04 alcohol concentration.</b>
384.204	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	§ 384.204 CLP or CDL issuance and information.  (a) General rule. The State shall authorize a person to operate a CMV only by issuance of a CLP or CDL, unless an exception in §383.3(c) or (d) applies, which contains, at a minimum, the information specified in part 383, subpart J, of this subchapter.
384.221	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	The State shall adopt, and enforce on operators of CMVs as defined in §§383.5 and 390.5 of this title, the provisions of §392.5 (a) and (c) of this title in accordance with the Motor Carrier Safety Assistance Program as contained in 49 CFR part 350 and applicable policy and guidelines.

Part	Subject	FMCSR Language
<b>384.225</b>	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	Requires States to submit data to CDLIS.
<b>384.215 to 219</b>	STATE COMPLIANCE WITH COMMERCIAL DRIVER'S LICENSE PROGRAM	Specifies penalties for different violations or offenses.
<b>385</b>	<b>SAFETY FITNESS PROCEDURES</b>	
<b>385.3</b>	SAFETY FITNESS PROCEDURES	Preventable accident on the part of a motor carrier means an accident (1) that involved a commercial motor vehicle, and (2) that could have been averted but for an act, or failure to act, by the motor carrier <b>or the driver</b> .
<b>385.4</b>	SAFETY FITNESS PROCEDURES	(b) "North American Standard Out-of-Service Criteria and Level VI Inspection Procedures and Out-of-Service Criteria for Commercial Highway Vehicles Transporting Transuranics and Highway Route Controlled Quantities of Radioactive Materials as defined in 49 CFR part 173.403," April 1, 2016; incorporation by reference approved for § 385.415(b).
<b>385.105</b>	SAFETY FITNESS PROCEDURES	(a)—  (1) Using <b>drivers</b> not possessing, or operating without, a valid Licencia Federal de Conductor....  (5) Using a <b>driver who tests positive</b> for controlled substances or alcohol or who refuses to submit to required controlled substances or alcohol tests.
<b>385.308</b>	SAFETY FITNESS PROCEDURES	(a)—  (1) Using a <b>driver</b> not possessing a valid commercial driver's license to operate a commercial motor vehicle as defined under § 383.5 of this chapter. An invalid commercial driver's license includes one that is falsified, revoked, expired, or missing a required endorsement...

Part	Subject	FMCSR Language
		(5) Using a <b>driver who tests positive</b> for controlled substances or alcohol or who refuses to submit to required controlled substances or alcohol tests.
385.321	SAFETY FITNESS PROCEDURES	<p>(b) Automatic failure of the audit. A new entrant will automatically fail a safety audit if found in violation of any one of the following 16 regulations:</p> <p>2. § 382.201—Using a <b>driver</b> known to have an alcohol content of 0.04 or greater to perform a safety-sensitive function...</p> <p>3. § 382.211—Using a <b>driver</b> who has refused to submit to an alcohol or controlled substances test required under part 382...</p> <p>4. § 382.215—Using a <b>driver</b> known to have tested positive for a controlled substance...</p> <p>6. § 383.3(a)/§ 383.23(a)—Knowingly using a <b>driver</b> who does not possess a valid CDL...</p> <p>8. § 383.51(a)—Knowingly allowing, requiring, permitting, or <b>authorizing a driver to drive who is disqualified to drive</b> a CMV.</p> <p>etc.</p>
385.402	SAFETY FITNESS PROCEDURES	<p><b>Hazmat employee</b> has the same meaning as under §171.8 of this title: <b>A person</b> who is employed by a hazmat employer...This <b>term includes an individual who</b>, during the course of employment: ...</p> <p>(4) <b>Is responsible for the safe transportation of hazardous materials;</b> or (5) <b>Operates a vehicle</b> used to transport hazardous materials.</p>

Part	Subject	FMCSR Language
385.415	SAFETY FITNESS PROCEDURES	<p>§ 385.415 What operational requirements apply to the transportation of a hazardous material for which a permit is required?</p> <p>[Interpretations]</p> <p>(a) Information that must be carried in the vehicle. During transportation, the following must be maintained in each commercial motor vehicle that transports a hazardous material listed in §385.403 and must be made available to an authorized official of a Federal, State, or local government agency upon request.</p> <p>(b)—</p> <p>(1) Inspection of vehicle transporting Class 7 (radioactive) materials. Before a motor carrier may transport a highway route controlled quantity of a Class 7 (radioactive) material, the motor carrier must have a pre-trip inspection performed on each motor vehicle to be used to transport a highway route controlled quantity of a Class 7 (radioactive) material, in accordance with the requirements of the “North American Standard Out-of-Service Criteria and Level VI Inspection Procedures and Out-of-Service Criteria for Commercial Highway Vehicles Transporting Transuranics and Highway Route Controlled Quantities of Radioactive Materials as defined in 49 CFR Part 173.403”, (incorporated by reference, see § 385.4).</p> <p>(c) Additional requirements. A motor carrier transporting hazardous materials requiring a permit under this part must also meet the following requirements:</p> <p>(1) The operator of a motor vehicle used to transport a hazardous material listed in §385.403 must follow the communications plan required in §385.407(b)(2) to make contact with the carrier at the beginning and end of each duty tour, and at the pickup and delivery of each permitted load. Contact may be by telephone, radio or via an electronic tracking or monitoring system. The motor carrier or driver must maintain a record of communications for 6 months after the initial acceptance of a shipment of hazardous material for which a safety permit is required. The record of communications must contain the name of the driver, identification of the vehicle, permitted material(s) being transported, and the date, location, and time of each contact required under this section.</p>

Part	Subject	FMCSR Language
385.605	SAFETY FITNESS PROCEDURES	<p>§ 385.605 New entrant registration driver's license and drug and alcohol testing requirements.</p> <p>(a) A non-North America-domiciled motor carrier <b>must use only drivers who possess a valid commercial driver's license</b>—a CDL, Canadian Commercial Driver's License, or Mexican Licencia de Federal de Conductor—<b>to operate its vehicles in the United States.</b></p>
385.706	SAFETY FITNESS PROCEDURES	<p>(a) A non-North America-domiciled motor carrier committing any of the following actions... may be subjected to an expedited compliance review, or may be required to submit a written response demonstrating corrective action:</p> <p>(1) <b>Using a driver not possessing, or operating without, a valid CDL</b>, Canadian Commercial Driver's License, or Mexican Licencia Federal de Conductor...</p> <p>(5) <b>Using a driver who tests positive for controlled substances or alcohol...</b></p>
385.A	SAFETY FITNESS PROCEDURES	<p>(c) The <b>safety audit will include:...</b></p> <p><b>(8) Verification of drivers' qualifications</b>, including confirmation of the validity of the CDL, Canadian Commercial Driver's License, or Mexican Licencia de Federal de Conductor, as applicable, of each driver the carrier intends to assign to operate under its new entrant registration;</p>
386	RULES OF PRACTICE FOR MOTOR CARRIER, INTERMODAL EQUIPMENT PROVIDER, BROKER, FREIGHT FORWARDER, AND HAZARDOUS MATERIALS PROCEEDINGS	
386.2	RULES OF PRACTICE FOR MOTOR CARRIER, INTERMODAL EQUIPMENT PROVIDER, BROKER, FREIGHT FORWARDER, AND HAZARDOUS MATERIALS PROCEEDINGS	<p><b>Person means any individual, partnership, association, corporation, business trust, or any other organized group of individuals.</b></p>

Part	Subject	FMCSR Language
386.38	RULES OF PRACTICE FOR MOTOR CARRIER, INTERMODAL EQUIPMENT PROVIDER, BROKER, FREIGHT FORWARDER, AND HAZARDOUS MATERIALS PROCEEDINGS	(f) <b>A trade secret or other confidential research, development, or commercial information may not be disclosed</b> or be disclosed only in a designated way.
386.48	RULES OF PRACTICE FOR MOTOR CARRIER, INTERMODAL EQUIPMENT PROVIDER, BROKER, FREIGHT FORWARDER, AND HAZARDOUS MATERIALS PROCEEDINGS	In cases involving the physical qualifications of <b>drivers, copies of all physicians' reports, test results, and other medical records that a party intends to rely upon shall be served</b> on all other parties at least 30 days prior to the date set for a hearing. <b>Except as waived by the Director</b> , Office of Carrier, Drivers, and Vehicle Safety Standards (MC-PS), reports, test results and medical records not served under this rule shall be excluded from evidence at any hearing.
386.72	RULES OF PRACTICE FOR MOTOR CARRIER, INTERMODAL EQUIPMENT PROVIDER, BROKER, FREIGHT FORWARDER, AND HAZARDOUS MATERIALS PROCEEDINGS	<p>(a) Whenever it is determined that an <b>imminent hazard</b> exists as a result of the transportation by motor vehicle of a particular hazardous material, the Chief Counsel or Deputy Chief Counsel of the FMCSA may bring, or request the United States Attorney General to bring, an action in the appropriate United States District Court for <b>an order suspending or restricting the transportation by motor vehicle of the hazardous material</b> or for such other order as is necessary to eliminate or ameliorate the imminent hazard, as provided by 49 U.S.C. 5122. In this paragraph, <b>“imminent hazard” means the existence of a condition that presents a substantial likelihood that death, serious illness, severe personal injury, or a substantial endangerment to health, property, or the environment may occur before a notice of investigation proceeding, or other administrative hearing or formal proceeding, to abate the risk of harm can be completed.</b></p> <p>(b)—</p> <p>(3) In this paragraph (b), <b>imminent hazard means any condition of vehicle, intermodal equipment employee, or commercial motor vehicle operations that substantially increases the likelihood of serious injury or death if not discontinued immediately.</b></p>

Part	Subject	FMCSR Language
387	MINIMUM LEVELS OF FINANCIAL RESPONSIBILITY FOR MOTOR CARRIERS	
387.313	MINIMUM LEVELS OF FINANCIAL RESPONSIBILITY FOR MOTOR CARRIERS	(c) <b>Name of insured.</b> Certificates of insurance and surety bonds shall be issued in the <b>full and correct name of the individual, partnership, corporation or other person to whom the certificate, permit, or license is, or is to be, issued.</b> In the case of a partnership, all partners shall be named.
388	COOPERATIVE AGREEMENTS WITH STATES	
389	RULEMAKING PROCEDURES	
390	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	
390.3	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	(b) The rules in part 383, Commercial Driver's License Standards; Requirements and Penalties, <b>are applicable to every person who operates a commercial motor vehicle</b> , as defined in §383.5 of this subchapter, in interstate or intrastate commerce and to all employers of such persons.
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Accident means –</b></p> <p>(1) Except as provided in paragraph (2) of this definition, an occurrence involving a commercial motor vehicle operating on a highway in interstate or intrastate commerce which results in:</p> <ul style="list-style-type: none"> <li>(i) a fatality;</li> <li>(ii) Bodily injury to a person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; <b>or</b></li> <li>(iii) <b>One or more motor vehicles incurring disabling damage as a result of the accident, requiring the motor vehicle(s) to be transported away from the scene by a tow truck or other motor vehicle.</b></li> </ul>

Part	Subject	FMCSR Language
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><i>Commercial motor vehicle</i> means any self-propelled or towed motor vehicle used on a highway in interstate commerce to transport passengers or property when the vehicle -</p> <ul style="list-style-type: none"> <li>(2) Is designed or used to transport more than 8 passengers <b>(including the driver)</b>...</li> <li>(3) Is designed or used to transport more than 15 passengers, <b>including the driver</b>...</li> </ul>
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Disabling damage</b> means <b>damage which precludes departure of a motor vehicle</b> from the scene of the accident <b>in its usual manner</b> in daylight <b>after simple repairs</b>.</p> <ul style="list-style-type: none"> <li>(1) Inclusions. Damage to motor vehicles that could have been driven, but would have been further damaged if so driven.</li> <li>(2) Exclusions. <ul style="list-style-type: none"> <li>(i) <b>Damage which can be remedied temporarily at the scene of the accident without special tools or parts.</b></li> <li>(ii) Tire disablement without other damage even if no spare tire is available.</li> <li>(iii) Headlamp or taillight damage.</li> <li>(iv) Damage to turn signals, horn, or windshield wipers which makes them inoperative.</li> </ul> </li> </ul>
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Driver</b> means any person who operates any commercial motor vehicle.</p>
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Electronic device</b> includes, but is not limited to, a cellular telephone; personal digital assistant; pager; <b>computer</b>; or any other device used to input, write, send, receive, or read text.</p>

Part	Subject	FMCSR Language
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Gross combination weight rating (GCWR)</b> is the greater of:</p> <p>(1) A value specified by the manufacturer of the power unit, if such value is displayed on the Federal Motor Vehicle Safety Standard (FMVSS) certification label required by the National Highway Traffic Safety Administration, or</p> <p>(2) <b>The sum of the gross vehicle weight ratings (GVWRs) or the gross vehicle weights (GVWs) of the power unit and the towed unit(s), or any combination thereof, that produces the highest value.</b> Exception: The GCWR of the power unit will not be used to define a commercial motor vehicle when the power unit is not towing another vehicle.</p>
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Medical variance</b> means a driver has received one of the following from FMCSA that allows the driver to be issued a medical certificate:</p> <p>(1) An exemption letter permitting operation of a commercial motor vehicle pursuant to part 381, subpart C, or this chapter or 391.64 of this chapter;</p> <p>(2) <b>A skill performance evaluation certificate permitting operation of a commercial motor vehicle pursuant to 391.49 of this chapter.</b></p>
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Operator</b>—See driver</p>
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Person</b> means any individual, partnership, association, corporation, business trust, or any other organized group of individuals.</p>
390.5	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p><b>Texting</b> means manually entering alphanumeric text into, or reading text from, an electronic device.</p>
390.11	MOTOR CARRIER TO REQUIRE OBSERVANCE OF DRIVER REGULATIONS	<p><b>Whenever in part 325 of subchapter A or in this subchapter a duty is prescribed for a driver or a prohibition is imposed upon the driver, it shall be the duty of the motor carrier to require observance of such duty or prohibition.</b> If the motor carrier is a driver, the driver shall likewise be bound.</p>

Part	Subject	FMCSR Language
390.17	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	Nothing in this subchapter shall be construed to prohibit the use of additional equipment and accessories, not inconsistent with or prohibited by this subchapter, <b>provided such equipment and accessories do not decrease the safety of operation of the commercial motor vehicles on which they are used.</b>
390.23	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p>(a) Parts 390 through 399 of this chapter shall not apply to any motor carrier or driver operating a commercial motor vehicle to provide emergency relief during an emergency, subject to the following time limits:</p> <ul style="list-style-type: none"> <li>(1) <i>Regional emergencies ...</i></li> <li>(2) <i>Local emergencies...</i></li> <li>(3) <i>Tow trucks responding to emergencies...</i></li> </ul> <p>(b) <b>Upon termination of direct assistance to the regional or local emergency relief effort, the motor carrier or driver is subject to the requirements of parts 390 through 399 of this chapter,</b> with the following exception: A driver may return empty to the motor carrier's terminal or the driver's normal work reporting location without complying with parts 390 through 399 of this chapter.</p>
390.31	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p>(a) All records and documents required to be maintained under this subchapter must be preserved in their original form for the periods specified, unless the records and documents are suitably photographed and the microfilm is retained in lieu of the original record for the required retention period.</p> <p><b>(d) Exception. All records except those requiring a signature may be maintained through the use of computer technology</b> provided the motor carrier can produce, upon demand, a computer printout of the required data.</p>
390.36	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p>(b) Prohibition against harassment.</p> <ul style="list-style-type: none"> <li>(1) No motor carrier may harass a <b>driver</b>...</li> </ul> <p>(c) Complaint process. A <b>driver</b> who believes he or she was the subject of harassment by a motor carrier may file a written complaint...</p>

Part	Subject	FMCSR Language
390.37	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	Any person who violates the rules set forth in this subchapter or part 325 of subchapter A may be subject to civil or criminal penalties.
390.42	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	<p>(a) Before operating intermodal equipment over the road, <b>the driver accepting the equipment must inspect the equipment components</b> listed in § 392.7(b) of this subchapter and be satisfied they are in good working order...</p> <p>(b) <b>A driver</b> or motor carrier transporting intermodal equipment <b>must report to the intermodal equipment provider</b>, or its designated agent, any known damage, defects, or deficiencies in the intermodal equipment...</p>
391	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	
391.1	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(a) The rules in this part establish minimum qualifications for <b>persons who drive</b> commercial motor vehicles as, for, or on behalf of motor carriers. The rules in this part also establish minimum duties of motor carriers with respect to the qualifications of their drivers.
391.2	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p>(a) <i>Farm custom operation.</i> The rules in this part, except 391.15(e) and (f), <b>do not apply to a driver who drives</b> commercial motor vehicle controlled and operated by a person engaged in custom-harvesting operations, if commercial motor vehicle is used to –</p> <ul style="list-style-type: none"> <li>(1) Transport farm machinery, supplies, or both, to or from a farm for custom-harvesting operations on a farms; or</li> <li>(2) Transport custom-harvested crops to storage or market.</li> </ul> <p>(b) <i>Apianian industries.</i> The rules in this part, except for 391.15(e) and (f), <b>do not apply to a driver who is operating a commercial motor vehicle controlled and operated by a beekeeper engaged in the seasonal transportation of bees.</b></p>

Part	Subject	FMCSR Language
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(a) <b>A person shall not drive a commercial motor vehicle unless he/she is qualified to drive a commercial motor vehicle.</b> Except as provided in §391.63, a motor carrier shall not require or permit a person to drive a commercial motor vehicle unless that person is qualified to drive a commercial motor vehicle.
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(b) Except as provided in subpart G of this part, a person is qualified to drive a motor vehicle if he/she— <b>(1) Is at least 21 years old;</b>
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(b) Except as provided in subpart G of this part, a person is qualified to drive a motor vehicle if he/she— <b>(2) Can read and speak the English language sufficiently to converse with the general public,</b> to understand highway traffic signs and signals in the English language, <b>to respond to official inquiries, and to make entries on reports and records;</b>
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(b) Except as provided in subpart G of this part, a person is qualified to drive a motor vehicle if he/she— <b>(3) Can, by reason of experience, training, or both, safely operate</b> the type of commercial motor vehicle he/she drives;
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(b) Except as provided in subpart G of this part, a person is qualified to drive a motor vehicle if he/she— <b>(4) Is physically qualified to drive a commercial motor vehicle in accordance with subpart E—Physical Qualifications and Examinations of this part</b>
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(b) Except as provided in subpart G of this part, a person is qualified to drive a motor vehicle if he/she— <b>(5) Has a currently valid commercial motor vehicle operator's license issued only by one State or jurisdiction;</b>

Part	Subject	FMCSR Language
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(b) Except as provided in subpart G of this part, a person is qualified to drive a motor vehicle if he/she—  <b>(6) Has prepared and furnished the motor carrier that employs him/her with the list of violations or the certificate as required by §391.27;</b>
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(b) Except as provided in subpart G of this part, a person is qualified to drive a motor vehicle if he/she—  <b>(7) Is not disqualified to drive a commercial motor vehicle under the rules in §391.15; and</b>
391.11	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(b) Except as provided in subpart G of this part, a person is qualified to drive a motor vehicle if he/she—  <b>(8) Has successfully completed a driver's road test and has been issued a certificate of driver's road test in accordance with §391.31, or has presented an operator's license or a certificate of road test which the motor carrier that employs him/her has accepted as equivalent to a road test in accordance with §391.33.</b>
391.13	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	In order to comply with the requirements of §§392.9(a) and 383.111(a)(16) of this subchapter, a motor carrier <b>shall not require or permit a person to drive a commercial motor vehicle unless the person—</b>  <b>(a) Can, by reason of experience, training, or both, determine whether the cargo he/she transports (including baggage in a passenger-carrying commercial motor vehicle) has been properly located, distributed, and secured in or on the commercial motor vehicle he/she drives;</b>
391.13	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	In order to comply with the requirements of §§392.9(a) and 383.111(a)(16) of this subchapter, a motor carrier <b>shall not require or permit a person to drive a commercial motor vehicle unless the person—</b>  <b>(b) Is familiar with methods and procedures for securing cargo in or on the commercial motor vehicle he/she drives.</b>

Part	Subject	FMCSR Language
391.15	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(a) General. A <b>driver who is disqualified shall not drive</b> a commercial motor vehicle. A motor carrier shall not require or permit a driver who is disqualified to drive a commercial motor vehicle.
391.15	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p>(b) <i>Disqualification for loss of driving privileges.</i></p> <p><b>(1) A driver is disqualified for the duration of the driver's loss of his/her privilege to operate a commercial motor vehicle on public highways, either temporarily or permanently, by reason of the revocation, suspension, withdrawal, or denial of an operator's license, permit, or privilege, until that operator's license, permit, or privilege is restored by the authority that revoked, suspended, withdrew, or denied it.</b></p>
391.15	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p>(c) <i>Disqualification for criminal and other offenses.</i></p> <p>(1) <i>General rule.</i> <b>A driver</b> who is convicted of (or forfeits bond or collateral upon a charge of) a disqualifying offense specified in paragraph (c)(2) of this section is disqualified for the period of time specified in paragraph (c)(3) of this section if –</p> <ul style="list-style-type: none"> <li>(i) The <b>offense was committed during on-duty time as defined in S395.2</b> of this subchapter or as otherwise specified, and;</li> <li>(ii) The driver is employed by a motor carrier or is engaged in activities that are in furtherance of a commercial enterprise in interstate, intrastate, or foreign commerce.</li> </ul> <p>(2) Disqualifying offenses. The following offenses are disqualifying offenses: (i) <b>Driving a commercial motor vehicle while under the influence of alcohol.</b></p> <ul style="list-style-type: none"> <li>(iv) <b>Leaving the scene of an accident while operating a commercial motor vehicle;</b></li> </ul>
391.15	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	(e) Disqualification for violation of prohibition of texting while driving a commercial motor vehicle –

Part	Subject	FMCSR Language
		<p>(1) <b>General Rule. A driver who is convicted of violating the prohibition of texting in §392.80(a) of this chapter is disqualified for the period of time specified in paragraph (e)(2) of this section.</b></p>
<p><b>391.21</b></p>	<p>QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS</p>	<p>§391.21 Application for employment.</p> <p>(a) Except as provided in subpart G of this part, <b>a person shall not drive a commercial motor vehicle unless he/she has completed and furnished the motor carrier that employs him/her with an application for employment that meets the requirements of paragraph (b) of this section.</b></p> <p>(b) The application for employment shall be made on a form furnished by the motor carrier. Each application form must be completed by the applicant, <b>must be signed by him/her</b>, and <b>must contain the following information:</b></p> <ul style="list-style-type: none"> <li>(1) The name and address of the employing motor carrier;</li> <li><b>(2) The applicant's name, address, date of birth, and social security number;</b></li> <li>(3) The addresses at which the applicant has resided during the 3 years preceding the date on which the application is submitted;</li> <li>(4) The date on which the application is submitted;</li> <li><b>(5) The issuing State, number, and expiration date of each unexpired commercial motor vehicle operator's license or permit that has been issued to the applicant;</b></li> <li>(6) The nature and extent of the applicant's experience in the operation of motor vehicles, including the type of equipment (such as buses, trucks, truck tractors, semitrailers, full trailers, and pole trailers) which he/she has operated;</li> <li>(7) A list of all motor vehicle <b>accidents</b> in which the applicant was involved during the 3 years preceding the date the application is submitted, specifying the date and nature of each accident and any fatalities or personal injuries it caused;</li> <li>(8) A list of all violations of motor vehicle laws or ordinances (other than violations involving only parking) of which the applicant was convicted or forfeited bond or collateral during the 3 years preceding the date the application is submitted;</li> </ul>

Part	Subject	FMCSR Language
		<p>(9) A statement setting forth in detail the facts and circumstances of any denial, revocation, or suspension of any license, permit, or privilege to operate a motor vehicle that has been issued to the applicant, or a statement that no such denial, revocation, or suspension has occurred;</p> <p>(10)—</p> <ul style="list-style-type: none"> <li>(i) <b>A list of the names and addresses of the applicant's employers during the 3 years preceding the date the application is submitted,</b></li> <li>(ii) The dates he or she was employed by that employer,</li> <li>(iii) The reason for leaving the employ of that employer,</li> <li>(iv) After October 29, 2004, whether the (A) Applicant was subject to the FMCSRs while employed by that previous employer, <ul style="list-style-type: none"> <li>(B) Job was designated as a safety sensitive function in any DOT regulated mode subject to alcohol and controlled substances testing requirements as required by 49 CFR part 40;</li> </ul> </li> </ul> <p>(11) For those drivers applying to operate a commercial motor vehicle as defined by part 383 of this subchapter, a list of the names and addresses of the applicant's employers during the 7-year period preceding the 3 years contained in paragraph (b)(10) of this section for which the applicant was an operator of a commercial motor vehicle, together with the dates of employment and the reasons for leaving such employment; and</p> <p>(12) <b>The following certification and signature line, which must appear at the end of the application form and be signed by the applicant:</b>  This certifies that this application was completed by me, and that all entries on it and information in it are true and complete to the best of my knowledge.  (Date)  <b>(Applicant's signature)</b></p> <p>(c) A motor carrier may require an applicant to provide information in addition to the information required by paragraph (b) of this section on the application form.</p>

Part	Subject	FMCSR Language
		<p>(d) Before an application is submitted, the motor carrier must inform the applicant that the information he/she provides in accordance with paragraph (b)(10) of this section may be used, and the applicant's previous employers will be contacted, for the purpose of investigating the applicant's safety performance history information as required by paragraphs (d) and (e) of §391.23. The prospective employer must also notify the driver in writing of his/her due process rights as specified in §391.23(i) regarding information received as a result of these investigations.</p>
<p><b>391.23</b></p>	<p>QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS</p>	<p>§391.23 Investigation and inquiries.</p> <p>(a) Except as provided in subpart G of this part, <b>each motor carrier shall make the following investigations and inquiries with respect to each driver it employs</b>, other than a person who has been a regularly employed driver of the motor carrier for a continuous period which began before January 1, 1971:</p> <ul style="list-style-type: none"> <li>(1) An inquiry to each State where the driver held or <b>holds a motor vehicle operator's license or permit</b> during the preceding 3 years to obtain that driver's motor vehicle record.</li> <li>(2) An investigation of the <b>driver's safety performance history with Department of Transportation</b> regulated employers during the preceding three years.</li> </ul> <p>(d) The prospective motor carrier must investigate, at a minimum, the information listed in this paragraph from all previous employers of the <b>applicant that employed the driver to operate a CMV within the previous three years</b>. The investigation request must contain specific contact information on where the previous motor carrier employers should send the information requested.</p> <ul style="list-style-type: none"> <li>(1) General driver identification and employment verification information.</li> <li>(2) The data elements as specified in §390.15(b)(1) of this chapter for accidents involving the driver that occurred in the three-year period preceding the date of the employment application.</li> </ul>

Part	Subject	FMCSR Language
		<p>(i) <b>Any accidents as defined by §390.5 of this chapter.</b></p> <p>(ii) <b>Any accidents the previous employer may wish to provide that are retained pursuant to §390.15(b)(2),</b> or pursuant to the employer's internal policies for retaining more detailed minor accident information.</p> <p>(m)—</p> <p>(1) <b>The motor carrier must obtain an original or copy of the medical examiner's certificate issued in accordance with §391.43, and any medical variance on which the certification is based, and, beginning on or after May 21, 2014, verify the driver was certified by a medical examiner listed on the National Registry of Certified Medical Examiners as of the date of issuance of the medical examiner's certificate, and place the records in the driver qualification file, before allowing the driver to operate a CMV.</b></p>
391.25	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p>§391.25 Annual inquiry and review of driving record.</p> <p>(a) Except as provided in subpart G of this part, each motor carrier shall, at least once every 12 months, <b>make an inquiry to obtain the motor vehicle record of each driver it employs,</b> covering at least the preceding 12 months, to the appropriate agency of every State in which the driver held a commercial motor vehicle operator's license or permit during the time period.</p> <p>(b) Except as provided in subpart G of this part, each motor carrier shall, at least once every 12 months, review the motor vehicle record of each driver it employs to determine whether that driver meets minimum requirements for safe driving or is disqualified to drive a commercial motor vehicle pursuant to §391.15.</p> <p>(1) The motor carrier must consider any evidence that the driver has violated any applicable Federal Motor Carrier Safety Regulations in this subchapter or Hazardous Materials Regulations (49 CFR chapter I, subchapter C).</p> <p>(2) The <b>motor carrier must consider the driver's accident record and any evidence that the driver has violated laws governing the operation of motor vehicles,</b> and must give great weight to violations, such as speeding, reckless driving, and operating</p>

Part	Subject	FMCSR Language
		while under the influence of alcohol or drugs, that indicate that the driver has exhibited a disregard for the safety of the public.

Part	Subject	FMCSR Language
391.27	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p>§391.27 Record of violations.</p> <p>(a) Except as provided in subpart G of this part, each motor carrier shall, at least once every 12 months, require each driver it employs to prepare and furnish it with a list of all violations of motor vehicle traffic laws and ordinances (other than violations involving only parking) of which the driver has been convicted or on account of which he/she has forfeited bond or collateral during the preceding 12 months.</p> <p>(b) Each driver shall furnish the list required in accordance with paragraph (a) of this section. If the driver has not been convicted of, or forfeited bond or collateral on account of, any violation which must be listed, he/she shall so certify.</p> <p>(c) <b>The form of the driver's list or certification shall be prescribed by the motor carrier. The following form may be used to comply with this section:</b></p> <p><b>Driver's Certification</b></p> <p>I certify that the following is a true and complete list of traffic violations (other than parking violations) for which I have been convicted or forfeited bond or collateral during the past 12 months.</p> <p>Date of conviction    Offense  Location    Type of motor vehicle operated</p> <p>If no violations are listed above, I certify that I have not been convicted or forfeited bond or collateral on account of any violation required to be listed during the past 12 months.</p> <p>(Date of certification) <b>(Driver's signature)</b>  (Motor carrier's name)  (Motor carrier's address)  (Reviewed by: Signature) (Title)</p>

Part	Subject	FMCSR Language
391.31	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p>§391.31 Road test.</p> <p>(a) Except as provided in subpart G, <b>a person shall not drive a commercial motor vehicle unless he/she has first successfully completed a road test and has been issued a certificate of driver's road test in accordance with this section.</b></p> <p>(c) The road test must be of sufficient duration to enable the person who gives it to <b>evaluate the skill of the person who takes it at handling the commercial motor vehicle, and associated equipment, that the motor carriers intends to assign to him/her.</b> As a minimum, the person who takes the test must be tested, while operating the type of commercial motor vehicle the motor carrier intends to assign him/her, on his/her skill at performing each of the following operations:</p> <ol style="list-style-type: none"> <li>(1) The pretrip inspection required by §392.7 of this subchapter;</li> <li>(2) Coupling and uncoupling of combination units, if the equipment he/she may drive includes combination units;</li> <li>(3) Placing the commercial motor vehicle in operation;</li> <li>(4) Use of the commercial motor vehicle's controls and emergency equipment;</li> <li>(5) Operating the commercial motor vehicle in traffic and while passing other motor vehicles;</li> <li>(6) Turning the commercial motor vehicle;</li> <li>(7) Braking, and slowing the commercial motor vehicle by means other than braking; and</li> <li>(8) Backing and parking the commercial motor vehicle.</li> </ol> <p>(f) The form for the certificate of driver's road test is substantially as follows:  Certification of Road Test  <b>Driver's name</b>  <b>Social Security No</b>  Operator's or Chauffeur's License No</p>

Part	Subject	FMCSR Language
391.41	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p>§391.41 Physical qualifications for drivers.</p> <p>(a)--</p> <p>(1)—</p> <p><b>(i) A person subject to this part must not operate a commercial motor vehicle unless he or she is medically certified as physically qualified to do so, and, except as provided in paragraph (a)(2) of this section, when on-duty has on his or her person the original, or a copy, of a current medical examiner's certificate that he or she is physically qualified to drive a commercial motor vehicle. NOTE: Effective December 29, 1991, the FMCSA Administrator determined that the new Licencia Federal de Conductor issued by the United Mexican States is recognized as proof of medical fitness to drive a CMV. The United States and Canada entered into a Reciprocity Agreement, effective March 30, 1999, recognizing that a Canadian commercial driver's license is proof of medical fitness to drive a CMV. Therefore, Canadian and Mexican CMV drivers are not required to have in their possession a medical examiner's certificate if the driver has been issued, and possesses, a valid commercial driver license issued by the United Mexican States, or a Canadian Province or Territory and whose license and medical status, including any waiver or exemption, can be electronically verified. Drivers from any of the countries who have received a medical authorization that deviates from the mutually accepted compatible medical standards of the resident country are not qualified to drive a CMV in the other countries. For example, Canadian drivers who do not meet the medical fitness provisions of the Canadian National Safety Code for Motor Carriers, but are issued a waiver by one of the Canadian Provinces or Territories, are not qualified to drive a CMV in the United States. In addition, U.S. drivers who received a medical variance from FMCSA are not qualified to drive a CMV in Canada.</b></p>

Part	Subject	FMCSR Language
391.41	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p><b>(b) A person is physically qualified to drive a commercial motor vehicle if that person—</b></p> <p>(1) Has no loss of a foot, a leg, a hand, or an arm, or has been granted a skill performance evaluation certificate pursuant to §391.49;</p> <p>(2) Has no impairment of:</p> <ul style="list-style-type: none"> <li>(i) A hand or finger which interferes with prehension or power grasping; or</li> <li>(ii) An arm, foot, or leg which interferes with the ability to perform normal tasks associated with operating a commercial motor vehicle; or any other significant limb defect or limitation which interferes with the ability to perform normal tasks associated with operating a commercial motor vehicle; or has been granted a skill performance evaluation certificate pursuant to §391.49.</li> </ul> <p>(3) Has no established medical history or clinical diagnosis of diabetes mellitus currently requiring insulin for control;</p> <p>(4) Has no current clinical diagnosis of myocardial infarction, angina pectoris, coronary insufficiency, thrombosis, or any other cardiovascular disease of a variety known to be accompanied by syncope, dyspnea, collapse, or congestive cardiac failure.</p> <p>(5) Has no established medical history or clinical diagnosis of a respiratory dysfunction likely to interfere with his/her ability to control and drive a commercial motor vehicle safely;</p> <p>(6) Has no current clinical diagnosis of high blood pressure likely to interfere with his/her ability to operate a commercial motor vehicle safely;</p> <p>(7) Has no established medical history or clinical diagnosis of rheumatic, arthritic, orthopedic, muscular, neuromuscular, or vascular disease which interferes with his/her ability to control and operate a commercial motor vehicle safely;</p> <p>(8) Has no established medical history or clinical diagnosis of epilepsy or any other condition which is likely to cause loss of consciousness or any loss of ability to control a commercial motor vehicle;</p>

Part	Subject	FMCSR Language
		<p>(9) Has no mental, nervous, organic, or functional disease or psychiatric disorder likely to interfere with his/her ability to drive a commercial motor vehicle safely;</p> <p>(10) Has distant visual acuity of at least 20/40 (Snellen) in each eye without corrective lenses or visual acuity separately corrected to 20/40 (Snellen) or better with corrective lenses, distant binocular acuity of at least 20/40 (Snellen) in both eyes with or without corrective lenses, field of vision of at least 70° in the horizontal Meridian in each eye, and the ability to recognize the colors of traffic signals and devices showing standard red, green, and amber;</p> <p>(11) First perceives a forced whispered voice in the better ear at not less than 5 feet with or without the use of a hearing aid or, if tested by use of an audiometric device, does not have an average hearing loss in the better ear greater than 40 decibels at 500 Hz, 1,000 Hz, and 2,000 Hz with or without a hearing aid when the audiometric device is calibrated to American National Standard (formerly ASA Standard) Z24.5—1951.</p> <p>(12)—</p> <ul style="list-style-type: none"> <li>(i) Does not use any drug or substance identified in 21 CFR 1308.11 Schedule I, an amphetamine, a narcotic, or other habit-forming drug.</li> <li>(ii) Does not use any non-Schedule I drug or substance that is identified in the other Schedules in 21 CFR part 1308 except when the use is prescribed by a licensed medical practitioner, as defined in §382.107, who is familiar with the driver's medical history and has advised the driver that the substance will not adversely affect the driver's ability to safely operate a commercial motor vehicle.</li> </ul> <p>(13) Has no current clinical diagnosis of alcoholism.</p>
<b>391.45</b>	QUALIFICATIONS OF DRIVERS AND LONGER COMBINATION VEHICLE (LCV) DRIVER INSTRUCTORS	<p>§391.45 Persons who must be medically examined and certified.</p> <p>The following persons must be medically examined and certified in accordance with §391.43 of this subpart as physically qualified to operate a commercial motor vehicle:</p>

Part	Subject	FMCSR Language
		<p>(a) <b>Any person who has not been medically examined and certified as physically qualified to operate a commercial motor vehicle;</b></p> <p>(b)—</p> <p>(1) Any driver who has not been medically examined and certified as qualified to operate a commercial motor vehicle during the preceding 24 months; or</p> <p>(2) Any driver authorized to operate a commercial motor vehicle only with an exempt intracity zone pursuant to §391.62, or only by operation of the exemption in §391.64, if such driver has not been medically examined and certified as qualified to drive in such zone during the preceding 12 months;</p>
392	DRIVING OF COMMERCIAL MOTOR VEHICLES	
392.3	DRIVING OF COMMERCIAL MOTOR VEHICLES	<p><b>No driver shall operate a commercial motor vehicle</b>, and a motor carrier shall not require or permit a driver to operate a commercial motor vehicle, <b>while the driver's ability or alertness is so impaired, or so likely to become impaired</b>, through fatigue, illness, or any other cause, <b>as to make it unsafe for him/her to begin or continue to operate the commercial motor vehicle...</b></p>
392.4	DRIVING OF COMMERCIAL MOTOR VEHICLES	<p>(a) No driver shall be on duty and possess, be under the influence of, or use, any of the following drugs or other substances...</p>
392.5	DRIVING OF COMMERCIAL MOTOR VEHICLES	<p>(a) No driver shall—</p> <p>(1) Use alcohol, as defined in §382.107 of this subchapter, or be under the influence of alcohol, within 4 hours before going on duty or operating, or having physical control of, a commercial motor vehicle...</p>

Part	Subject	FMCSR Language
392.7	DRIVING OF COMMERCIAL MOTOR VEHICLES	(a) No commercial motor vehicle shall be driven <b>unless the driver is satisfied that</b> the following parts and accessories are in good working order, nor shall any driver fail to use or make use of such parts and accessories when and as needed...
392.7	DRIVING OF COMMERCIAL MOTOR VEHICLES	(b) <b>Drivers</b> preparing to transport intermodal equipment <b>must make an inspection</b> of the following components, and must be satisfied they are in good working order before the equipment is operated over the road. Drivers who operate the equipment over the road shall be deemed to have confirmed the following components were in good working order when the driver accepted the equipment:
392.8	DRIVING OF COMMERCIAL MOTOR VEHICLES	No commercial motor vehicle shall be driven unless the driver thereof is satisfied that the emergency equipment required by §393.95 of this subchapter is in place and ready for use; nor shall any driver fail to use or make use of such equipment when and as needed.
392.9	DRIVING OF COMMERCIAL MOTOR VEHICLES	(b) Drivers of trucks and truck tractors. Except as provided in paragraph (b)(4) of this section, the <b>driver</b> of a truck or truck tractor <b>must—</b>  (1) <b>Assure himself/herself that the provisions of paragraph (a) of this section have been complied with before he/she drives that commercial motor vehicle...</b>
392.10	DRIVING OF COMMERCIAL MOTOR VEHICLES	(a) Except as provided in paragraph (b) of this section, the driver of a CMV specified in paragraphs (a) (1) through (6) of this section shall not cross a railroad track or tracks at grade unless he/she first: Stops the CMV within 50 feet of, and not closer than 15 feet to, the tracks; thereafter <b>listens and looks in each direction</b> along the tracks for an approaching train; <b>and ascertains that no train is approaching...</b>
392.16	DRIVING OF COMMERCIAL MOTOR VEHICLES	(a) Drivers. No driver shall operate a commercial motor vehicle... that has a seat belt assembly installed at the driver's seat <b>unless the driver is properly restrained by the seat belt assembly.</b>

Part	Subject	FMCSR Language
392.22	DRIVING OF COMMERCIAL MOTOR VEHICLES	(b) Placement of warning devices—  (1) General rule. Except as provided in paragraph (b)(2) of this section, whenever a commercial motor vehicle is stopped upon the traveled portion or the shoulder of a highway for any cause other than necessary traffic stops, the <b>driver shall, as soon as possible, but in any event within 10 minutes, place the warning devices</b> required by §393.95 of this subchapter...
392.24	DRIVING OF COMMERCIAL MOTOR VEHICLES	No driver shall attach or permit any person to attach a lighted fuse or other flame-producing emergency signal to any part of a commercial motor vehicle.
392.25	DRIVING OF COMMERCIAL MOTOR VEHICLES	<b>No driver shall use or permit the use</b> of any flame-producing emergency signal for protecting any commercial motor vehicle transporting...
392.50	DRIVING OF COMMERCIAL MOTOR VEHICLES	No <b>driver or any employee of a motor carrier shall:</b> (a) Fuel a commercial motor vehicle with the engine running... (b) Smoke or expose any open flame... (c) Fuel a commercial motor vehicle unless ... (d) Permit, insofar as practicable, any other person to engage in such activities...
392.60	DRIVING OF COMMERCIAL MOTOR VEHICLES	... <b>no driver shall transport any person or permit any person to be transported</b> on any commercial motor vehicle other than a bus.
392.62	DRIVING OF COMMERCIAL MOTOR VEHICLES	<b>No person shall drive a bus</b> and a motor carrier shall not require or permit a person to drive a bus unless... (passengers are seated and baggage is properly stowed).
392.66	DRIVING OF COMMERCIAL MOTOR VEHICLES	(a) No person shall dispatch or drive any commercial motor vehicle or permit any passengers thereon, when the following conditions are known to exist, until such conditions have been remedied or repaired...  (1) Where an <b>occupant</b> has been affected by carbon monoxide;  (2) Where carbon monoxide has been detected <b>in the interior of the commercial motor vehicle</b> ;

Part	Subject	FMCSR Language
		(3) When a mechanical condition of the commercial motor vehicle is discovered which would be <b>likely to produce a hazard to the occupants</b> by reason of carbon monoxide.
392.71	DRIVING OF COMMERCIAL MOTOR VEHICLES	(a) <b>No driver shall use</b> a radar detector in a commercial motor vehicle, or operate a commercial motor vehicle that is equipped with or contains any radar detector.
392.80	DRIVING OF COMMERCIAL MOTOR VEHICLES	(a) Prohibition. No driver shall engage in texting while driving.
392.82	DRIVING OF COMMERCIAL MOTOR VEHICLES	(a)— (1) No driver shall use a hand-held mobile telephone while driving a CMV... (b) Definition. For the purpose of this section only, driving means operating a commercial motor vehicle on a highway, including while temporarily stationary
393	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	
393.3	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	The use of additional equipment or accessories in a manner that decreases the safety of operation of a commercial motor vehicle in interstate commerce is prohibited.
393.5	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<b>Tow bar. A strut or column-like device</b> temporarily attached between the rear of a towing vehicle and the front of the vehicle being towed.
393.7	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	
393.11	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	Lamps and reflex reflectors. Table 1 specifies the requirements for lamps, reflective devices and associated equipment by the type of commercial motor vehicle. The diagrams in this section illustrate the position of the lamps, reflective devices and associated equipment specified in Table 1
393.24	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(a) Headlamps. <b>Every bus, truck and truck tractor shall be equipped with headlamps as required by §393.11(a). The headlamps shall provide an upper and lower beam distribution of light, selectable at the driver's will and be steady-burning.</b>

Part	Subject	FMCSR Language
393.43	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	Includes requirements for manual brakes\controls - e.g., ...The other means shall be a <b>manually controlled device readily operable by a person seated in the driving seat</b> . Its emergency position or method of operation shall be clearly indicated.
393.51	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(a) General Rule. Every bus, truck and truck tractor, except as provided in paragraph (f), <b>must be equipped with a signal that provides a warning to the driver</b> when a failure occurs in the vehicle's service brake system. The warning signal must meet the applicable requirements of paragraphs (b), (c), (d) or (e) of this section.
393.55	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(b) ABS malfunction indicators for hydraulic braked vehicles. Each hydraulic braked vehicle subject to the requirements of paragraph (a) of this section <b>shall be equipped with an ABS malfunction indicator system</b> that meets the requirements of FMVSS No. 105 (49 CFR 571.105, S5.3).
393.55	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(d)—  (2) Each truck tractor manufactured on or after March 1, 2001, and each single-unit vehicle that is equipped to tow another air-braked vehicle, subject to the requirements of paragraph (c) of this section, <b>shall be equipped with an electrical circuit that is capable of transmitting a malfunction signal from the antilock brake system(s) on the towed vehicle(s) to the trailer ABS malfunction lamp in the cab of the towing vehicle</b> , and shall have the means for connection of the electrical circuit to the towed vehicle. The ABS malfunction circuit and signal shall meet the requirements of FMVSS No. 121 (49 CFR 571.121, S5.1.6.2(b)).
393.60	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(b) Windshields required. Each bus, truck and truck-tractor shall be equipped with a windshield.  (e) Prohibition on obstructions to the driver's field of view—  (1) Devices mounted at the top of the windshield. Antennas, transponders, and similar devices must not be mounted more than 152 mm (6 inches) below the upper edge of the windshield. These devices must be located outside the area swept by the

Part	Subject	FMCSR Language
		windshield wipers, and outside the driver's sight lines to the road and highway signs and signals
393.61	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	Each truck and truck tractor... shall have at least one window on each side of the driver's compartment.
393.78	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(a) Vehicles manufactured on or after December 25, 1968. Each bus, truck, and truck-tractor manufactured on or after December 25, 1968, <b>must have a windshield wiping system</b> that meets the requirements of FMVSS No. 104 (S4.1) in effect on the date of manufacture. Each of these vehicles must have a windshield washing system that meets the requirements of FMVSS No. 104 (S4.2.2) in effect on the date of manufacture.
393.79	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	Each bus, truck, and truck-tractor manufactured on or after December 25, 1968, <b>must have a windshield defrosting and defogging system</b> that meets the requirements of FMVSS No. 103 in effect on the date of manufacture.
393.80	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(a) <b>Every bus, truck, and truck tractor shall be equipped with two rear-vision mirrors</b> , one at each side, firmly attached to the outside of the motor vehicle, and so located as to reflect to the driver a view of the highway to the rear, along both sides of the vehicle.
393.81	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	Every bus, truck, truck-tractor, and every driven motor vehicle in driveaway-towaway operations shall be equipped with a horn <b>and actuating elements...</b>
393.82	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<b>Each bus, truck, and truck-tractor must be equipped with a speedometer</b>
393.83	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(e) The <b>exhaust system of every truck and truck tractor shall discharge to the atmosphere at a location to the rear of the cab</b> or, if the exhaust projects above the cab, at a location near the rear of the cab.

Part	Subject	FMCSR Language
393.90	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<p>Except as provided below, every bus, which is designed and constructed so as to allow standees, shall be plainly marked with a line of contrasting color at least 2 inches wide or equipped with some other means so as to <b>indicate to any person that he/she is prohibited from occupying a space forward of a perpendicular plane drawn through the rear of the driver's seat and perpendicular to the longitudinal axis of the bus.</b> Every bus shall have clearly posted at or near the front, a sign with letters at least one-half inch high stating that it is a violation of the Federal Motor Carrier Safety Administration's regulations for a bus to be operated with persons occupying the prohibited area.</p>
393.93	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<p>(a)—</p> <p>(3) Buses manufactured on or after January 1, 1972. Every bus manufactured on or after January 1, 1972, must conform to the requirements of Federal Motor Vehicle Safety Standard No. 207 1 (§ 571.207) (relating to seating systems).</p> <p>(b)—</p> <p>(2) Trucks and truck tractors manufactured on or after July 1, 1971. Every truck and truck tractor manufactured on or after July 1, 1971... must conform to the requirements of Federal Motor Vehicle Safety Standard No. 208 1 (§ 571.208) (relating to installation of seat belt assemblies) and Federal Motor Vehicle Safety Standard No. 210 1 (§ 571.210) (relating to installation of seat belt assembly anchorages).</p>
393.94	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<p>(a) Applicability of this section. The <b>interior noise level requirements apply to all trucks, truck-tractors, and buses.</b></p> <p>(b) General rule. The <b>interior sound level at the driver's seating position of a motor vehicle must not exceed 90 dB(A)</b> when measured in accordance with paragraph (c) of this section.</p>

Part	Subject	FMCSR Language
393.95	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(a)— (1)— (ii) A power unit that is not used to transport hazardous materials must be equipped with either: (A) A fire extinguisher having an Underwriters' Laboratories rating of 5 B:C or more; or (B) Two fire extinguishers, each of which has an Underwriters' Laboratories rating of 4 B:C or more
393.95	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(b) Spare fuses. Power units for which fuses are needed to operate any required parts and accessories <b>must have at least one spare fuse for each type/size of fuse needed</b> for those parts and accessories
393.95	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	(f) Warning devices for stopped vehicles. Except as provided in paragraph (g) of this section, one of the following options must be used: (1) Three bidirectional emergency reflective triangles that conform to the requirements of Federal Motor Vehicle Safety Standard No. 125, § 571.125 of this title; or (2) At least 6 fuses or 3 liquid-burning flares. The vehicle must have as many additional fuses or liquid-burning flares as are necessary to satisfy the requirements of §392.22. (3) <b>Other warning devices may be used in addition to, but not in lieu of, the required warning devices</b> , provided those warning devices do not decrease the effectiveness of the required warning devices.

Part	Subject	FMCSR Language
393.95	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<p><b>Each truck, truck tractor, and bus (except those towed in driveway-towaway operations) must be equipped</b> as follows:</p> <p>(a) <b>Fire extinguishers</b>—</p> <p>(1) Minimum ratings.</p> <p>(i) A power unit that is used to transport hazardous materials in a quantity that requires placarding (See §177.823 of this title) must be equipped with a fire extinguisher having an Underwriters' Laboratories rating of 10 B:C or more.</p> <p>(ii) A power unit that is not used to transport hazardous materials must be equipped with either:</p> <p>(A) A <b>fire extinguisher</b> having an Underwriters' Laboratories rating of 5 B:C or more; or</p> <p>(B) <b>Two fire extinguishers</b>, each of which has an Underwriters' Laboratories rating of 4 B:C or more.</p>
393.112	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<p>Each tiedown, or its associated connectors, or its attachment mechanisms must be designed, constructed, and maintained <b>so the driver of an in-transit commercial motor vehicle can tighten them.</b></p>
393.203	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<p>(a) <b>The cab compartment doors or door parts used as an entrance or exit shall not be missing or broken.</b> Doors shall not sag so that they cannot be properly opened or closed. No door shall be wired shut or otherwise secured in the closed position so that it cannot be readily opened. Exception: When the vehicle is loaded with pipe or bar stock that blocks the door and the cab has a roof exit.</p> <p>(d) All <b>seats</b> must be securely mounted.</p>
393.209	PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION	<p>Specifies requirements for steering wheel systems. Example: (a) The steering wheel shall be secured and must not have any spokes cracked through or missing.</p>

Part	Subject	FMCSR Language
395	HOURS OF SERVICE OF DRIVERS	
395.1	HOURS OF SERVICE OF DRIVERS	(a) General.  (1) The rules in this part apply to all motor carriers and <b>drivers</b> , except as provided in paragraphs (b) through (r) of this section.
395.2	HOURS OF SERVICE OF DRIVERS	<b>Driver-salesperson</b> means any employee who is employed solely as such by a private carrier of property by commercial motor vehicle, who is engaged both in selling goods, services, or the use of goods, and in delivering by commercial motor vehicle the goods sold or provided or upon which the services are performed, who does so entirely within a radius of 100 miles of the point at which he/she reports for duty, <b>who devotes not more than 50 percent of his/her hours on duty to driving time.</b>
395.2	HOURS OF SERVICE OF DRIVERS	<b>Driving time</b> means <b>all time spent at the driving controls</b> of a commercial motor vehicle in operation.
395.2	HOURS OF SERVICE OF DRIVERS	<b>Electronic logging device (ELD)</b> means a device or technology that automatically <b>records a driver's driving time and facilitates the accurate recording of the driver's hours of service</b> , and that meets the requirements of subpart B of this part.
395.2	HOURS OF SERVICE OF DRIVERS	<b>On-duty time</b> means all time from the time a driver begins to work or is required to be in readiness to work until the time the driver is relieved from work and all responsibility for performing work. On-duty time shall include:(3) <b>All driving time as defined in the term driving time;</b>  (4) <b>All time in or on a commercial motor vehicle, other than:</b>  (i) Time spent resting in or on a parked vehicle, except as otherwise provided in §397.5 of this subchapter;  (ii) Time spent resting in a sleeper berth; or

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		<p>(iii) Up to 2 hours riding in the passenger seat of a property-carrying vehicle moving on the highway immediately before or after a period of at least 8 consecutive hours in the sleeper berth;...</p> <p><b>(8) Performing any other work in the capacity, employ, or service of, a motor carrier;</b></p>
395.3	HOURS OF SERVICE OF DRIVERS	Driving time limits for " <b>drivers.</b> "
395.5	HOURS OF SERVICE OF DRIVERS	Driving time limits for " <b>drivers.</b> "
395.8	HOURS OF SERVICE OF DRIVERS	<p>(a)—</p> <p>(1) ... a motor carrier subject to the requirements of this part <b>must require each driver used by the motor carrier to record the driver's duty status for each 24-hour period</b> using the method prescribed in paragraphs (a)(1)(i) through (iv) of this section, as applicable.</p>
395.8	HOURS OF SERVICE OF DRIVERS	<p>(a)—</p> <p>(1)—</p> <p>(i) Subject to paragraphs (a)(1)(ii) and (iii) of this section, a motor carrier operating commercial motor vehicles must install and <b>require each of its drivers to use an ELD to record the driver's duty status</b> in accordance with subpart B of this part no later than December 18 2017.</p> <p>(ii) <b>A motor carrier that installs and requires a driver to use an automatic onboard recording device</b> in accordance with § 395.15 before December 18, 2017 <b>may continue to use the compliant automatic on-board recording device</b> no later than December 16, 2019.</p>
395.8	HOURS OF SERVICE OF DRIVERS	<p>(f) The driver's activities shall be recorded in accordance with the following provisions:</p> <p>(1) Entries to be current. <b>Drivers shall keep their records of duty status current</b> to the time shown for the last change of duty status.</p>

Part	Subject	FMCSR Language
		(2) Entries made by driver only. All entries relating to driver's duty status must be legible and <b>in the driver's own handwriting</b> .
395.11	HOURS OF SERVICE OF DRIVERS	<p>(b) Submission of supporting documents to motor carrier. ...a <b>driver must submit to the driver's employer the driver's supporting documents</b> within 13 days of either the 24-hour period to which the documents pertain or the day the document comes into the driver's possession, whichever is later.</p> <p>(c) Supporting document retention.</p> <p>(1) Subject to paragraph (d) of this section, a motor carrier must retain each supporting document generated or received in the normal course of business in the following categories <b>for each of its drivers</b> for every 24-hour period to verify on-duty not driving time in accordance with § 395.8(k):</p>
395.13	HOURS OF SERVICE OF DRIVERS	(a) Authority to declare drivers out of service. Every special agent of the <b>FMCSA... is authorized to declare a driver out of service</b> and to notify the motor carrier of that declaration, <b>upon finding</b> at the time and place of examination <b>that the driver has violated the out of service criteria</b> as set forth in paragraph (b) of this section.
395.13	HOURS OF SERVICE OF DRIVERS	<p>(b) Out of service criteria.</p> <p>(1) <b>No driver shall drive</b> after being on duty in excess of the maximum periods permitted by this part.</p> <p>(2) <b>No driver required to maintain a record of duty status</b> under §395.8 or §395.15 of this part <b>shall fail to have a record of duty status current</b> on the day of examination and for the prior seven consecutive days.</p>
395.13	HOURS OF SERVICE OF DRIVERS	<p>(c) Responsibilities of motor carriers.</p> <p>(1) <b>No motor carrier shall:</b></p> <p><b>(i) Require or permit a driver who has been declared out of service to operate a commercial motor vehicle until that driver may lawfully do so</b> under the rules in this part.</p>

Part	Subject	FMCSR Language
		<p>(ii) <b>Require a driver who has been declared out of service for failure to prepare a record of duty status to operate a commercial motor vehicle until that driver has been off duty for the appropriate number of consecutive hours</b> required by this part and is in compliance with this section. The appropriate consecutive hours off-duty may include sleeper berth time.</p>
395.13	HOURS OF SERVICE OF DRIVERS	<p>(d) Responsibilities of the driver.</p> <p>(1) <b>No driver who has been declared out of service shall operate a commercial motor vehicle until that driver may lawfully do so under the rules of this part.</b></p> <p>(2) <b>No driver who has been declared out of service, for failing to prepare a record of duty status, shall operate a commercial motor vehicle until the driver has been off duty for the appropriate number of consecutive hours</b> required by this part and is in compliance with this section.</p> <p>(3) <b>A driver to whom a form has been tendered declaring the driver out of service shall within 24 hours thereafter deliver or mail the copy</b> to a person or place designated by motor carrier to receive it.</p>
395.22	HOURS OF SERVICE OF DRIVERS	<p>(a) Registered ELD required. A motor carrier required to use an ELD must use only an ELD that is listed on the FMCSA's registered ELDs list, accessible through the Agency's Web site, <a href="http://www.fmcsa.dot.gov/devices">www.fmcsa.dot.gov/devices</a>.</p>
395.22	HOURS OF SERVICE OF DRIVERS	<p>(b)—</p> <p>(2) A motor carrier must:</p> <p>(iii) Ensure that a driver's license used in the creation of an ELD driver account is valid and corresponds to the driver using the ELD account;</p>

Part	Subject	FMCSR Language
395.22	HOURS OF SERVICE OF DRIVERS	<p>(c) Driver identification data.</p> <p>(1) The ELD user account assigned by the motor carrier to a driver requires the following data elements:</p> <ul style="list-style-type: none"> <li>(i) A driver’s first and last name, as reflected on the driver’s license;</li> <li>(ii) A unique ELD username selected by the motor carrier;</li> <li>(iii) The driver’s valid driver’s license number; and</li> <li>(iv) The State or jurisdiction that issued the driver’s license.</li> </ul> <p>(2) The driver’s license number or Social Security number must not be used as, or as part of, the username for the account created on an ELD.</p>
395.22	HOURS OF SERVICE OF DRIVERS	<p>(h) In-vehicle information. A <b>motor carrier must ensure that its drivers possess onboard a commercial motor vehicle an ELD information packet</b> containing the following items:</p>
395.24	HOURS OF SERVICE OF DRIVERS	<p>(a) In general. A <b>driver must provide the information the ELD requires</b> as prompted by the ELD and required by the motor carrier.</p>
395.24	HOURS OF SERVICE OF DRIVERS	<p>(b) Driver’s duty status. A <b>driver must input the driver’s duty status</b> by selecting among the following categories available on the ELD:</p> <ul style="list-style-type: none"> <li>(1) “Off duty” or “OFF” or “1”;</li> <li>(2) “Sleeper berth” or “SB” or “2”, to be used only if sleeper berth is used;</li> <li>(3) “Driving” or “D” or “3”; or</li> <li>(4) “On-duty not driving” or “ON” or “4”</li> </ul>
395.24	HOURS OF SERVICE OF DRIVERS	<p>(c) Miscellaneous data.</p> <p>(1) <b>A driver must manually input the following information</b> in the ELD:</p>

Part	Subject	FMCSR Language
395.24	HOURS OF SERVICE OF DRIVERS	(d) Driver use of ELD. <b>On request by an authorized safety official, a driver must produce and transfer from an ELD the driver's hours-of-service records</b> in accordance with the instruction sheet provided by the motor carrier
395.26	HOURS OF SERVICE OF DRIVERS	<p>(c) Change of duty status. <b>When a driver indicates a change of duty status</b> under § 395.24(b), the ELD records the data elements in paragraphs (b)(1) through (8) of this section...</p> <p>(e) Change in special driving category. <b>If a driver indicates a change in status</b> under § 395.28(a)(2), the ELD records the data elements in paragraphs (b)(1) through (8) of this section...</p> <p>(f)...<b>When a driver certifies or recertifies the driver's records</b> for a given 24-hour period</p> <p>(i) Authorized personal use. If the record is created <b>during a period when the driver has indicated authorized personal use of a commercial motor vehicle...</b></p>
395.28	HOURS OF SERVICE OF DRIVERS	<p>(a) Special driving categories -</p> <p>(2) Driver's responsibilities. <b>A driver</b> operating a commercial motor vehicle under one of the authorized categories listed in paragraph (a)(1) of this section:</p> <p>(i) <b>Must select on the ELD the applicable special driving category</b> before the start of the status and deselect when the indicated status ends; and</p> <p>(ii) When prompted by the ELD, <b>annotate the driver's ELD record describing the driver's activity.</b></p> <p>(b) Drivers exempt from ELD use. A motor carrier may configure an ELD to designate a driver as exempt from ELD use.</p> <p>(c) Other driving statuses. <b>A driver</b> operating a commercial motor vehicle under any exception under § 390.3(f) of this subchapter or § 395.1 who is not covered under paragraph (a) or (b) of this section <b>must annotate the driver's ELD record</b> to explain the applicable exemption.</p>

Part	Subject	FMCSR Language
395.30	HOURS OF SERVICE OF DRIVERS	<p>(b)—</p> <p>(1) A <b>driver must review the driver’s ELD records, edit and correct inaccurate records, enter any missing information, and certify the accuracy of the information.</b></p> <p>(2) Using the certification function of the ELD, the <b>driver must certify the driver's records...</b></p> <p>(3) The <b>driver must submit the driver’s certified ELD records</b> to the motor carrier...</p>
395.30	HOURS OF SERVICE OF DRIVERS	<p>(c)—</p> <p>(1)...When edits, additions, or annotations are necessary, a <b>driver must use the ELD and respond to the ELD's prompts.</b></p> <p>(2) The <b>driver or support personnel must annotate each change or addition to a record.</b></p>
396	INSPECTION, REPAIR, AND MAINTENANCE	
396.1	INSPECTION, REPAIR, AND MAINTENANCE	<p>§ 396.1 Scope.</p> <p>(a) Every motor carrier, its officers, <b>drivers</b>, agents, representatives, and employees directly concerned with the inspection or maintenance of commercial motor vehicles must be knowledgeable of and comply with the rules of this part.</p>

Part	Subject	FMCSR Language
396.3	INSPECTION, REPAIR, AND MAINTENANCE	<p>§ 396.3 Inspection, repair, and maintenance.</p> <p>[Interpretations]</p> <p>(a) General. Every motor carrier and intermodal equipment provider must systematically inspect, repair, and maintain, or cause to be systematically inspected, repaired, and maintained, all motor vehicles and intermodal equipment subject to its control.</p> <p>(1) Parts and accessories shall be in safe and proper operating condition at all times. <b>These include those specified in part 393 of this subchapter and any additional parts and accessories which may affect safety of operation, including but not limited to, frame and frame assemblies, suspension systems, axles and attaching parts, wheels and rims, and steering systems.</b></p>
396.7	INSPECTION, REPAIR, AND MAINTENANCE	<p>§ 396.7 Unsafe operations forbidden.</p> <p>(a) General. A motor vehicle shall not be operated in such a condition as to likely cause an accident or a breakdown of the vehicle.</p>
396.9	INSPECTION, REPAIR, AND MAINTENANCE	<p>(c) <i>Motor vehicles and intermodal equipment declared "out-of-service."</i></p> <p><b>(1) Authorized personnel shall declare and mark "out-of-service" any motor vehicle or intermodal equipment which by reason of its mechanical condition or loading would likely cause an accident or breakdown.</b> An "Out-of-Service Vehicle" sticker shall be used to mark vehicles and intermodal equipment "out-of-service."</p>
396.9	INSPECTION, REPAIR, AND MAINTENANCE	<p>(c) <i>Motor vehicles and intermodal equipment declared "out-of-service."</i></p> <p><b>(2) No motor carrier or intermodal equipment provider shall require or permit any person to operate nor shall any person operate any motor vehicle or intermodal equipment declared and marked "out-of-service" until all repairs required by the "out-of-service notice" have been satisfactorily completed.</b></p>

Part	Subject	FMCSR Language
396.9	INSPECTION, REPAIR, AND MAINTENANCE	<p>(d) Motor carrier or intermodal equipment provider disposition.</p> <p>(1) <b>The driver of any motor vehicle</b>, including a motor vehicle transporting intermodal equipment, who receives an inspection report <b>shall deliver a copy to both the motor carrier operating the vehicle and the intermodal equipment provider upon his/her arrival at the next terminal or facility</b>. If the driver is not scheduled to arrive at a terminal or facility of the motor carrier operating the vehicle or at a facility of the intermodal equipment provider within 24 hours, <b>the driver shall immediately mail, fax, or otherwise transmit the report</b> to the motor carrier and intermodal equipment provider.</p>
396.11	INSPECTION, REPAIR, AND MAINTENANCE	<p>§ 396.11 Driver vehicle inspection report(s).</p> <p>[Interpretations]</p> <p>(a) Equipment provided by motor carrier.</p> <p>(1) Report required. Every motor carrier <b>shall require its drivers to report, and every driver shall prepare a report in writing at the completion of each day's work on each vehicle operated</b>, except for intermodal equipment tendered by an intermodal equipment provider. The report shall cover at least the following parts and accessories:</p> <ul style="list-style-type: none"> <li>(i) Service brakes including trailer brake connections;</li> <li>(ii) Parking brake;</li> <li>(iii) Steering mechanism;</li> <li>(iv) Lighting devices and reflectors;</li> <li>(v) Tires;</li> <li>(vi) Horn;</li> <li><b>(vii) Windshield wipers;</b></li> <li><b>(viii) Rear vision mirrors;</b></li> </ul>

Part	Subject	FMCSR Language
		<p>(ix) Coupling devices;</p> <p>(x) Wheels and rims;</p> <p>(xi) Emergency equipment.</p> <p>(2) Report content.</p> <p>(i) The report must identify the vehicle and <b>list any defect or deficiency discovered by or reported to the driver which would affect the safety of operation of the vehicle or result in its mechanical breakdown. If a driver operates more than one vehicle during the day, a report must be prepared for each vehicle operated. The driver of a passenger-carrying CMV subject to this regulation must prepare and submit a report even if no defect or deficiency is discovered by or reported to the driver;</b> the drivers of all other commercial motor vehicles are not required to prepare or submit a report if no defect or deficiency is discovered by or reported to the driver.</p> <p>(ii) <b>The driver must sign the report.</b> On two-driver operations, only one driver needs to sign the driver vehicle inspection report, provided both drivers agree as to the defects or deficiencies identified.</p> <p>(3) <i>Corrective action.</i></p> <p>(i) <b>Prior to requiring or permitting a driver to operate a vehicle,</b> every motor carrier or its agent shall repair any defect or deficiency listed on the driver vehicle inspection report which would be likely to affect the safety of operation of the vehicle.</p> <p>(4) Retention period for reports. Every motor carrier shall maintain the original driver vehicle inspection report, the certification of repairs, and the certification of the driver's review for three months from the date the <b>written report</b> was prepared.</p> <p>(5) Exceptions. The rules in this section shall not apply to a private motor carrier of passengers (nonbusiness), a driveaway-towaway operation, or any motor carrier operating only one commercial motor vehicle.</p> <p>(b) <i>Equipment provided by intermodal equipment provider.</i></p>

Part	Subject	FMCSR Language
		<p>(1) <b>Report required.</b> Every intermodal equipment provider must have a process to receive driver reports of, and <b>each driver or motor carrier transporting intermodal equipment must report to the intermodal equipment provider or its designated agent, any known damage, defects, or deficiencies in the intermodal equipment at the time the equipment is returned to the provider or the provider's designated agent.</b> The report must include, at a minimum, the following parts and accessories:</p> <ul style="list-style-type: none"> <li>(i) Brakes</li> <li>(ii) Lighting devices, lamps, markers, and conspicuity marking material;</li> <li>(iii) Wheels, rims, lugs, tires;</li> <li>(iv) Air line connections, hoses, and couplers;</li> <li>(v) King pin upper coupling device;</li> <li>(vi) Rails or support frames;</li> <li>(vii) Tie down bolsters;</li> <li>(viii) Locking pins, clevises, clamps, or hooks;</li> <li>(ix) Sliders or sliding frame lock.</li> </ul> <p>(2) <b>Report content.</b></p> <ul style="list-style-type: none"> <li>(i) Name of the motor carrier responsible for the operation of the intermodal equipment at the time the damage, <b>defects, or deficiencies were discovered by, or reported to, the driver.</b></li> <li>(ii) Motor carrier's USDOT number; intermodal equipment provider's USDOT number, and a unique identifying number for the item of intermodal equipment.</li> <li>(iii) Date and time the report was submitted.</li> <li>(iv) <b>All damage, defects, or deficiencies of the intermodal equipment reported to the equipment provider and discovered by, or reported to, the motor carrier or its driver which would:</b></li> </ul>

Part	Subject	FMCSR Language
		<p>(A) <b>Affect the safety of operation of the intermodal equipment</b>, or</p> <p>(B) Result in its mechanical <b>breakdown</b> while transported on public roads.</p> <p>(v) <b>The signature of the driver who prepared the report.</b></p> <p>(3) <b>Corrective action.</b></p> <p>(i) Prior to allowing or permitting a motor carrier to transport a piece of intermodal equipment <b>for which a motor carrier or driver has submitted a report</b> about damage, <b>defects</b> or deficiencies, each intermodal equipment provider or its agent <b>must repair the reported</b> damage, <b>defects</b>, or deficiencies that are likely to affect the safety of operation of the vehicle.</p> <p>(ii) Each intermodal equipment provider or its agent <b>must certify on the original driver's report which lists any</b> damage, <b>defects, or deficiencies</b> of the intermodal equipment that the reported damage, <b>defects, or deficiencies have been repaired, or that repair is unnecessary, before the vehicle is operated again.</b></p>
396.12	INSPECTION, REPAIR, AND MAINTENANCE	<p>§396.12 Procedures for intermodal equipment providers to accept reports required by §390.42(b) of this chapter.</p> <p>(a) <i>System for reports.</i> <b>Each intermodal equipment provider must establish a system for motor carriers and drivers to report to it any damage, defects, or deficiencies of intermodal equipment discovered by, or reported to, the motor carrier or driver</b> which would –</p> <p>(1) <b>Affect the safety of operation</b> of the intermodal equipment, or</p> <p>(2) <b>Result in its mechanical breakdown</b> while transported on public roads.</p>

Part	Subject	FMCSR Language
396.12	INSPECTION, REPAIR, AND MAINTENANCE	<p>§396.12 Procedures for intermodal equipment providers to accept reports required by §390.42(b) of this chapter.</p> <p>(b) <i>Report content.</i> The system required by paragraph (a) of this section must include documentation of all of the following:</p> <ul style="list-style-type: none"> <li>(1) Name of the motor carrier responsible for the operation of the intermodal equipment at the time the damage, defects, or deficiencies were discovered by, or reported to, the driver.</li> <li>(4) All damage, <b>defects, or deficiencies</b> of the intermodal equipment <b>must be reported to the equipment provider by the motor carrier or its driver.</b> If no defect or deficiency in the intermodal equipment is discovered by or <b>reported to the driver, no written report</b> is required.</li> <li>(5) <b>The signature of the driver who prepared the report.</b></li> </ul> <p>(c) <i>Corrective action.</i></p> <ul style="list-style-type: none"> <li>(1) Prior to allowing or permitting a motor carrier to transport a piece of intermodal equipment for which a motor carrier or <b>driver has submitted a report about damage, defects or deficiencies,</b> each intermodal equipment provider or its agent <b>must repair the reported damage, defects, or deficiencies that are likely to affect the safety of operation of the vehicle.</b></li> <li>(2) Each intermodal equipment provider or its agent <b>must certify on the original driver's report</b> which lists any damage, defects, or deficiencies of the intermodal equipment that the reported damage, defects, or deficiencies have been repaired, or that repair is unnecessary, before the vehicle is operated again.</li> </ul>

Part	Subject	FMCSR Language
396.13	INSPECTION, REPAIR, AND MAINTENANCE	<p>§ 396.13 Driver inspection.</p> <p>[Interpretations]</p> <p>Before driving a motor vehicle, the driver shall:</p> <p><b>(a) Be satisfied that the motor vehicle is in safe operating condition;</b></p> <p>(b) Review the last driver vehicle inspection report; and</p> <p><b>(c) Sign the report, only if defects or deficiencies were noted by the driver who prepared the report,</b> to acknowledge that the driver has reviewed it and that there is a certification that the required repairs have been performed. The signature requirement does not apply to listed defects on a towed unit which is no longer part of the vehicle combination.</p>
396.15	INSPECTION, REPAIR, AND MAINTENANCE	<p>§ 396.15 Driveaway-towaway operations and inspections.</p> <p>(b) <i>Pre-trip inspection.</i> Before the beginning of any driveaway-towaway operation of motor vehicles in combination, <b>the motor carrier shall make a careful inspection and test to ascertain that:</b></p> <ul style="list-style-type: none"> <li>(1) The tow-bar or saddle-mount connections are properly secured to the towed and towing vehicle;</li> <li>(2) They function adequately without cramping or binding of any of the parts; and</li> <li>(3) The towed motor vehicle follows substantially in the path of the towing vehicle without whipping or swerving.</li> </ul> <p>(c) <i>Post-trip inspection.</i> Motor carriers shall maintain practices to ensure that following completion of any trip in driveaway-towaway <b>operation of motor vehicles in combination,</b> and <b>before they are used again, the tow-bars and saddle-mounts are disassembled and inspected for worn, bent, cracked, broken, or missing parts.</b> Before reuse, suitable repair or replacement shall be made of any defective parts and the devices shall be properly reassembled.</p>

Part	Subject	FMCSR Language
396.19	INSPECTION, REPAIR, AND MAINTENANCE	<p>§ 396.19 Inspector qualifications.</p> <p>(a) Motor carriers and intermodal equipment providers must ensure that individuals performing annual inspections under § 396.17(d) or [e] are qualified as follows:</p> <p>(1) <b>Understand the inspection criteria set forth in part 393 and appendix G of this subchapter and can identify defective components;</b></p>
397	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	
397.1	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	<p>(a) The rules in this part apply to...</p> <p>(2) Each <b>person who operates or is in charge of</b> a motor vehicle containing hazardous materials</p>
397.5	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	<p>(a) Except as provided in paragraph (b) of this section, a motor vehicle which contains a Division 1.1, 1.2, or 1.3 (explosive) material <b>must be attended at all times by its driver or a qualified representative</b> of the motor carrier that operates it.</p> <p>(c) A motor vehicle which contains hazardous materials other than Division 1.1, 1.2, or 1.3, materials, and which is located on a public street or highway, or the shoulder of a public highway, <b>must be attended by its driver.</b></p> <p>(d) For purposes of this section—</p> <p>(1) A motor vehicle is <b>attended when the person in charge of the vehicle is on the vehicle, awake, and not in a sleeper berth, or is within 100 feet of the vehicle and has it within his/her unobstructed field of view.</b></p> <p>(2) A <b>qualified representative of a motor carrier is a person who—</b></p> <p>(i) Has been designated by the carrier to attend the vehicle;</p> <p>(ii) Is aware of the nature of the hazardous materials contained in the vehicle he/she attends;</p>

Part	Subject	FMCSR Language
		<p>(iii) Has been instructed in the procedures he/she must follow in emergencies; and</p> <p>(iv) Is <b>authorized to move the vehicle and has the means and ability to do so.</b></p> <p>(e) The rules in this section do not relieve the <b>driver</b> from any obligation imposed by law relating to the placing of warning devices when a motor vehicle is stopped on a public street or highway.</p>
397.11	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	(a) A motor vehicle containing hazardous materials must not be operated near an open fire <b>unless its driver has first taken precautions</b> to ascertain that the vehicle can safely pass the fire without stopping.
397.13	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	<p><b>No person may smoke or carry a lighted cigarette, cigar, or pipe on or within 25 feet—</b></p> <p>(a) A motor vehicle which contains Class 1 materials, Class 5 materials, or flammable materials classified as Division 2.1, Class 3, Divisions 4.1 and 4.2; or</p> <p>(b) An empty tank motor vehicle which has been used to transport Class 3, flammable materials, or Division 2.1 flammable gases, which when so used, was required to be marked or placarded in accordance with the rules in §177.823 of this title.</p>
397.17	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	<p>(a) <b>A driver must examine each tire on a motor vehicle at the beginning of each trip and each time the vehicle is parked.</b></p> <p>(b) If, as the result of an examination pursuant to paragraph (a) of this section, or otherwise, a tire is found to be flat, leaking, or improperly inflated, <b>the driver must cause the tire to be repaired, replaced, or properly inflated before the vehicle is driven.</b> However, the vehicle may be driven to the nearest safe place to perform the required repair, replacement, or inflation.</p> <p>(c) If, as the result of an examination pursuant to paragraph (a) of this section, or otherwise, a tire is found to be overheated, <b>the driver shall immediately cause the overheated tire to be removed and placed at a safe distance from the vehicle.</b> The driver shall not operate the vehicle until the cause of the overheating is corrected.</p>

Part	Subject	FMCSR Language
397.19	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	<p>(a) A motor carrier that transports Division 1.1, 1.2, or 1.3 (explosive) materials <b>must furnish the driver of each motor vehicle in which the explosives are transported with the following documents...</b></p> <p>(b) <b>A driver who receives documents in accordance with paragraph (a) of this section must sign a receipt for them.</b> The motor carrier shall maintain the receipt for a period of one year from the date of signature.</p> <p>(c) <b>A driver of a motor vehicle which contains Division 1.1, 1.2, or 1.3 materials must be in possession of,</b> be familiar with, and be in compliance with</p> <ul style="list-style-type: none"> <li>(1) The documents specified in paragraph (a) of this section;</li> <li>(2) The documents specified in §177.817 of this title; and</li> <li>(3) The written route plan specified in §397.67.</li> </ul>
397.67	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	<p>(d) Before a motor carrier requires or permits a motor vehicle containing explosives in Class 1, Divisions 1.1, 1.2, or 1.3, as defined in 49 CFR 173.50 and 173.53 respectively, to be operated, the carrier or its agent shall prepare a written route plan that complies with this section and <b>shall furnish a copy to the driver. However, the driver may prepare the written plan as agent for the motor carrier</b> when the trip begins at a location other than the carrier's terminal.</p>
397.101	TRANSPORTATION OF HAZARDOUS MATERIALS; DRIVING AND PARKING RULES	<p>(a) ...a carrier or any person operating a motor vehicle that contains a Class 7 (radioactive) material... shall: ...</p> <p style="padding-left: 40px;">(3) <b>Tell the driver which route to take and that the motor vehicle contains Class 7 (radioactive) materials.</b></p> <p>(d) A carrier... shall prepare a written route plan and <b>supply a copy before departure to the motor vehicle driver</b> and a copy to the shipper...</p> <p>(e) No person may transport a package of highway route controlled quantity of Class 7 (radioactive) materials on a public highway unless:</p> <ul style="list-style-type: none"> <li>(1) <b>The driver has received within the two preceding years, written training on...</b></li> </ul>

Part	Subject	FMCSR Language
		<p>(2) <b>The driver has in his or her immediate possession a certificate of training</b> as evidence of training required by this section...</p> <p>(3) The <b>driver has in his or her immediate possession the route plan</b> required by paragraph (d) of this section and operates the motor vehicle in accordance with the route plan.</p>
398	TRANSPORTATION OF MIGRANT WORKERS	
398.1	TRANSPORTATION OF MIGRANT WORKERS	(i) Driver or operator. “Driver or operator” means any person who drives any motor vehicle.
398.2	TRANSPORTATION OF MIGRANT WORKERS	<p>(b) Exception.</p> <p>(1) The regulations prescribed in this part are not applicable to carriers of migrant workers by motor vehicle, as defined in § 398.1(b), when:</p> <ul style="list-style-type: none"> <li>(i) The motor vehicle is designed or used to transport between 9 and 15 passengers (including the driver);</li> <li>(iii) The vehicle used to transport migrant workers is operated beyond a 75 air-mile radius (86.3 statute miles or 138.9 kilometers) from <b>the driver's normal work-reporting location</b>.</li> </ul> <p>(2) Carriers of migrant workers by motor vehicle that operate vehicles, designed or used to transport between <b>9 and 15 passengers (including the driver)</b> for direct compensation...</p>
398.3	TRANSPORTATION OF MIGRANT WORKERS	<p>(b) Minimum physical requirements. <b>No person shall drive</b>, nor shall any motor carrier require or permit any person to drive, any motor vehicle unless such person possesses the following minimum qualifications:</p> <ul style="list-style-type: none"> <li>(1) <b>No loss of foot, leg, hand or arm,</b></li> <li>(2) <b>No mental, nervous, organic, or functional disease, likely to interfere with safe driving.</b></li> </ul>

Part	Subject	FMCSR Language
		<p>(3) No loss of fingers, impairment of use of foot, leg, fingers, hand or arm, or other structural defect or limitation, likely to interfere with safe driving.</p> <p>(4) <b>Eyesight.</b> Visual acuity of at least 20/40 (Snellen) in each eye either without glasses or by correction with glasses; form field of vision in the horizontal meridian shall not be less than a total of 140 degrees; ability to distinguish colors red, green and yellow; drivers requiring correction by glasses shall wear properly prescribed glasses at all times when driving.</p> <p>(5) <b>Hearing.</b> Hearing shall not be less than 10/20 in the better ear, for conversational tones, without a hearing aid.</p> <p>(6) Liquor, narcotics and drugs. Shall not be addicted to the use of narcotics or habit forming drugs, or the excessive use of alcoholic beverages or liquors.</p> <p>(7) Initial and periodic <b>physical examination of drivers. No person shall drive nor shall any motor carrier require or permit any person to drive any motor vehicle unless within the immediately preceding 36 month period such person shall have been physically examined and shall have been certified</b> in accordance with the provisions of paragraph (b)(8) of this section by a licensed doctor of medicine or osteopathy as meeting the requirements of this subsection.</p> <p>(8) Certificate of physical examination. Every motor carrier shall have in its files at its principal place of business for every driver employed or used by it a legible certificate of a licensed doctor of medicine or osteopathy based on a physical examination as required by paragraph (b)(7) of this section or a legible photographically reproduced copy thereof, and every driver shall have in his/her possession while driving, such a certificate or a photographically reproduced copy thereof covering himself/herself.</p> <p>(9) Doctor's certificate. The doctor's certificate shall certify as follows:</p> <p>Doctor's Certificate (Driver of Migrant Workers)</p> <p>This is to certify that I have this day examined _____ in accordance with §398.3(b) of the Federal Motor Carrier Safety Regulations of the Federal Motor Carrier Safety Administration and that I find him/her</p>

Part	Subject	FMCSR Language
		<p>Qualified under said rules <input type="checkbox"/></p> <p>Qualified only when wearing glasses <input type="checkbox"/></p> <p>I have kept on file in my office a completed examination.</p> <p><b>Signature of driver</b> Address of driver</p> <p>(c) Minimum age and experience requirements. <b>No person shall drive</b>, nor shall any motor carrier require or permit any person to drive, any motor vehicle unless such person possesses the following minimum qualifications:</p> <p>(1) Age. <b>Minimum age shall be 21 years.</b></p> <p>(2) Driving skill. <b>Experience in driving some type of motor vehicle (including private automobiles) for not less than one year</b>, including experience throughout the four seasons.</p> <p>(3) Knowledge of regulations. Familiarity with the rules and regulations prescribed in this part pertaining to the driving of motor vehicles.</p> <p>(4) <b>Knowledge of English. Every driver shall be able to read and speak the English language sufficiently to understand highway traffic signs and signals and directions given in English and to respond to official inquiries.</b></p> <p>(5) <b>Driver's permit. Possession of a valid permit qualifying the driver</b> to operate the type of vehicle driven by him/her in the jurisdiction by which the permit is issued.</p>
398.4	TRANSPORTATION OF MIGRANT WORKERS	<p>(f) Equipment and emergency devices. <b>No motor vehicle shall be driven unless the driver thereof shall have satisfied himself/herself that the following parts, accessories, and emergency devices are in good working order</b>; nor shall any driver fail to use or make use of such parts, accessories, and devices when and as needed:</p> <p>Service brakes, including trailer brake connections. Parking (hand) brake. Steering mechanism.</p>

Part	Subject	FMCSR Language
		<p>Lighting devices and reflectors.</p> <p>Tires.</p> <p>Horn.</p> <p><b>Windshield wiper or wipers.</b></p> <p><b>Rear-vision mirror or mirrors.</b></p> <p>Coupling devices.</p> <p><b>Fire extinguisher</b>, at least one properly mounted.</p> <p>Road warning devices, at least one <b>red burning fuse and at least three flares</b> (oil burning pot torches), red electric lanterns, or red emergency reflectors.</p> <p>(2) Doors, tarpaulins, tailgates and other equipment. <b>No motor vehicle shall be driven unless the tailgate, tailboard, tarpaulins, doors</b>, all equipment and rigging used in the operation of said vehicle, and all means of fastening the load, <b>are securely in place.</b></p> <p>(h) Rest and meal stops. <b>Every carrier shall provide for reasonable rest stops at least once between meal stops. Meal stops shall be made at intervals not to exceed six hours and shall be for a period of not less than 30 minutes duration</b></p>
398.5	TRANSPORTATION OF MIGRANT WORKERS	<p>(f)—</p> <p>(11) Communication with driver. <b>Means shall be provided to enable the passengers to communicate with the driver.</b> Such means may include telephone, speaker tubes, buzzers, pull cords, or other mechanical or electrical means.</p>
398.6	TRANSPORTATION OF MIGRANT WORKERS	<p><b>No person shall drive nor shall any motor carrier permit or require a driver employed or used by it to drive or operate for more than 10 hours</b> in the aggregate (excluding rest stops and stops for meals) in any period of 24 consecutive hours, <b>unless such driver be afforded eight consecutive hours rest immediately</b> following the 10 hours aggregate driving. The term “24 consecutive hours” as used in this part means any such period starting at the time the driver reports for duty.</p>

Part	Subject	FMCSR Language
398.8	TRANSPORTATION OF MIGRANT WORKERS	<p>(d) Motor carrier's disposition of Form MCS 63.</p> <p>(1) Motor carriers shall carefully examine Forms MCS 63. Any and all violations or mechanical defects noted thereon shall be corrected. To the extent <b>drivers</b> are shown not to be in compliance with the Federal Motor Carrier Safety Regulations, appropriate corrective action shall be taken by the motor carrier.</p>
399	EMPLOYEE SAFETY AND HEALTH STANDARDS	
399.207	EMPLOYEE SAFETY AND HEALTH STANDARDS	<p>(b) Performance requirements. <b>All high profile COE trucks or truck-tractors shall be equipped on each side of the vehicle where a seat is located, with a sufficient number of steps and handholds</b> to conform with the requirements of paragraph (a) of this section and shall meet the performance requirements</p>

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