



# Federal Register

---

**Thursday,  
January 18, 2007**

---

## **Part II**

# **Department of Transportation**

---

**Federal Motor Carrier Safety  
Administration**

---

**49 CFR Part 350, et al.**

**Electronic On-Board Recorders for Hours-  
of-Service Compliance; Proposed Rule**

**DEPARTMENT OF TRANSPORTATION****Federal Motor Carrier Safety Administration****49 CFR Parts 350, 385, 395, and 396**

[Docket No. FMCSA-2004-18940]

RIN-2126-AA89

**Electronic On-Board Recorders for Hours-of-Service Compliance****AGENCY:** Federal Motor Carrier Safety Administration (FMCSA), DOT.**ACTION:** Notice of proposed rulemaking (NPRM); request for comments.

**SUMMARY:** The Federal Motor Carrier Safety Administration (FMCSA) proposes to amend the Federal Motor Carrier Safety Regulations (FMCSRs) to incorporate new performance standards for electronic on-board recorders (EOBRs) installed in commercial motor vehicles (CMVs) manufactured on or after the date 2 years following the effective date of a final rule. On-board hours-of-service recording devices meeting FMCSA's current requirements and voluntarily installed in CMVs manufactured before the implementation date of a final rule may continue to be used for the remainder of the service life of those CMVs. Under the proposal, motor carriers that have demonstrated a history of serious noncompliance with the hours-of-service (HOS) rules would be subject to mandatory installation of EOBRs meeting the new performance standards. If FMCSA determined, based on HOS records reviewed during each of two compliance reviews conducted within a 2-year period, that a motor carrier had a 10 percent or greater violation rate ("pattern violation") for any regulation in proposed Appendix C to Part 385, FMCSA would issue the carrier an EOBR remedial directive. The motor carrier would be required to install EOBRs in all of its CMVs regardless of their date of manufacture and to use the devices for HOS recordkeeping for a period of 2 years, unless the carrier already had equipped its vehicles with automatic on-board recording devices (AOBRDs) meeting the Agency's current requirements under 49 CFR 395.15 and could demonstrate to FMCSA that its drivers understand how to use the devices. We also propose changes to the safety fitness standard that would require this group of carriers to install, use, and maintain EOBRs in order to meet the new standard. Finally, FMCSA would encourage industrywide use of EOBRs by providing the following incentives for motor carriers to

voluntarily use EOBRs in their CMVs: Revising the Agency's compliance review procedures to permit examination of a random sample of drivers' records of duty status; providing partial relief from HOS supporting documents requirements, if certain conditions are satisfied; and other potential incentives made possible by the inherent safety and driver health benefits of EOBR technology.

**DATES:** Comments must be received by April 18, 2007.**ADDRESSES:** You may submit comments identified by DOT DMS Docket Number FMCSA-2004-18940 by any of the following methods:

- *Web site:* <http://dms.dot.gov>.

Follow the instructions for submitting comments on the DOT electronic site.

- *Fax:* 1-202-493-2251.

- *Mail:* Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001.

- *Hand Delivery:* Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal Holidays.

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.

**Instructions:** All submissions must include the Agency name and docket number or Regulatory Identification Number (RIN) for this rulemaking (RIN-2126-AA89). Note that all comments received will be posted without change to <http://dms.dot.gov>, including any personal information provided. Please see the Privacy Act heading for further information.

**Docket:** For access to the docket to read background documents including those referenced in this document, or to read comments received, go to <http://dms.dot.gov> at any time or to Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal Holidays.

**Privacy Act:** Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477) or you may visit <http://dms.dot.gov>.

Comments received after the comment closing date will be included in the docket and the Agency will consider late comments to the extent practicable. FMCSA may, however, issue a final rule at any time after the close of the comment period.

**FOR FURTHER INFORMATION CONTACT:** Ms. Deborah M. Freund, Vehicle and Roadside Operations Division, Office of Bus and Truck Standards and Operations, (202) 366-4009, Federal Motor Carrier Safety Administration, 400 Seventh Street, SW., Washington, DC 20590-0001.

**SUPPLEMENTARY INFORMATION:** This rulemaking notice is organized as follows:

- I. Legal Basis for the Rulemaking
- II. Background
- III. Executive Summary
- IV. Discussion of Comments to the ANPRM
  - A. Overview of Comments
  - B. Key Research Factors
  - C. Comments on the Requested Subjects
    1. Synchronization of Recorder to a Vehicle Operating Parameter
    2. Amendment of Records
    3. Duty Status Categories When the CMV Is Not Moving
    4. Ensuring Drivers Are Properly Identified
    5. Reporting and Presentation (Display) Formats
    6. Audit Trail/Event Log
    7. Ability To Interface with Third-Party Software for Compliance Verification
    8. Verification of Proper Operation
    9. Testing and Certification Procedures
    10. EOBR Maintenance and Repair
    11. Development of "Basic" EOBRs To Promote Increased Carrier Acceptance
    12. Definitions—Basic Requirements
    13. Potential Benefits and Costs
    14. Incentives To Promote EOBR Use
    15. Miscellaneous Questions
- V. Agency Proposal
  - A. Technology
  - B. Remedies
  - C. Incentives
- VI. Rulemaking Analyses and Notices
 

Executive Order 12866 (Regulatory Planning and Review) and DOT Regulatory Policies and Procedures

Regulatory Flexibility Act

Unfunded Mandates Reform Act

Executive Order 13132 (Federalism)

Executive Order 12372 (Intergovernmental Review)

Paperwork Reduction Act

National Environmental Policy Act

E.O. 13211 (Energy Supply, Distribution or Use)

E.O. 12898 (Environmental Justice)

E.O. 13045 (Protection of Children)

E.O. 12988 (Civil Justice Reform)

E.O. 12630 (Taking of Private Property)

National Technology Transfer and Advancement Act

Privacy Impact Assessment

**I. Legal Basis for the Rulemaking**

The Motor Carrier Act of 1935 (Pub. L. 74-255, 49 Stat. 543, August 9, 1935,

now codified at 49 U.S.C. 31502(b)) (the 1935 Act) provides that “[t]he Secretary of Transportation may prescribe requirements for—(1) qualifications and maximum hours of service of employees of, and safety of operation and equipment of, a motor carrier; and (2) qualifications and maximum hours of service of employees of, and standards of equipment of, a motor private carrier, when needed to promote safety of operation.” This notice of proposed rulemaking (NPRM) addresses “safety of operation and equipment” of motor carriers and “standards of equipment” of motor private carriers and, as such, is well within the authority of the 1935 Act. The NPRM would allow motor carriers to use EOBRs to document drivers’ compliance with the HOS requirements; require some noncompliant carriers to install, use, and maintain EOBRs for this purpose; and update existing performance standards for on-board recording devices.

The Motor Carrier Safety Act of 1984 (Pub. L. 98–554, Title II, 98 Stat. 2832, October 30, 1984) (the 1984 Act) provides concurrent authority to regulate drivers, motor carriers, and vehicle equipment. It requires the Secretary to “prescribe regulations on commercial motor vehicle safety. The regulations shall prescribe minimum safety standards for commercial motor vehicles. At a minimum, the regulations shall ensure that—(1) commercial motor vehicles are maintained, equipped, loaded, and operated safely; (2) the responsibilities imposed on operators of commercial motor vehicles do not impair their ability to operate the vehicles safely; (3) the physical condition of operators of commercial motor vehicles is adequate to enable them to operate the vehicles safely; and (4) the operation of commercial motor vehicles does not have a deleterious effect on the physical condition of the operators.” (49 U.S.C. 31136(a)) Section 211 of the 1984 Act also grants the Secretary broad power, in carrying out motor carrier safety statutes and regulations, to “prescribe recordkeeping and reporting requirements” and to “perform other acts the Secretary considers appropriate.” (49 U.S.C. 31133(a)(8) and (10))

The HOS regulations are designed to ensure that driving time—one of the principal “responsibilities imposed on the operators of commercial motor vehicles”—does “not impair their ability to operate the vehicles safely.” (49 U.S.C. 31136(a)(2)) EOBRs that are properly designed, used, and maintained would enable motor carriers to track their drivers’ on-duty driving

hours accurately, thus preventing regulatory violations or excessive driver fatigue, and to schedule vehicle and driver operations more efficiently. Driver compliance with the HOS rules helps ensure that “the physical condition of [commercial motor vehicle drivers] is adequate to enable them to operate the vehicles safely.” (49 U.S.C. 31136(a)(3)) To assist in the enforcement of the HOS regulations generally, and thus improve driver safety and welfare, FMCSA proposes to require EOBR use by motor carriers with the most serious HOS compliance deficiencies (“pattern violations”), as described elsewhere in this NPRM. The Agency considered whether this proposal would impact driver health under 49 U.S.C. 31136(a)(3) and (a)(4). Since the proposal could increase compliance with the HOS regulations, including driving and off-duty time, it would not have a deleterious effect on the physical condition of drivers. (See the discussion regarding health impacts at section 13.3.) The requirements in 49 U.S.C. 31136(a)(1) concerning safe motor vehicle maintenance, equipment, and loading are not germane to this proposed rule, as EOBRs influence driver operational safety rather than vehicular and mechanical safety. Consequently, the Agency has not explicitly assessed the proposed rule against that requirement. However, to the limited extent 49 U.S.C. 31136(a)(1) pertains specifically to driver safety, the Agency has taken this statutory requirement into account throughout the proposal.

In addition, section 408 of the ICC Termination Act of 1995 (Pub. L. 104–88, 109 Stat. 803, at 958) (ICCTA) required the Agency to issue an advance notice of proposed rulemaking (ANPRM) “dealing with a variety of fatigue-related issues pertaining to commercial motor vehicle safety (including \* \* \* automated and tamper-proof recording devices \* \* \*) no later than March 1, 1996.” The original ANPRM under section 408 of ICCTA was published on November 5, 1996 (61 FR 57252), the NPRM on May 2, 2000 (65 FR 25540), and the final rule on April 28, 2003 (68 FR 22456). As discussed further later in this preamble, FMCSA decided not to adopt EOBR regulations in 2003. FMCSA noted, however, that it planned “to continue research on EOBRs and other technologies, seeking to stimulate innovation in this promising area” (68 FR 22456, at 22488, Apr. 28, 2003).

Section 113(a) of the Hazardous Materials Transportation Authorization Act of 1994 (Pub. L. 103–311, August 26, 1994, 108 Stat. 1673, at 1676)

(HMTAA) requires the Secretary to prescribe regulations to improve—(A) compliance by commercial motor vehicle drivers and motor carriers with hours-of-service requirements; and (B) the effectiveness and efficiency of Federal and State enforcement officers reviewing such compliance. HMTAA section 113(b) states that such regulations must allow for a motor carrier’s use of a “written or electronic document[s] to be used by a motor carrier or by an enforcement officer as a supporting document to verify the accuracy of a driver’s record of duty status.” Today’s EOBR proposals set forth performance standards, incentives measures, and remedial requirements for use of devices that generate such electronic documents and address the HMTAA mandate.

Section 9104 of the Truck and Bus Safety and Regulatory Reform Act (Pub. L. 100–690, November 18, 1988, 102 Stat. 4181, at 4529) also anticipates the Secretary prescribing “a regulation about the use of monitoring devices on commercial motor vehicles to increase compliance by operators of the vehicles with hours of service regulations,” and requires the Agency to ensure that any such device is not used to “harass vehicle operators.” (49 U.S.C. 31137(a))

Section 4012 of the Transportation Equity Act for the 21st Century (Pub. L. 105–178) (TEA–21) makes inapplicable to drivers of utility service vehicles, during an emergency period of not more than 30 days, regulations issued under 49 U.S.C. 31502 or 31136 regarding “the installation of automatic recording devices associated with establishing the maximum driving and on-duty times.” (49 U.S.C. 31502(e)(1)(C))

Based on the statutory framework reviewed previously, FMCSA thus has statutory authority to adopt an industrywide requirement that all motor carriers subject to HOS requirements under 49 CFR Part 395 install and use EOBR-based systems. The Agency elects not to exercise the full extent of its authority at this time, however, and instead proposes a more targeted approach of mandating EOBR use for only those carriers with deficient safety management controls, as demonstrated by repeated patterns of hours-of-service violations. In this NPRM, the Agency proposes criteria for identifying carriers with patterns of HOS violations. We also propose changes to the safety fitness standard that would require this group of carriers to install, use, and maintain EOBRs in order to meet the new standard.

The determination of a carrier’s safety fitness is well within the Secretary’s authority. Section 215 of the 1984 Act

requires the Secretary to “determine whether an owner or operator is fit to operate safely commercial motor vehicles,” (49 U.S.C. 31144(a)(1)) and to “maintain by regulation a procedure for determining the safety fitness of an owner or operator.” (49 U.S.C. 31144(b)) That procedure must include “[s]pecific initial and continuing requirements with which an owner or operator must comply to demonstrate safety fitness.” (49 U.S.C. 31144(b)(1)) Section 4009 of TEA–21 prohibits motor carriers found to be unfit according to a safety fitness determination from operating commercial motor vehicles in interstate commerce. With limited exceptions, owners and operators determined to be unfit may not operate commercial motor vehicles in interstate commerce beginning on the 61st day after the date of such fitness determination, or the 46th day after such determination in the case of carriers transporting passengers or hazardous materials, “and until the Secretary determines such owner or operator is fit.” (49 U.S.C. 31144(c))

Section 4104 of the Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users (Pub. L. 109–59, August 10, 2005, 119 Stat. 1144) (SAFETEA–LU) directs FMCSA to revoke the registration of a motor carrier that has been prohibited from operating in interstate commerce for failure to comply with the safety fitness requirements of 49 U.S.C. 31144. Section 4114(b) of SAFETEA–LU expands FMCSA jurisdiction into intrastate operations by amending 49 U.S.C. 31144(c) to prohibit from operating in interstate commerce and intrastate operations affecting interstate commerce owners or operators of CMVs that FMCSA has determined do not meet the safety fitness requirement to operate in interstate commerce, until the Secretary determines that such owner or operator is fit.

## II. Background

The Federal HOS regulations (49 CFR Part 395) limit the number of hours a commercial motor vehicle driver may drive and be on duty each day, and during each 7- or 8-day period. The rules are needed to prevent commercial vehicle operators from driving for long periods without opportunities to obtain adequate sleep. Sufficient sleep is necessary to ensure that a driver is alert behind the wheel and able to respond appropriately to changes in the driving environment. Under § 395.8, all motor carriers and drivers (except private motor carriers of passengers [non-business]) must keep records to track on-duty and off-duty time. FMCSA and

State agencies use these records to carry out safety oversight activities.

As FMCSA discussed in its September 2004 ANPRM on EOBRs (69 FR 53386, Sept. 1, 2004), the methods of recording and documenting HOS have been modified several times over the years. The Interstate Commerce Commission (ICC) first established a requirement for a Driver’s Daily Log in 1940. This requirement was later revised to add the familiar graph-grid recording format to the driver’s log, which became known as “Driver’s Record of Duty Status (RODS).”

In the mid-1980s, motor carriers began to look to automated methods of recording drivers’ duty status as a way of saving drivers time and improving the efficiency of their compliance-assurance procedures. On April 17, 1985 (50 FR 15269), the Federal Highway Administration (FHWA), the predecessor Agency to FMCSA within the U.S. Department of Transportation (DOT), granted a waiver to Frito-Lay, Inc. to allow it to use on-board computers rather than requiring its drivers to complete handwritten RODS (the driver logbook, or “logs”). Nine other motor carriers were subsequently granted waivers.

In 1986, the Insurance Institute for Highway Safety (IIHS) petitioned FHWA to require the installation and use of automatic on-board recordkeeping systems. Although the petition was denied, FHWA determined that regulations were needed to allow motor carriers to use AOBRDs without having to seek waivers. After providing the public with notice and opportunity to comment, FHWA issued a final rule on September 30, 1988 (53 FR 38666), which revised part 395 of the FMCSRs to allow, but not require, motor carriers to equip CMVs with AOBRDs instead of requiring drivers to complete handwritten RODS (49 CFR 395.15). An AOBRD was defined under § 395.2 as:

\* \* an electric, electronic, electromechanical, or mechanical device capable of recording driver’s duty status information accurately and automatically as required by § 395.15. The device must be integrally synchronized with specific operations of the commercial motor vehicle in which it is installed. At a minimum, the device must record engine use, road speed, miles driven, the date, and time of day.

Performance requirements for AOBRDs are straightforward. The AOBRD and its support systems must be certified by the manufacturer as evidence that they “have been sufficiently tested to meet the requirements of § 395.15” and Appendix A to Part 395 “under the conditions in which they would be

used.” The design must permit duty status to be updated only when the vehicle is at rest, unless the driver is registering the crossing of a State boundary. The AOBRD and support systems must be resistant to tampering “to the maximum extent practicable.” The AOBRD must provide a visual or audible warning to the driver if it ceases to function, and any sensor failures and edited data must be identified in the RODS printed from the device. Finally, the AOBRD must be maintained and recalibrated according to the manufacturer’s specifications; drivers must be adequately trained in the proper operation of the device; and the motor carrier must maintain a second (backup) copy of electronic HOS files in a separate location.

At the time § 395.15 was issued, the technology to allow on-board recorders to communicate data wirelessly between the CMV and the motor carrier’s base of operations did not exist on a widespread commercial basis. Today’s technologies allow for real-time transmission of a vehicle’s location and other operational information. FMCSA calls these current-generation recording devices EOBRs. By exploiting the power of these technologies, a motor carrier can improve not only its scheduling of vehicles and drivers but also its asset management and customer service. In fact, some system providers offer applications for real-time HOS monitoring that build upon the time- and location-tracking functions included in the providers’ hardware and software products. Because of these developments in technology and communications, the current, narrowly crafted on-board recorder regulations require revision.

On August 3, 1995, the IIHS, Advocates for Highway and Auto Safety (Advocates), and several other highway safety and advocacy organizations petitioned FHWA to require on-board recorders in CMVs. The petitioners believed that mandated use of these devices would improve HOS compliance, thereby reducing the number of fatigued drivers and fatigue-related crashes. Subsequently, FMCSA included in its May 2, 2000, NPRM (65 FR 25540) on HOS a proposal to require EOBRs on commercial motor vehicles used in long-haul and regional operations. In its report “Top Ten Management Issues” (Report Number PT–2001–017, January 18, 2001) the DOT Office of Inspector General summarized the NPRM regarding EOBR use as follows:

Driver HOS violations and falsified driver logs continue to pose significant safety

concerns. Research has shown that fatigue is a major factor in commercial vehicle crashes. During roadside safety inspections, the most frequent violation cited for removing a driver from operation is exceeding allowed hours of service. Use of electronic recorders and other technologies to manage the HOS requirements has significant safety value. FMCSA's [May 2, 2000] proposed rulemaking would revise the hours of service by reducing the driving time allowed within a 24-hour period and by phasing in, over a period of years, the use of on-board electronic recorders to document drivers' hours of service. The Congress prohibited the Department from adopting a final rule during FY 2001. FMCSA management should use this time to consider all of the comments received and revise the proposed rule as appropriate.

When FMCSA published its final HOS rule in April 2003, however, the proposal for mandatory use of EOBRs for CMVs used in long-haul and regional operations was withdrawn (68 FR 22456, Apr. 28, 2003). FMCSA concluded there were insufficient economic and safety data, coupled with a lack of support from the transportation community at large, to justify an EOBR requirement at that time. The Agency based these conclusions on the following:

(1) Neither the costs nor the benefits of EOBR systems were adequately ascertainable, and the benefits were easier to assume than to accurately estimate.

(2) The EOBR proposal was drafted as a performance standard, but enforcement officials generally preferred the concept of a design standard to facilitate data accessibility.

(3) There was considerable opposition to the proposal to phase in the EOBR requirement, starting with large long-haul motor carriers—those having more than 50 power units. Large carriers argued that mandated EOBR use was irrational because small carriers generally have higher crash rates. Major operators also complained that the phase-in schedule would force them to pay high initial prices for EOBRs, while carriers allowed to defer the requirement would benefit from the lower costs associated with increased demand, competition, and economies of scale.

(4) There was considerable concern about the potential use of EOBR data for purposes other than HOS compliance.

On July 16, 2004, the United States Court of Appeals for the District of Columbia Circuit vacated the 2003 final rule, for reasons unrelated to EOBRs. See *Public Citizen, et al. v. FMCSA*, 374 F.3d 1209 (D.C. Cir. 2004). In dicta, however, the court stated that section 408 of the ICCTA "required the Agency,

at a minimum, to collect and analyze data on the costs and benefits of requiring EOBRs." (Id. at 1221)

On September 1, 2004, FMCSA published an ANPRM requesting comments on a wide range of issues related to the design, use, applicability, costs, and benefits of EOBRs (69 FR 53386). FMCSA also conducted research into the current use, design, and costs of EOBRs and other communications systems being deployed by trucking companies, to provide additional information on which to base an approach to incorporating EOBR requirements in the FMCSRs. This proposed rule is based, therefore, both on the comments received to the ANPRM and on independent research the Agency conducted. The four research studies cited in the ANPRM are available in the docket at entries 2, 3, 6, and 7. FMCSA sponsored three additional studies: "Recommendations Regarding the Use of Electronic On-Board Recorders (EOBRs) for Reporting Hours of Service (HOS)," prepared by staff of the John A. Volpe National Transportation Systems Center, U.S. Department of Transportation Research and Innovative Technology Administration, Cambridge, Massachusetts ("Volpe Center Study"); "Technical Review and Assessment: Recommendations Regarding the Use of Electronic On-Board Recorders (EOBRs) for Reporting Hours of Service (HOS)," prepared by Dr. Kate A. Remley, Electromagnetics Division, National Institute of Standards and Technology, Boulder, Colorado; and the 2005 update of "On-Board Recorders: Literature and Technology Review," prepared by Cambridge Systematics (Cambridge, Massachusetts). These studies are also in the docket.

Three of FMCSA's sister agencies within DOT-FHWA, the National Highway Traffic Safety Administration (NHTSA), and the Federal Railroad Administration—conducted a peer review of the Volpe Center Study in accordance with Office of Management and Budget peer review requirements. The reviewers evaluated the research with respect to scientific and technical merit, adequacy, and overall quality. A summary report of the peer review panel's evaluation and FMCSA's response to the evaluation are available in the Agency's EOBR Peer Review docket (FMCSA-2006-25548) of the DOT Docket Management System.

### III. Executive Summary

FMCSA proposes a comprehensive rule intended to improve CMV safety, increase use of EOBRs within the motor carrier industry, and to improve HOS

compliance. The approach has three components: (1) A new performance-oriented standard for EOBR technology; (2) use of EOBRs to remediate regulatory noncompliance; and (3) incentives to promote EOBR use. FMCSA believes this approach strikes an appropriate balance between promoting highway safety and minimizing cost and operational burdens on motor carriers that demonstrate strong and consistent compliance with the HOS regulations.

*EOBR Performance Requirements.* In developing the proposed requirements for EOBRs, FMCSA focused its attention on seven research factors listed in the ANPRM: (1) Ability to identify the individual driver; (2) Tamper resistance; (3) Ability to produce records for audit; (4) Ability of roadside enforcement personnel to access the HOS information quickly and easily; (5) Level of protection afforded other personal, operational, or proprietary information; (6) Cost; and (7) Driver acceptability. FMCSA proposes that the EOBR record basic information needed to track duty status, including the identity of the driver, duty status, date and time, location of the CMV, distance traveled, and other items that the driver would enter (such as truck numbers and shipping document numbers). The EOBR would be required to identify the driver, although FMCSA does not propose mandating a specific identification method. This approach would allow carriers to use existing identification systems or implement newer technologies as they become feasible.

While many of the proposed requirements, such as that for tamper resistance, parallel the requirements for AOBDRs, others would extend the AOBDR requirements based on our expectation that the EOBR will have a high degree of reliability. The EOBR would not need to be integrally synchronized to the engine or other vehicle equipment. An EOBR must, however, have GPS or other location tracking systems that record location of the CMV at least once a minute. EOBRs could still use sources internal to the vehicle to record distance traveled and time. EOBRs must perform a power-on self-test on demand and must also warn the driver if the device ceased to function. Maintenance, recalibration, and self-certification requirements would be similar to those for AOBDRs.

EOBRs would need to produce parallel data streams of original and modified entries to provide an audit trail for data. FMCSA proposes several options for information transfer and display; EOBRs could produce the driver's HOS chart in a graph-grid

format in either electronic or printed form. Data transfer could be either hardwired or wireless.

**EOBR Use Requirements.** FMCSA is proposing to require EOBR use only for those carriers found to have HOS violation rates of 10 percent or more of the records reviewed during each of two compliance reviews (CRs), when the two reviews are conducted within a 2-year period. These carriers would be issued a remedial directive requiring that they install EOBRs in all of their CMVs and use the devices for HOS recordkeeping for a period of 2 years. This approach focuses on carriers with a history of serious HOS violations.

**EOBR Incentives.** FMCSA would encourage all motor carriers to install and use EOBRs. Some carriers are reluctant to take this step, out of concerns that EOBRs' accuracy and the accessibility of the electronic records they generate would cause safety investigators to examine all of the carrier's HOS records and make minor violations easier to identify. We believe these concerns are warranted. To avoid putting EOBR-using carriers at a disadvantage during CRs, and to provide an incentive for EOBR use, under this proposed rule FMCSA would evaluate HOS compliance differently during CRs of carriers using EOBRs voluntarily than during CRs of other carriers. If a carrier voluntarily using EOBRs is found to have HOS violations in 10 percent or more of the records reviewed in the initial analysis, which focuses on drivers expected to have compliance problems,<sup>1</sup> FMCSA would conduct a second review, of a random sample made up of records of duty status for the carrier's other drivers, and use the results of the second sample in determining the carrier's safety rating. FMCSA would assess civil penalties on the carrier in the Notice of Claim phase for all HOS violations discovered, regardless of the safety rating assigned. (If the initial, focused sample did not disclose a 10 percent or greater violation rate, then under current regulations the violations found would not affect the carrier's safety rating in any case.) We believe this approach would remove a disincentive to EOBR use while maintaining the Agency's focus on safety. This incentive would not be available to motor carriers operating

under a remedial directive to install, use, and maintain EOBRs.

Under this proposed rule, FMCSA also would provide partial relief from HOS supporting documents requirements for motor carriers that voluntarily use EOBRs, provided certain conditions are satisfied. EOBRs meeting the proposed requirements produce regular time and CMV location position histories sufficient to verify adequately a driver's on-duty driving activities. Motor carriers voluntarily maintaining the time and location data produced by such devices would need to maintain only those additional supporting documents as are necessary to verify on-duty not-driving activities and off-duty status.

FMCSA is also requesting comment on other incentives for EOBR adoption. We are interested in identifying other regulatory relief that a motor carrier's EOBR use might justify, including relief from specific HOS requirements or limitations consistent with the safety and driver health benefits of EOBR technology.

**Other Issues.** In response to the ANPRM, some carriers and drivers expressed a reluctance to use EOBRs because of other uses that could be made of the data the devices produce. Drivers objected to the devices as an invasion of privacy and as a source of information that could be used against them for non-HOS-related issues, such as speeding. Carriers were concerned that the data could be used in post-crash litigation. Both asked that FMCSA limit access to the data for the purpose of HOS compliance-related enforcement.

This NPRM does not propose to require EOBRs to record engine speed, although we are aware that other data could be used to derive that information. We recognize the industry's concerns in this area, and are not proposing that EOBRs display, or make readily available to enforcement officials, information other than what is necessary to determine compliance with the HOS regulations.

#### IV. Discussion of Comments to the ANPRM

##### A. Overview of Comments

FMCSA received 307 comments in response to the ANPRM. Nearly half (148) were from drivers or driver trainers. There were 35 comments from private citizens, not all of whom indicated whether they were drivers. FMCSA also received comments from 70 carriers, 35 of which were owner-operators. Fourteen trucking associations submitted comments, as did three passenger carrier associations.

Also commenting were six advocacy organizations and eight associations representing companies such as utilities, ready-mixed concrete suppliers, and solid waste management firms. Finally, 15 vendors of EOBRs or similar products, 3 individual non-trucking firms, one union, and one law enforcement agency submitted comments.

In addition, 172 of the commenters to FMCSA's May 2, 2000, NPRM on hours of service of drivers (65 FR 25540) included comments on the issue of an EOBR requirement. Of these commenters, 48—including the National Transportation Safety Board (NTSB), advocacy organizations, 8 carriers, and 34 drivers—supported such a requirement, while 124 were opposed. The latter group included construction industry associations and carriers, trucking associations, an express carrier, and 88 drivers.

The potential imposition of an EOBR requirement drew diverse comments. Some motor carriers requested that FMCSA exempt them from any EOBR requirement because of the nature of their activities. By contrast, other carriers thought any requirement to use EOBRs should be applied evenly across the industry to maintain a level playing field. The Canadian Trucking Alliance (CTA) stated that it "has adopted a policy position, which has been communicated to Canadian governments at both the Federal and provincial levels, that calls for the mandatory use of EOBRs for the operators of all commercial vehicles, where a commercial driver's license is required to operate the vehicle and a logbook must be completed by the driver under the current rules." Advocacy organizations recommended an across-the-board mandate, viewing full compliance with the HOS regulations as vital to roadway safety. They believe EOBRs are necessary to improve both motor carriers' compliance with the HOS regulations and FMCSA's ability to enforce them.

Many drivers contended that mandating EOBR use would constitute an unwarranted (and possibly unconstitutional) invasion of privacy. Some expressed concerns about trucking companies using EOBRs to maximize driving time under the HOS regulations at the expense of driver health and safety. The Truckload Carriers Association (TCA) cited protections afforded to consumer credit reports by the Fair Credit Reporting Act and the protections of medical information required by the Health Insurance Portability and Accountability Act of 1996.

<sup>1</sup> FMCSA's routine compliance review procedures call for FMCSA or State safety investigators to focus their sample of HOS records on the RODS of drivers involved in interstate recordable accidents, drivers placed out of service for hours-of-service violations during roadside inspections, drivers discovered to have poor driving records through Commercial Driver's License Information System checks, recently hired drivers, and drivers having a high probability of excessive driving.

Motor carriers and trucking industry associations also expressed concerns with a potential mandate. Many motor carriers, especially smaller companies, echoed drivers' concerns regarding the potential financial burden of installing and maintaining EOBRs. On the other hand, several medium and large carriers noted they currently use vehicle tracking and wireless communication systems. They asked FMCSA to consider those systems as equivalent to EOBRs, similar to the exemption granted to Werner Enterprises (Werner) (69 FR 56474, Sept. 21, 2004) to allow use of a system based upon global positioning system (GPS) technology. Motor carriers using these and similar systems asserted that the costs of installing and maintaining EOBRs would be counterbalanced by savings from operating efficiencies and reduced paperwork.

Drivers generally expressed concerns about the EOBRs. They objected to the potential purchase and maintenance costs, and questioned the potential for improved accuracy of EOBR-generated RODS over paper RODS, because AOBRDs (and EOBRs) cannot automatically distinguish between "off-duty" and "on-duty not-driving" status requiring manual input from the driver. Other commenters questioned the prospect of potential cost savings from automated recordkeeping, the potential for improving motor carrier HOS compliance and FMCSA's oversight activities, and the relationship between HOS compliance and highway crashes. Both drivers and motor carriers expressed concern about the potential for "scope creep"—the potential use of EOBRs to collect data unrelated to HOS compliance for use in enforcement and litigation actions likewise unrelated to HOS.

#### B. Key Research Factors

As noted under *EOBR Performance Requirements*, the ANPRM specifically requested comments on the seven key research factors initially discussed in the April 2003 HOS final rule and in the Executive Summary of this preamble.

Commenters suggested a number of additional research factors. For example, the Specialized Carriers and Rigging Association (SCRA) and the Owner-Operator Independent Drivers Association (OOIDA) stated that FMCSA needs to gather data to establish whether a correlation exists between the use of EOBRs (both § 395.15-compliant devices and other systems, such as that used by Werner) and improved truck safety.

The American Trucking Associations (ATA) recommended FMCSA consider

maintenance and inspection of systems; performance certification and compliance of new systems; product assurance and validation; interoperability; and existing or future system evolution. ATA also encouraged FMCSA to expand the list by fostering an open stakeholder dialogue beyond the docket submission period.

Advocates supported the Agency's research criteria with the exception of driver acceptance, contending this "cannot be used as a barometer for the mandatory adoption of this important safety technology" because drivers face pressure to accept schedules that cannot be met without violating speed limits and the HOS regulations. Advocates suggested adding three other criteria: High levels of crash damage resistance; the capability to track real-time geographic location to ensure compliance with CMV weights-and-dimensions laws and hazardous materials routing regulations; and interoperability of all EOBR data and data retrieval "in accordance with the protocols that have been issued by the Intelligent Transportation Systems consensus positions of the ITS America Committee and constitute a baseline for interoperability in the U.S. Department of Transportation."

IIHS commented on FMCSA's methods of gathering information rather than on its choice of research criteria. IIHS thought FMCSA should conduct a field operational test of EOBR devices and conduct formal surveys to gather data on EOBR benefits, costs, and use in HOS enforcement.

Motor carriers also suggested additional research factors. J.B. Hunt suggested ease of use, restrictions on use while a vehicle is in motion (for solo operations only), driver distraction, and device durability. Schneider recommended comparing the effectiveness of EOBRs, paper RODS, and existing compliance programs in reducing motor carrier crash rates. FedEx cited the ability of a device to produce documents for review at roadside as a key technical requirement, and called on FMCSA to assess categories of motor carrier operations for which an EOBR mandate would be appropriate.

One equipment vendor suggested researching EOBR physical durability and system architecture, including two-way communications and GPS capabilities.

A number of commenters stated that FMCSA needs to gather additional information through discussions with stakeholders. They believe this would provide a better means of exchanging information with the Agency than

responding to a rulemaking docket. Only IIHS suggested FMCSA has enough information to craft a "workable" EOBR mandate. Other commenters urged FMCSA to move deliberately and obtain more information from motor carriers, law enforcement personnel, and drivers.

With respect to EOBR performance standards, ATA recommended a facilitated dialogue among motor carriers, FMCSA, and enforcement personnel as the most effective way to develop standards serving the interests of all. Such a process could decrease ambiguities in interpretation between and among manufacturers and service providers, increase EOBRs' usefulness to trucking companies, and improve the efficiency of the HOS records auditing process.

Schneider said the "continued instability" of the Federal HOS regulations and the interrelationships between the HOS regulations and HOS records make it difficult to answer the questions posed in the ANPRM. Schneider and other commenters suggested FMCSA move forward deliberately, promulgate tentative minimum functional specifications, request comments regarding the costs and benefits of compliant EOBRs, and consider a general EOBR mandate only after performing a more precise and comprehensive benefit-cost analysis. Overnight Transportation stressed the need for additional input from the motor carrier industry and the law enforcement community.

Werner asserted that many motor carriers have reviewed its system and expressed an interest in implementing a similar system, but are unwilling to move forward given the open status of the EOBR rulemaking. Werner recommended that FMCSA assure motor carriers that their systems (including ones similar to the Werner paperless logging system) would still be considered acceptable alternatives to EOBRs should new rules be implemented.

Many commenters (chiefly individuals) expressed concerns about other HOS compliance and motor carrier safety matters. These included excessive and unpaid delays at loading and unloading docks contributing to driver fatigue and unsafe driving, the relationship between the HOS regulations and driver pay, unsafe driving behavior by non-CMV drivers contributing to highway crashes, inadequate training of new drivers, anti-idling rules, and lack of legal truck parking.



## Agency Response

FMCSA agrees with many of the commenters' recommendations, which are reflected in several elements of the proposed rule. For example, we are proposing a performance standard concerning geographic location tracking of the CMV as well as providing for interoperability between EOBRs and support systems and compliance-assurance systems, as recommended by Advocates and other commenters. We conferred with FHWA concerning Advocates' recommendation on interoperability of EOBR data and data retrieval. FHWA is not aware of any "ITS America consensus protocols" in existence. We intend to develop the EOBR performance specifications in accordance with ITS America's "ITS/CVO [Intelligent Transportation Systems Commercial Vehicle Operations] Interoperability Guiding Principles" and DOT's Commercial Vehicle Information Systems Network [CVISN] Architecture.

In response to a recommendation by ATA, Schneider, Overnite, and others, we are providing a longer than normal public comment period for this proposal to allow commenters ample time to develop their responses and ensure careful consideration of a cross-section of opinion. The Agency believes this deliberate approach, encompassing extensive analysis of public comment and the available research, is essential to provide the foundation for the "workable" rule to which IIHS referred.

In response to Werner Enterprise's comment, we would continue to allow Werner to operate under the exemption granted on September 21, 2004 (69 FR 56474) for vehicles manufactured prior to 2 years after the effective date of an EOBR final rule. EOBRs installed in vehicles manufactured after that date would be required to comply with requirements under an EOBR final rule.

### C. Comments on the Requested Subjects

The Agency also requested comments on 15 subjects, denoted as A through O in the ANPRM. The comments to those subjects are addressed below.

#### 1. Synchronization of Recorder to a Vehicle Operating Parameter

Commenters disagreed about whether it is necessary to synchronize an EOBR to the CMV to capture data necessary to establish a driver's "on-duty, driving" status. Seven of the 10 equipment and systems providers commenting on this topic believe that EOBRs should be integrally synchronized to the CMV, either directly to the engine control module (ECM) or via the vehicle's electronic network (databus). Several

stated that their products also support CMV location tracking via GPS or other means.

XATA, an EOBR vendor, asserted that integral synchronization is not only more cost-effective than GPS and other technologies but provides EOBR manufacturers a standard interface method to ensure accurate tracking of vehicle motion and other operational data. Tripmaster stated "electronic engine control modules (ECM) are calibrated during the manufacturing process with the proper odometer pulse per mile value," and that EOBRs connected to the ECM "are in effect self-calibrated." Tripmaster supported GPS as an alternative distance measurement, rather than as the primary source of such measurement. PeopleNet supported synchronization with the databus, using ECM data to determine travel distance and GPS to confirm location. Qualcomm recommended that "integrally synchronized" refer to an EOBR system in which at least one component is directly connected to the engine of the CMV in which it is installed, to enable the EOBR to collect and record CMV functions as they occur. Siemens stated its experience in other countries is that most falsifications are based on a tampered speed signal. It recommended tracking CMV speed through vehicle sensors combined with a GPS speed signal. Darby Corporate Solutions believes an EOBR should record only vehicle information, not duty status, which it contended should be recorded by a separate device. Karta Technologies described how its vehicle-tracking product could incorporate an EOBR function.

In contrast, three commenters, LinksPoint, Nextel, and CPS, supported a GPS-only system without integral synchronization to the CMV. LinksPoint asserted that a combination of driver-reported status and GPS-sensed data (such as vehicle motion) would permit an economical "semi-automated" and "minimally compliant device" approach to HOS recording, and believes current mobile computing technology would allow for error checking to improve data accuracy and protect against fraud. CPS contended the databus standards are "out-of-date and rely on input from engine sensors that may be inaccurate and need regular calibration," whereas a GPS-only system would be self-contained, stand-alone, and tamper resistant. Nextel advocated integrated GPS technology as more accurate and providing near-real-time reporting.

Motor carriers generally supported retaining a requirement for integral synchronization of the EOBR with the

CMV. Greyhound, J.B. Hunt, Maverick, and Schneider contended that synchronization is essential, but also noted EOBRs depend upon human input to record duty status accurately. J.B. Hunt supported concurrent use of GPS-enabled location tracking and recording. Schneider believes synchronization of EOBRs with vehicle electronics "would require significant filtering to avoid data overload and misleading results." Schneider suggested FMCSA request comments on the new European Union (EU) digital tachograph, specifically concerning how it records CMV movement. Schneider stated it is concerned FMCSA may be considering use of handheld GPS devices, a technology it does not consider appropriate. ATA generally supported development of reliable data parameters and standards. However, ATA did not support revising the current regulations, as it believes the problems cited in the ANPRM pertain to systems that do not comply with these rules.

The Santa Clara Valley Transportation Authority, a public agency not subject to the FMCSRs for most of its operations, opposed continuing the synchronization requirement. The transportation authority uses automated vehicle location and GPS capabilities and has incorporated HOS rules into the Santa Clara bus schedules.

Advocacy organizations supported maintaining the synchronization requirement. IIHS asserted the most important capability is the accurate recording of driving time, a feature most of today's systems provide. Citing FMCSA's past studies, Advocates and Public Citizen opposed GPS-only systems and supported a combination of GPS technology and recording of on-board vehicle operating parameters.

Law enforcement interests also supported the notion of an EOBR providing a combination of location tracking and vehicle data. The Commercial Vehicle Safety Alliance (CVSA) cited a need for redundancy to minimize errors and falsification. The California Highway Patrol (CHP) thought synchronization among multiple data sources and the EOBR is vital to overcome the shortcomings of any one system.

One commenter stated that an EOBR should record only data, should not be programmed to "make assumptions" as to duty status, and should record GPS data continuously. Another commenter said an EOBR should record data from the vehicle databus in real time. The International Foodservice Distributor Association opposed any rule requiring



use of GPS and engine data to track HOS compliance.

#### Agency Response

The purpose of an AOBDR or EOBR is to accurately record a driver's sequence of duty statuses, the time the driver is engaged in a given duty status category, and the sequence of dates, times, and locations that make up a trip. Historically, the only information available from a source not directly controlled by the driver was the driving time and distance, both of which were obtained from a source on the vehicle. Change-of-duty status locations had to be entered manually. In the 20 years since AOBDRs were first used, communications and logistics management technologies have evolved to enable a more fundamental item of information—vehicle location—to be tracked and recorded. The precision and accuracy of this recording has come to rival that of distance-and-time records from the CMV.

FMCSA believes it is appropriate to offer an alternative, performance-oriented approach that allows motor carriers and EOBR developers to take advantage of emerging technologies. Specifically, FMCSA now believes that an EOBR does not necessarily have to be “integrally synchronized” with the CMV to provide an accurate record of driving time, equivalent to that of an electronic odometer or the time function contained in an ECM. The Agency is proposing to allow two ways to record distance traveled and time: (1) Via sources internal to the vehicle (i.e., the ECM with an internal clock/calendar) to derive distance traveled, or (2) via sources external to the vehicle (i.e., location-reference systems—GPS, terrestrial, or a combination of both) recording location of the CMV once per minute and using a synchronized clock/calendar to derive distance traveled (“electronic breadcrumbs”). This approach has the potential advantages of removing a restrictive design requirement, providing an opportunity for innovation, and allowing use of less expensive hardware (e.g., GPS-enabled cell phones), without making existing synchronized devices obsolete.

Regardless of the communications modes (wireless or terrestrial) and the method used to synchronize the time and CMV-operation information into an electronic RODS, FMCSA would require the records from EOBRs to record duty status information accurately. The difference proposed between actual distance traveled and distance computed via location-tracking methods over a 24-hour period would be  $\pm 1$  percent. EOBR developers would need

to test their devices thoroughly to ensure they meet or exceed these tolerances.

#### 2. Amendment of Records

##### 2.1 Should FMCSA Revise Its Definition of “Amend” in the Regulatory Guidance for § 395.15 To Include or Exclude Certain Specific Activities?

Nearly all commenters who addressed this question supported a regulatory provision to allow drivers to amend or annotate in some way the duty status records captured by an EOBR. However, commenters did not, for the most part, directly address the question of whether FMCSA should revise its definition of “amend” in the Regulatory Guidance. Several stated that drivers should have the opportunity to amend on-duty not-driving, off-duty, and sleeper-berth status entries to ensure they are accurate, while others opposed allowing drivers to amend any driving time entries. A few opposed any provisions for drivers to amend or annotate EOBR records.

All motor carriers addressing this issue said FMCSA should allow drivers to make amendments or add remarks in some circumstances, although three opposed allowing amendment of on-duty driving time. J.B. Hunt recommended against allowing amendments of driving time entries, but supported allowing drivers to add information in a Remarks section. J.B. Hunt suggested employee drivers might request their company to correct driving time errors, while independent owner-operators might make these requests through a “compliance consortium” similar to those used to manage random drug and alcohol audits. Maverick Transportation recommended allowing drivers to amend records and enter explanatory remarks. Roehl Transport recommended prohibiting modification of a record “if the truck is moving.” Greyhound Lines’ support for allowing amendments was based upon its contention that an EOBR cannot distinguish between a vehicle idling in traffic (on-duty/driving) and idling at a terminal (on-duty not-driving or off-duty). Greyhound also pointed to the need to correct errors when a new driver takes over a vehicle but the previous driver has forgotten to log off. Werner Enterprises noted its current system explicitly measures only driving time, with all other duty status entries requiring driver input. Based upon its experience in training thousands of drivers, Werner contended that prohibiting corrections of nondriving-

time errors would render the records meaningless.

The International Brotherhood of Teamsters (IBT) stated that FMCSA should allow drivers to amend any electronic record and add informational remarks to note traffic conditions and indicate on-duty not-driving or off-duty status.

CHP suggested FMCSA continue to prohibit amendments of any permanently recorded entry or data parameter, but allow comments regarding entry omissions and inadvertent errors as “corrections” in line with the current regulatory guidance for 49 CFR 395.8, Question 8. CVSA supported this position.

Advocates stated that FMCSA should allow drivers to make separate annotations in certain circumstances, but should not allow alteration of any data captured by an EOBR. It opposed the idea of allowing drivers to use the Remarks section to provide details of on-duty not-driving activities, reasoning that certain drivers would misrepresent some on-duty not-driving time as off-duty time. Advocates noted FMCSA did not include in the ANPRM any discussion of how to accurately verify work and rest time periods that an EOBR could not capture.

Most of the vendors commenting on this issue supported allowing drivers to make amendments or annotations to the duty status recorded by an EOBR. For example, PeopleNet stated that without a process to allow drivers to amend records, motor carrier personnel would have to be available around the clock to respond to drivers’ requests for annotations. It recommended requiring that drivers enter remarks describing the reason for the amendment, requiring the amendment to be visible to safety officials and motor carrier back-office staff, and prohibiting drivers from making amendments after the RODS has been certified. Siemens and CPS opposed any alteration or annotation of EOBR data. According to CPS, a system should provide function keys to allow the driver to record events. Other vendors commented that drivers’ annotations or entries in the Remarks section would provide adequate documentation of non-driving time activities, trips of short duration, circumstances when a CMV may be stopped in traffic upstream of a crash, use of a CMV as a personal conveyance, and other situations. However, Siemens believes permitting any modification of recorded data would encourage falsifications.

## 2.2 Should Drivers Be Allowed To Amend the Duty Status Record if the System Maintains Both the Original and Amended Records?

As with their responses to the previous question, most of the commenters addressing this issue thought drivers should be allowed to amend the duty status record if the EOBR maintains both the original and amended records. However, several commenters opposed allowing drivers this privilege, while others raised questions without taking a stance.

Four of the five motor carrier commenters took an affirmative position. Schneider believes such a provision would be necessary for an EOBR system to be workable, particularly in instances of EOBR malfunction or misreadings. J.B. Hunt favored allowing drivers to add on-duty not-driving time, requiring them to request company approval to reduce prior on-duty time entries, but not allowing amendments of driving time. Roehl Transport believes drivers should not be allowed to amend their HOS records while in transit, contending that only a supervisory motor carrier official should be allowed to amend a driver's RODS. As noted under its response to the previous question, Greyhound supported allowing drivers to amend records. Greyhound suggested that drivers would have to review their electronic logs from fixed locations and carriers would have to provide a network of computer workstations.

One owner-operator saw no need to allow drivers to amend records, contending that EOBRs should prompt for an entry at each change in vehicle status. Another supported the idea of allowing amendments by drivers.

CHP and CVSA both recommended FMCSA consider a requirement for a permanent record of both original and amended entries. They acknowledged, however, that this could complicate enforcement because it would leave open the question of which version is accurate.

Advocates supported allowing a driver to enter addenda to an EOBR record, but opposed the idea of EOBRs recording "a separate version of the RODS that has been manipulated by the driver." With regard to non-driving time, it had no objection to a driver's using a "supplementary electronic logbook" to enter non-driving work time and non-driving rest or end-of-duty-tour time. However, Advocates stressed this supplementary logbook should be matched against engine and GPS data for verification of compliance with the HOS rules.

IBT recommended allowing drivers to amend the duty status record if the EOBR maintains both the original and amended record. However, like CHP and CVSA, IBT was concerned this approach could complicate compliance assurance processes.

All but one of the vendors addressing this issue expressed qualified support for allowing drivers to amend the RODS generated by an EOBR. XATA said EOBRs could be designed to keep an original and amended copy of records or a single copy with an audit trail of the changes. Nevertheless, XATA recommended FMCSA limit drivers' amendment of records. LinksPoint echoed XATA's comments, adding that its system could flag instances when entered or amended data do not match a vehicle's GPS travel history. Tripmaster described an EOBR using GPS data to record location, vehicle movement to determine the duty status of the driver (on-duty/driving or on-duty not-driving), driver input to distinguish on-duty from off-duty status, and an internal time clock to record the time of each change in status. Provided such a system were in place, Tripmaster supported allowing a driver to alter "clock in" and "clock out" time to correct legitimate errors. PeopleNet suggested FMCSA require drivers to enter remarks describing the reason for any change and to make any amendments visible to law enforcement through in-cab and back-office reporting. It also reminded FMCSA that drivers must enter hours worked for a non-motor-carrier entity as on-duty time. Qualcomm said that drivers should be able to correct non-driving duty status as long as an audit trail is maintained, but only before a driver certifies the correctness of the daily log. In contrast, CPS contended drivers should not be allowed to amend the duty status record.

## 2.3 Should the Agency Maintain the Blanket Prohibition Against Drivers' Amending RODS Generated by an AOBDR?

As their comments to the previous questions indicated, most carriers supported allowing drivers to amend or annotate non-driving duty status records.

The few drivers who responded to this question were divided. One said that no one should be able to change the data recorded by an EOBR, and that drivers would soon become familiar with EOBRs and no longer need to amend their entries. Another asserted FMCSA should remove the blanket prohibition, but did not explain his position. A third driver commented that

allowing drivers to check HOS records leads to improved efficiency. One opposed allowing EOBR users to erase or change any data from EOBR memory, but proposed to allow amendments using preset entries from menus.

IBT contended a blanket prohibition against amending records would lead to inaccurate records, which would be contrary to the goal of mandating EOBR use.

Public Citizen, Advocates, and CVSA urged FMCSA to maintain its blanket prohibition against drivers amending records. Public Citizen stated that allowing manual entry of duty status and revision of records would effectively undermine the purpose of an automated recorder. It believes EOBRs should be designed to eliminate any need to amend records or enter duty status manually.

CHP recommended against allowing drivers to amend records, but proposed allowing annotation of the records with comments. CHP believed the motor carrier should make the decision on whether its drivers may amend EOBR records.

Most of the equipment providers favored allowing drivers to make amendments. XATA would allow a driver to amend a RODS to revise off-duty time to on-duty. It stated that many edits are not critical because motor carriers using EOBRs audit and edit the RODS to ensure accuracy. XATA said owner-operators would have to use a service provider to process the data or purchase supporting software to edit and record changes. LinksPoint also recommended FMCSA remove the blanket prohibition on driver amendments, because it has required device providers to develop complex and expensive systems and discouraged carriers from adopting tracking technology. Tripmaster and Qualcomm asked FMCSA to reconsider the prohibition. Qualcomm pointed out that since there is no way to automatically detect non-driving duty status, there would be no net safety benefit to imposing severe restrictions on drivers' correcting their RODS. PeopleNet said that this requirement would require motor carriers to have safety managers on call around the clock to revise records at a driver's request.

Nextel recommended FMCSA prohibit EOBRs that allow edits to be entered via the device. Nextel's system, based on a wireless handset, would allow authorized management to make edits in the main office system and transmit the edited record back to the handset in near-real-time. As it noted in its responses to the other questions, CPS

strongly believes that FMCSA should maintain the prohibition.

#### Agency Response to Comments Concerning the Amendment of Records

Some of the comments suggest there may be confusion regarding the terms “edit,” “amend,” and “annotate.” FMCSA does not intend to allow edits or amendments that would erase duty status records, delete an on-duty-driving entry, or allow software-generated defaults to be used to mask on-duty driving or on-duty not-driving (ODND) time.

One EOBR systems provider, PeopleNet, contacted FMCSA in 2002 requesting guidance on interpreting § 395.15(h)(2): “The driver must review and verify that all entries are accurate prior to submission to the employing motor carrier.” The vendor was concerned that any alteration of data would be prohibited under § 395.15(i)(3) and suggested a “ship’s log” approach, in which the driver would make a corrective entry and note the date, time, and location of the entry correction and the reason it was being made. These corrections would be flagged, and the original record would not be modified. FMCSA agrees with this approach because the original record would be retained and the annotation would be clearly delineated as such. This is consistent with Question 2 of the Regulatory Guidance for § 395.15, which states, “No. 395.15(i)(3) requires automatic on-board recording devices, to the maximum extent possible, be tamperproof and preclude the alteration of information collected concerning a driver’s hours of service. If drivers, who use automatic on-board recording devices, were allowed to amend their record of duty status while in transit, legitimate amendments could not be distinguished from falsifications \* \* \*.”

For an AOBDR designed and operated in compliance with § 395.15, or an EOBR designed and operated to comply with proposed § 395.16, FMCSA would retain the prohibition against any revision of on-duty driving records. Treatment of the electronic RODS reflecting non-driving duty status entries is discussed under the section concerning duty status categories.

In response to CHP’s comment, we note that the Agency’s Regulatory Guidance to § 395.15 describes a procedure whereby the driver would submit a revised RODS page marked “Corrected Copy,” and the motor carrier would retain both the original and corrected RODS pages. This would be similar to the “ship’s log” approach.

In response to Advocates’ concern about verification of work and rest time periods, FMCSA refers to its Supplemental Notice of Proposed Rulemaking (SNPRM) on supporting documents (69 FR 63997, Nov. 3, 2004). In that document, FMCSA proposed to (1) add definitions for the terms “supporting document,” “employee,” and “driver” to § 395.2, and provide examples of supporting documents; (2) add new § 395.10 entitled “Systematic verification and record retention”; (3) modify the record retention requirements in §§ 390.29 and 390.31; and (4) clarify the motor carrier’s responsibility to monitor drivers’ compliance with the HOS regulations and verify the accuracy of drivers’ RODS. Among other things, the SNPRM would explicitly require the motor carrier to have a self-monitoring system to verify the accuracy of the driver’s entries for times and locations for each working day on each trip as well as the accuracy of mileage for each trip. The Agency anticipates publishing a final rule on supporting documents in the near future.

FMCSA agrees with the commenters that to facilitate motor carrier review of EOBR records, it will be necessary to clearly mark any revisions of duty status entries as amendments. FMCSA would continue to prohibit any amendment of on-duty driving status. Any annotation, including an entry in the Remarks section, would need to carry the date and time the entry was made. This is particularly important to flag annotations made after the period of time described by the duty status entry. FMCSA agrees with Advocates’ comment about recording non-driving duty status information, except that we believe this information would be more appropriately included in the Remarks section of an EOBR record than in a “supplemental electronic logbook.” In response to Greyhound, we note that drivers have many options available to review their records without using carrier-specific workstations sited at fixed locations. AOBDRs and other on-board devices commonly record data locally—that is, on the device itself. If a motor carrier adopted an operational model that required drivers to log in to a central computer, use of contemporary database software, communications, and security protocols allows communication via any workstation with access to the Internet.

FMCSA agrees with Greyhound’s concern about the need to correct errors when a new driver takes over the vehicle after the previous driver has forgotten to log off. We are therefore proposing to require a revision to the

performance specification at § 395.15 to allow drivers to amend a record immediately before and after a trip or work period. Drivers would be permitted to annotate a record (such as by adding remarks), so long as the entry is time stamped and indicates who made it. The driver could make such an annotation only before submitting the day’s record to the motor carrier.

#### 3. Duty Status Categories When the CMV Is Not Moving

*If a Driver Is Away From a Parked CMV But Has Not Entered a Change in Duty Status Immediately Upon Stopping the Vehicle, How Might the Driver Correct the Entry?*

Some commenters contended an EOBR should automatically switch to ODND status either immediately after or shortly after a driver stops the vehicle. Others said that EOBRs should prompt drivers to enter a change of duty status when the driver stops the vehicle. A few asserted that a CMV should not start until the driver’s duty status is up-to-date. As to correcting an erroneous record, some commenters believe the driver should get management’s approval first, while others said drivers should be able to make the correction.

One owner-operator suggested the EOBR should set the duty status to ODND within a predetermined amount of time after stopping the vehicle, and neither the driver nor the carrier should be able to change that entry. Another suggested an EOBR system should include an alarm linked to the parking brake to remind the driver to record a duty change.

J.B. Hunt echoed the comment recommending the EOBR default to ODND after a specified time. An employee driver wishing to correct the record would be required to get management’s approval. In contrast, Schneider did not think an EOBR should default to ODND if a driver fails to enter a change of duty status; instead, the driver should be given 30 minutes to correct the record retroactively.

Roehl Transport suggested allowing drivers to correct specific duty status errors, adding that the original and revised records should both be retained and the motor carrier should note and approve them. Roehl believes, however, that drivers should not be allowed to change driving time. Another motor carrier, referencing the “driver’s own handwriting” provision of the current regulation, remarked it would not be practical to have printers attached to EOBRs in long-haul or medium-haul operations, and suggested drivers be allowed to make duty status changes

electronically provided the EOBR maintains an audit trail.

IBT believes this question illustrates that EOBRs would still require driver input for duty status changes. IBT said this continued reliance on driver input would not achieve the goal of eliminating fraudulent logbook entries, the primary purpose of using an EOBR.

CHP said EOBRs could be designed to alert drivers if they inadvertently omitted a manual duty status change. It also suggested EOBRs could be designed to prevent vehicle engine start-up unless all EOBR entries are current and permanently recorded. CHP would limit the time for correcting entries to the time of the last recorded change of duty status and require drivers to explain the oversight. CVSA expressed similar views.

Advocates opposed allowing an EOBR to default to ODND, preferring a "standby" mode with no data entry. Public Citizen also asserted "the Agency must favor recorders that can accurately record non-driving duty status, rather than allow drivers to amend records." As an example, it cited EOBRs that signal when driver input is needed, contending this would reduce the need for later revisions.

According to XATA, most EOBRs currently in use allow the motor carrier to select a default duty status to be entered if a driver steps away from a parked CMV without entering a change in duty status. The EOBR could prompt the driver for input when he returns for information on his status after the vehicle is parked. LinksPoint's comment was similar: Although the system would rely on driver input, it would still eliminate the ability of a driver to drive while another status is chosen.

Qualcomm stated that the default duty status when a vehicle is not moving should be ODND. It asserted that, under certain circumstances, drivers should be able to make changes to any records of non-driving status directly on the EOBR; the changes should be allowed only before certification of a daily log; and the EOBR should maintain an audit trail of the original and edited data accessible to both the motor carrier and enforcement officials. Siemens recommended EOBRs automatically switch to ODND after a preset interval when the CMV is parked. In Siemens' experience, drivers quickly learn how to switch their duty status to off-duty or sleeper berth when necessary.

#### Agency Response

Many commenters' statements reflect the current state-of-the-practice of HOS monitoring, while some would expand

the requirements to have the EOBR prompt the driver to enter information when it is apparent his or her duty status is changing (e.g., when the vehicle is parked). FMCSA agrees with the latter approach, as reflected in this proposed rule. Based on the comments as well as on extensive research findings, FMCSA recognizes that EOBRs can accurately measure driving time only when a CMV is moving.

FMCSA proposes that the "default" status for an EOBR be ODND when the vehicle is stationary (not moving and the engine is off) for 15 minutes or more. When the CMV is stationary and the driver is in a duty status other than the ODND default setting, the driver would need to enter the duty status manually on the EOBR.

The proposed performance requirements of § 395.16 add a provision for automatically recording the location of the CMV. The Agency believes this proposed requirement strikes an appropriate balance to improve the accuracy and reliability of ODND and off-duty information without intruding unnecessarily upon the privacy of the driver.

Drivers would still be required to record the location of duty status at each change of duty status, as currently required under §§ 395.8 and 395.15. FMCSA does not propose to specify the process (e.g., entering data via a keyboard or drop-down menu) for accomplishing this but would leave the implementation to the EOBR manufacturers.

#### 4. Ensuring Drivers Are Properly Identified

Many commenters discussed how drivers could be properly identified. Some favored using a password or PIN number for identification, while others believe these methods would not adequately protect drivers against fraud and falsification. Technologies advocated by commenters include smart cards and biometrics, although some were concerned that biometric technology would be too expensive or unreliable.

The National Private Truck Council (NPTC) maintained that before requiring EOBRs, FMCSA must ensure the devices will accurately identify drivers and be resistant to tampering.

Advocates strongly recommended implementation of systems of codes or computer activation: "No system of passwords or smart cards alone would deter and prevent attempts at unauthorized access and operation of a vehicle. Only unique bio-identifying driver characteristics can provide sufficient corroboration of identity for

authorized access." Public Citizen also supported use of biometric technology such as fingerprint readers, and stated the driver should be required to log into such a system before the CMV could be started.

CVSA said driver data must follow a driver from vehicle to vehicle as well as be auditable and verifiable at roadside. It stressed the value of redundancy, suggesting that various methods of driver identification and verification could be used in combination.

ABF Freight System, Inc., a less than truckload (LTL) carrier, uses a slip-seat operation, in which drivers are not assigned to specific power units. This approach is common among LTL carriers. ABF currently uses a handset-type device providing time and location data in its city pick-up and delivery operations and asks FMCSA to consider approving such portable EOBRs, which could be assigned to specific drivers instead of vehicles. A towing company also suggested a driver-oriented approach, noting its drivers use two or three different vehicles per shift. U.S. Telecom Association offered a similar comment.

IBT and J.B. Hunt were among several commenters noting the need for the HOS record to follow drivers who operate several CMVs daily, work for more than one motor carrier, or operate as team drivers. J.B. Hunt asserted that use of smart cards would be impractical in an industry with high driver turnover. Both commenters asserted that issuing drivers a standardized Federal identification card, such as the Transportation Workers Identification Credential (TWIC) under consideration by the Department of Homeland Security, would allow them to carry their data from motor carrier to motor carrier. This would also address the needs of drivers who work part-time at multiple carriers. Of course, EOBR manufacturers would need to ensure their devices accept the standardized card and identification protocols.

J.B. Hunt said that, barring use of a standardized card, PIN numbers would be the next-best method of identification. Wireless communications systems could validate the identity of the driver against dispatch information. J.B. Hunt stated that biometric identification systems likely will be cost-prohibitive until they are generally accepted in markets unrelated to transportation. Schneider also commented that biometric technology would provide the greatest level of assurance about the driver's identity but noted it is significantly more expensive than passwords or smart cards. A private citizen also favored use of

biometrics for identification and as an antitheft device.

United Motorcoach Association (UMA) claimed there would be no way to ensure the integrity of EOBR data, including driver identification. UMA cited the lack of a national standard biometric identifier for the commercial driver's license. It also contended that smart cards would need to rely on driver identity verification at a much higher level than has been implemented to date. Greyhound also emphasized the criticality of properly identifying the driver. While supporting biometric identifiers in principle, it was concerned about high costs. In addition, Greyhound opposed a system that would preclude a vehicle from operating unless the driver were identified, as it would hinder maintenance operations.

CHP suggested using several methods of data transfer and driver identification, singly or in combination, including smart cards, PIN numbers, and associated communications systems. CHP described a card capable of recording all pertinent data about the driver that would be inserted and removed from a reader installed in each vehicle. It also described a hypothetical EOBR system using wireless communication methods to transfer data and "biological positive driver identification."

Vendors suggested various methods to identify drivers: Passwords or PINs, smart cards, and biometric technology. Scanware commented on the difficulties of designing EOBRs to handle team-driving situations.

#### Agency Response

FMCSA recognizes the diversity of motor carrier operations and acknowledges commenters' concerns about the potential costs of advanced driver identification methods such as biometric identifiers and smart cards. Various approaches to identification currently exist, while others are being developed, and carriers may have different needs and standards regarding an acceptable level of risk. Rather than limiting carriers' ability to adopt technically advanced systems or imposing duplicative requirements on carriers desiring more secure systems, FMCSA proposes to adopt a general requirement that driver identification be part of the EOBR record, without prescribing a specific approach. An EOBR would require the driver to enter self-identifying information (e.g., user ID and password, PIN numbers) or to provide other identifying information (e.g., smart card, biometrics) when he or she logs on to the EOBR system.

In response to commenters who suggested that FMCSA require use of the Department of Homeland Security's proposed TWIC to identify the CMV driver and possibly serve as a portable data record, FMCSA does not presently anticipate using TWIC for EOBR HOS data storage. There are several reasons for this. While the amount of memory required has yet to be specified, it is expected to be less than what would be needed for an EOBR application. Furthermore, FMCSA acknowledges several commenters' concerns about driver and motor carrier privacy; some information contained on the TWIC would not be relevant to an HOS record.

## 5. Reporting and Presentation (Display) Formats

### 5.1 Visual Record

Most comments on reporting formats focused on visual displays available to drivers and roadside enforcement. Commenters favored standardized visual displays because they would make EOBRs easier for both drivers and law enforcement officers to learn to use.

Commenters generally supported a potential requirement for a "standardized" EOBR display showing the driver's current duty status and also highlighting when noncompliance occurred. Commenters also favored providing methods for enforcement officials to download archived HOS data records. PeopleNet stated, "EOBR manufacturers, carriers, and law enforcement should work together to develop a user-friendly reporting standards for all parties using or reviewing EOBRs." CVSA asserted that " \* \* \* standardized screen-based digital displays should be readily accessible from inside or outside the vehicle, and should provide summary and complete information upon demand."

#### Agency Response

There may be a fine line between allowing flexibility in complying with a performance specification and requiring safety officials to be proficient in understanding many types of displays. The fundamental need is to provide a clear record of the sequence and progression of duty status.

Although the majority of the proposed provisions are performance based, FMCSA must consider the needs of people who will review duty status records and who are accustomed to working with the traditional graph-grid format. Both to address drivers' concerns and allay concerns that EOBRs could be difficult to monitor, FMCSA proposes a visual output file providing

a graph-grid format. FMCSA recognizes this requirement could be difficult to apply to some EOBR devices because of the limited size or character density of the displays. We intend to provide as much flexibility as possible to EOBR manufacturers by recognizing alternative methods to enable display of the information.

## 5.2 Data Interchange Standards for Hardwired and Wireless Communications

Some commenters asserted that the RS-232—the serial communication standard required in § 395.15(b)(3)—is outdated. Siemens, IBT, and others noted that data communications technologies, formats, and protocols are evolving rapidly. Several commenters favored an open standard. For example, the Minnesota Trucking Association recommended development of "an open-architecture system that will allow transmittal of data between motor carrier, driver, law enforcement and various other accountable entities." Some commenters suggested avoiding the issue of data interchange with outside entities by requiring HOS records to be uploaded to centralized file servers for query via the Internet or downloaded to the CMV for a safety official's review.

#### Agency Response

There is a need to set forth performance standards to support two types of communications: EOBR-to-motor-carrier and EOBR-to-roadside-enforcement-official support systems. FMCSA proposes an ASCII, comma-delimited, flat-file format for the EOBR data output record, and multiple industry-standard hardwired and wireless communications protocols. The technical specifications for the data files would be provided in a new Appendix A to Part 395.

## 6. Audit Trail/Event Log

Commenters generally agreed on the necessity for maintaining an audit trail. Some commenters recommended using location data (GPS or other) to compare against the EOBR data, but others thought this would be cost-prohibitive. A few suggested a requirement for a "smart chip" in a driver's ID card or license as one way to provide an auditable record that would verify the identity of the driver operating the CMV. Some commenters raised concerns about tradeoffs between allowing use of lower cost communications modes and adequately monitoring the systems and the data and information they contain.

PeopleNet and Qualcomm recommended the audit trail be maintained at a central office rather than onboard the vehicle.

In response to the ANPRM question about the system providing a gateway for electronic or satellite polling of CMVs in operation, four commenters opposed such polling while one carrier inquired what the interval between pollings would be.

Commenters supported continuing the requirement to use a RODS if an EOBR is not functioning. One commenter suggested a maximum time limit of 14 days.

#### Agency Response

FMCSA proposes a general requirement for auditability based upon the text of Section F of the ANPRM preamble (69 FR 53386 at 53392, Sept. 1, 2004):

An audit trail must reflect the driver's activities while on duty and tie them to the specific CMV(s) the driver operated. Its design must balance privacy considerations with the need for a verifiable record. The audit trail should automatically record a number of events, including (1) Any authorized or unauthorized modifications to the duty status records, such as duty status category, dates, times, or locations, and (2) any "down" period (e.g., one caused by the onset of device malfunction). In addition, the system should provide a gateway for electronic or satellite polling of CMVs in operation, or for reviewing electronic records already downloaded into a central system. This capability would permit reviewers to obtain a detailed set of records to verify time and location data for a particular CMV. The presentation should include audit trail markers to alert safety officials, and personnel in the motor carrier's safety department, to records that have been modified. The markers would be analogous to margin notes and use highlighted code.

FMCSA would continue to focus on a performance-based regulation, while providing guidance to develop workable and verifiable record generation and recordkeeping systems. Regardless of the communications modalities (satellite or terrestrial) and the method used to synchronize the time and CMV-operation information into an electronic RODS, we would require EOBR records to record duty status information accurately and to maintain the integrity of that information.

This NPRM includes a requirement that EOBR records—both original entries and any revisions—be viewable. The viewable record would encompass any modifications from the original entries, the identities of people who entered and amended data, and the date and time the original entries and any amendments were made.

As discussed earlier in this document, FMCSA proposes requiring drivers to enter identifying information but will not specify the use of a particular technology (such as removable smart cards or biometric identifiers).

With regard to a "gateway" for satellite polling of CMVs in operation, FMCSA would require that the HOS information be available immediately upon request by a roadside safety official. Under FMCSA's standard operating procedures, those records would also need to be made available upon request by a safety official performing a CR, safety audit, or safety investigation. We propose to require the system records to be as accurate as those from systems that are integrally synchronized with the CMV's operations. Specifically, EOBR data for CMV location would need to provide an auditable record of the vehicle's location within  $\pm 1$  percent distance accuracy on a daily basis.

#### 7. Ability To Interface With Third-Party Software for Compliance Verification

Several commenters noted the potential benefits and limitations of using third-party systems. Although third-party systems could provide an extra layer of compliance verification, the variety of systems on the market and their limited current usage by small motor carriers could present obstacles. These commenters recommended FMCSA adopt a standard method and format for data transfer, such as Extensible Markup Language (XML).

Most vendor commenters said that third-party compliance verification software would not be necessary for EOBR systems, particularly if vehicle location information were derived from GPS data. Qualcomm noted, "Currently available third-party compliance tools audit the driver's RODS [paper record] by using supporting document information \* \* \* such as fuel and toll receipts and miles driven." Motor carriers reported mixed experience with third-party software. Two respondents have developed their own systems for compliance verification; others cited lack of an available interface with current auditing software and concerns about the accuracy of "point-to-point" software. Qualcomm urged FMCSA to establish performance standards for EOBR-collected data. CVSA recommended the Agency develop a self-certification program for third-party vendors.

Several commenters, in contrast to their responses to the previous question, indicated carriers have used third-party software for HOS review and auditing or have experience with dispatch and

routing software packages. One industry group expressed concerns about costs to small motor carriers.

#### Agency Response

In keeping with our performance-based approach to this rulemaking, FMCSA proposes that EOBRs be required to provide output data in a file format described in an appendix to the proposed regulation (new Appendix A to Part 395). We will not propose a requirement for compatibility with specific third-party software.

#### 8. Verification of Proper Operation

Many commenters supported a requirement for EOBRs to perform self-tests and internal monitoring and to notify drivers, dispatchers, and roadside enforcement officials of device failures. IBT stated that a system "must maintain a record of and report out all malfunctions, calibrations, and be capable of performing self-tests on demand." CPS considered this feature unnecessary.

Several commenters asserted that drivers should be able to verify EOBR operation and suggested various methods. ATA pointed out that drivers, supervisors, or safety officials could require different levels of verification. Qualcomm suggested that determination of system failure should not be restricted to on-board data. In contrast, Roehl suggested the EOBR should generate an electronic audit on demand, with past records made available by the motor carrier. Siemens suggested that an EOBR be required to display the results of its last calibration check. PeopleNet said an EOBR should provide a current duty status summary, as well as a summary of the last certified 7, 8, or 14 days' worth of records.

#### Agency Response

FMCSA believes that having a current picture of the operational status of an EOBR will increase the confidence of drivers, motor carriers, and safety officials that the device is performing properly. Therefore, the NPRM includes a requirement for EOBR self-tests and recording of successful and unsuccessful results. The CMV driver or motor carrier official would be required to initiate a power-on self-test at the request of a motor carrier safety official. FMCSA also would require motor carriers to obtain and retain records of EOBR initial calibration, as well as any recalibrations necessary after EOBR repair or after any CMV repair that could affect the recording of distance traveled. We would anticipate conducting detailed audits of EOBR or

support system performance during CRs rather than at roadside.

FMCSA intends to require motor carriers subject to an EOBR remedial directive to accomplish timely repair or replacement of a malfunctioning EOBR, without placing the driver in an untenable position. Consistent with FMCSA's proposed requirement for the CMV driver to submit records no more than 13 days after completion, and the continuing requirement that the driver have a supply of blank paper RODS forms to record duty status and related information for the duration of the current trip, we would require a malfunctioning EOBR to be repaired or replaced within 14 calendar days. Drivers would be required to keep handwritten RODS until the EOBR is repaired or replaced. Carriers using EOBRs voluntarily would likewise be required to maintain paper RODS during any period an EOBR is malfunctioning, but would not be subject to the 14-day time limit within which to accomplish repair or replacement of the EOBR.

#### 9. Testing and Certification Procedures

Most commenters, except manufacturers, favored certification by FMCSA. Most manufacturers believe FMCSA should continue to allow manufacturers to self-certify their EOBRs and support systems. The few comments on maintaining a list of certified products generally opposed such a list because of concerns it could discourage the introduction of new products. Generally, the EU database specification received low marks from commenters.

Siemens said, "There is a basic difference in the attitude of transport companies towards on-board-computers (OBC) used for fleet management and EOBRs designed to record personal activities of drivers as basis for enforcement officers to verify compliance with hours of duty regulation: OBCs are likely to be treated carefully whereas EOBRs are more likely to be subject to tampering." Nextel advised FMCSA to consider a requirement for hardware and software to be designed and tested in accordance with existing protocols.

##### 9.1 Who Should Perform Certification Tests?

Many commenters favored having FMCSA establish criteria, with testing conducted by FMCSA in conjunction with CVSA, NHTSA, or other parties. Others preferred manufacturer self-certification. CVSA stated, "Governmental or third-party verification and certification of EOBRs

presents proprietary concerns, add costs, and provides limited value added."

Advocates preferred a Federal role: "Without either direct Federal certification or Federal criteria for accepting certification affidavits, the Federal government has no way of securing threshold manufacturer compliance." Tripmaster favored FMCSA certification, provided the appropriate staffing and funding resources were available. A motor carrier also stated FMCSA should be responsible for certification. A driver contended that any third-party involvement could lead to fraud.

Several commenters recommended that independent laboratories conduct testing for manufacturers, noting the extensive use of third-party assurance systems in other settings. Others expressed no preference for the type of entity performing the testing, but emphasized it must be done before an EOBR enters the marketplace. ATA pointed out that the appropriate entity to conduct the test "is dependent upon what is required to be certified."

##### 9.2 Should FMCSA Continue To Allow Manufacturer Self-Certification?

Some commenters opposed continuing the status quo, citing drivers' heavy reliance on the devices and the burden on carriers associated with determining which systems comply with the regulations. As Tripmaster explained, "The current system of self-certification is open to interpretation and dishonesty and pushes the responsibility of determining a system's compliance on to roadside inspectors, auditors, and carriers." J.B. Hunt added that carriers "should not be placed in a 'buyers beware' situation when making such a large investment." PeopleNet stated it self-certifies but works closely with FMCSA to ensure regulatory compliance. Some commenters would favor self-certification if FMCSA imposed requirements on manufacturers and either verified the manufacturer's compliance or conducted spot checks. ATA asked whether FMCSA had concerns based on the experience of other self-certification programs.

Other commenters favored continuing self-certification. They believe this would keep the process manageable and that manufacturers are in the best position to develop compliance tests.

##### 9.3 Should FMCSA Develop a List of Approved Devices?

Many commenters favored this concept, especially if patterned after NHTSA's Conforming Products List. EOBR manufacturers would benefit by

being able to supply customers with a certification number to prove compliance, and carriers could be held accountable for using nonconforming products. A motor carrier suggested developing two lists, one for CMVs equipped with an ECM and the other for CMVs without electronics. However, a few commenters thought FMCSA should not be relied upon to provide a list of certified devices because of the costs and the likely delay.

##### 9.4 Should FMCSA Adopt the EU Electronic Tachograph Design Specification?

Most commenters stated that adopting the EU design specifications would be too complex and costly. These commenters argued instead for performance requirements in tandem with market-driven flexibility in EOBR design and delivery. A few commenters asserted adopting the design specifications would not be prohibitively costly, but offered no rationale for that conclusion. ATA recognized the fundamental differences between the EU design-oriented standard and a performance-based standard, noting that the former would add significant text to the FMCSRs. J.B. Hunt suggested FMCSA consider methods to "improve uniformity and portability of carrier support technology, including calibration and diagnostics. This would permit carriers to operate a mixed fleet of EOBR units without being required to have redundant proprietary diagnostic and calibration equipment and thus should increase competition in the EOBR market and reduce costs." It believes specific aspects of the EU regulations, among them calibration, diagnostics, and testing, could provide guidance to FMCSA in developing its EOBR regulations. IBT believes FMCSA should discontinue reliance on performance standards and establish detailed specifications similar to the EU specifications.

##### Agency Response

FMCSA proposes to continue the requirement for manufacturers to self-certify AOBDRs and EOBRs. The alternative would be to have an independent entity certify each EOBR as well as any support systems. Based on the Agency's experience in developing procedures for device self-certification ("Guidelines for Development of Functional Specifications for Performance-Based Brake Testers Used to Inspect Commercial Motor Vehicles" [65 FR 48799, Aug. 9, 2000]), as well as our knowledge of the challenges faced by the European Union in developing



and implementing its type-certification program for the new digital tachograph, we believe this alternative would be far too costly, burdensome, and time-consuming for FMCSA.

FMCSA and its predecessor agencies have the benefit of approximately 20 years' experience with AOBDRs and alternative methods for recording and reporting HOS information. Although FMCSA receives notice of deficiencies with certain AOBDRs, we address these on a case-by-case basis and reach satisfactory resolution with the device manufacturers.

We believe prospective EOBR users would be motivated to demand that the devices record duty status information accurately. Many EOBR manufacturers contact FMCSA for assistance in understanding the HOS regulations. Some have requested, and received, formal regulatory guidance concerning new features to ensure compliance while reducing the need to enter information into the devices—for example, the use of location-description algorithms in place of a location code sheet. Drivers, carriers, stakeholders, and citizens are quick to inform FMCSA about any motor carrier's attempts to obtain an economic advantage through collection of fraudulent HOS records. We take these complaints very seriously and address them through timely CRs.

In sum, FMCSA considers it appropriate to continue its requirement for AOBDR/EOBR self-certification. This NPRM proposes the EOBR performance criteria that manufacturers would follow. We would continue to require manufacturers to perform tests to ensure their EOBRs and support systems comply with these criteria.

We propose this approach for three reasons. First, it makes the EOBR manufacturer—which has the most knowledge about its hardware and software design—responsible for compliance with the Agency's performance criteria. Second, it responds to the overall excellent history of AOBDR/EOBR compliance with FMCSA requirements. Third, it allows FMCSA to devote its compliance-assurance resources to those rare situations in which motor carriers or drivers misuse EOBRs or the records they generate. Based on our 20-year history of working with AOBDR/EOBR manufacturers and motor carriers using these devices, we believe a more complex, comprehensive, and costly certification program could be marginally more effective, but at a disproportionately higher cost.

Finally, we would not maintain a list of devices self-certified by manufacturers as complying with the

Agency's requirements. Although such a list could potentially be useful for informational purposes, it also would need to be continually updated to reflect accurately the latest makes and models of EOBR devices and systems. The creation and upkeep of such a list would lie outside the Agency's expertise and require the expenditure of significant resources.

#### 10. EOBR Maintenance and Repair

Because several questions under this heading were similar, they are summarized for brevity. Most commenters responding to the first two questions, concerning automatic capture of malfunction event data in EOBR memory, asserted that all, or nearly all, malfunction events could be captured in EOBR memory. IBT supported making malfunction data accessible to enforcement personnel. Most commenters thought EOBRs should have minimal maintenance requirements.

##### 10.1 Are Current Maintenance and Calibration Regulations Adequate?

The United Motorcoach Association was concerned EOBR repair requirements could disrupt passenger service. Tripmaster stated the current regulations concerning EOBR/AOBDR maintenance and calibration are sufficient because they require maintenance and calibration according to manufacturer's specifications, adding that EOBR maintenance should be performed in the same manner as any other safety system on a CMV. Other commenters agreed, asserting that the manufacturer should be responsible for EOBR compliance. Some supported a requirement for work to be performed by an approved source, but there were differences of opinion as to whether repair stations should be certified by FMCSA, the manufacturer, or both. PeopleNet recommended that certified vendors and carriers continue to have the ability to repair units independently of Agency oversight. Advocates said that FMCSA and NHTSA need to monitor EOBR repair facilities "to ensure that repairs are being done properly and to detect any fraudulent manipulation of EOBR recordation capabilities and the accuracy of captured data. Such oversight can be based on a system of self-certification coupled with Agency random inspections of facilities \* \* \*."

Commenters disagreed on the need for recalibration. Siemens pointed out that certain changes in vehicle parameters, such as different tire sizes, motors, or gearboxes, could require EOBR recalibration. CPS maintained that

solid-state electronic devices would not need recalibration.

##### 10.2 Documentation for Installation, Repair, and Recalibration

Most commenters agreed installation, repair, and recalibration activities should be documented, and that FMCSA should have access to those facilities and documents. However, opinions differed on who should maintain the records. Several commenters believe the documentation should be maintained by the technician performing the work, while others consider the motor carrier responsible. TCA was concerned about calibration and performance standards for EOBRs; who would be responsible for EOBR calibration; and whether the driver or the motor carrier would be cited if an EOBR were found to be out of calibration.

##### Agency Response

The comments suggest that the current requirements for maintenance and recalibration of the devices in accordance with the manufacturer's specifications are producing the desired outcomes. As noted in the Agency response to comments on testing and certification procedures, we generally do not interact directly with EOBR manufacturers or system providers unless potential noncompliance situations are brought to FMCSA's attention. Additionally, Agency resources would not permit development of a comprehensive oversight program on EOBR repair facilities, nor does FMCSA have the legislative authority to undertake such a program.

In response to commenters' assertions that nearly all malfunctions could be captured in EOBR memory, FMCSA notes that although a sudden loss of power might not be recordable as an "event," the data on the EOBR record should be self-explanatory.

In response to comments on maintenance and recalibration records, FMCSA would treat those records much like other vehicle repair and maintenance records. The motor carrier would be responsible for maintaining its EOBRs. In answer to TCA's comment, the imposition of a penalty or fine would depend upon the specific circumstances of the violation.

Finally, as noted in the Agency response to comments on verification of proper operation, FMCSA proposes to require that malfunctioning EOBRs used by carriers subject to the proposed Remedies provisions be repaired or replaced within 14 days. During the time an EOBR is not functioning and a

spare device is not available, the Agency would continue to require preparation of a paper RODS. The latter requirement would also apply to carriers using EOBRs voluntarily.

Therefore, FMCSA proposes to apply the provisions of the current AOBRD regulation, both by requiring EOBRs to record malfunction events and by requiring recalibration and repair. We would clarify that the motor carrier is responsible for producing maintenance records (whether prepared by the motor carrier or a third party) upon demand. See proposed §§ 385.511(c) and 395.16(p).

#### 11. Development of "Basic" EOBRs To Promote Increased Carrier Acceptance

Commenters were divided over whether FMCSA should develop specifications for a single type of EOBR or a family of EOBRs ranging from minimally compliant to more sophisticated devices. Commenters favoring a single standard, among them CPS, argued that a provision allowing the use of "basic" EOBRs by certain categories of carriers could provide these carriers with a competitive advantage. Others supported a more inclusive approach under which FMCSA would issue FMCSR specifications for a minimally compliant EOBR yet allow or encourage use of devices with more advanced capabilities, such as GPS and wireless communications.

Opinions on potential requirements for minimally compliant EOBRs generally focused less on recommended specifications than on what features to exclude. Three vendors, PeopleNet, Nextel, and LinksPoint, recommended that a "basic" EOBR not be integrated to receive data from the CMV's engine or other systems. PeopleNet added that a basic EOBR of this description would be appropriate for CMVs not placing ECM data on their electronic networks. Nextel and LinksPoint supported running an HOS records application on a handheld computer or cellular handset.

Some commenters opposed potential requirements for location-tracking and wireless communications capabilities. Tripmaster favored specifications for EOBRs to perform "the sole function of automating HOS recording and reporting." The company contended a requirement for two-way communications would be unwarranted because of gaps in coverage, coupled with Tripmaster's perception that local and regional fleets may have little need for such communications. In contrast, PeopleNet favored systems that capture location information, allow the driver to

select duty status and enter information in a Remarks section, calculate HOS, and wirelessly transfer the driver's HOS back to a server.

Qualcomm contended the regulatory standards for EOBRs should be no stricter than those for paper records in terms of driver identification, ability to correct records, and data accuracy. Qualcomm recommended that EOBR records be made accessible to the dispatcher to ensure data integrity, prevent tampering, and permit safety management oversight. The company also recommended that the EOBR notify the driver and dispatcher of any potential HOS violation. It viewed a minimally compliant EOBR as possibly combining several pieces of equipment (e.g., a black box synchronized to the engine plus a GPS-enabled phone). The synchronized system would use engine on/off to record the beginning and end of driving time. Qualcomm reasoned that carriers and drivers would be more open to the electronic recording of HOS if they could simply add an application to their existing mobile communications system, and cited one of its products as an example.

XATA and Siemens recommended that the FMCSRs require a "basic" EOBR, with the Agency providing incentives for motor carriers electing to add features. As examples, carriers using GPS-enabled EOBRs would not be required to carry location codebooks, while carriers using EOBR systems with wireless communications capability might be exempted from requiring drivers to carry their RODS for the prior 7 days, since the data could be downloaded from the motor carrier's home base. Siemens suggested that EOBRs minimize manual inputs. It recommended that a "basic" EOBR record location of duty status changes as longitude and latitude coordinates using a simple GPS module. Siemens held that the coordinates would provide sufficient information for enforcement officials without requiring translation to named places (cities, towns, or villages) by the EOBR.

TACS recommended that a "basic" EOBR system record the identity of the driver, time of day, direction of travel, vehicle location, speed, and driver inputs regarding duty status.

SCRA stressed the need for EOBR stakeholders to work together to develop acceptable minimum standards and uniform format. SCRA and ATA advocated flexibility and interoperability, cautioning against proprietary systems with potentially higher costs. OOIDA was also concerned about EOBR costs, particularly if EOBRs have uses or capabilities beyond what is

needed for HOS compliance assurance. ATA favored uniform minimum performance standards: A "basic" EOBR should not require GPS or wireless technologies, but FMCSA should consider offering incentives for their adoption.

IIHS favored a relatively simple system providing features for driver identification and accurate recording of driving time and other duty status categories, but without additional vehicle performance monitoring functions. In addition to its recommendation to add several items to the "key research factors," Advocates stressed the need for interoperability of data acquisition and retrieval in accordance with ITS protocols, as well as the need to include geographic position information as a component of EOBR data. Similarly, Public Citizen stated that a minimally compliant EOBR must record CMV engine status and location data.

Werner Enterprises contended FMCSA should focus its requirements on the recording of data and information required for the RODS, and not extend them beyond what is needed for HOS compliance assurance. FedEx agreed that an EOBR requirement should address only the basic and specific requirements of the HOS rules. Overnite favored technology to allow automatic data capture when a CMV passes through a weigh station. Roehl supported a requirement for a minimally compliant EOBR to deliver the electronic equivalent of an accurate RODS, at a cost small motor carriers could afford.

Schneider referred FMCSA to the European digital tachograph specification. At the same time, Schneider noted its considerable investment in communications and operations management technology, and asserted that functional specifications must be compatible with existing technologies or "reasonable extensions" of existing technologies.

J.B. Hunt called for minimal EOBR requirements to balance safety outcomes and implementation costs. It considers the following features necessary: Synchronization with the vehicle, with noneditable drive time; connectivity for roadside officers; GPS for position locations; and self-diagnostics. J.B. Hunt, Schneider, and other commenters opposed the notion of different requirements for larger and smaller motor carriers.

CVSA recommended that EOBR requirements be phased in over several years to minimize impacts to both the motor carrier industry and safety officials. CHP contended performance

requirements compatible with a range of devices (minimally compliant to state-of-the-practice) could be difficult to devise. It suggested retaining manual records during a phase-in, while recognizing that this could be costly. Finally, CHP stated that requiring EOBRs only on new CMVs would help mitigate cost concerns.

#### 11.1 Performance-Based Specifications vs. Detailed Functional Specifications

Commenters generally favored performance-based over design specifications. Some noted FMCSA could set performance standards for most features yet achieve a measure of uniformity by requiring standardized reporting or display formats. Overnight recommended FMCSA concentrate on performance specifications and a standard format for EOBR readout capabilities. ATA asserted FMCSA could set performance requirements through minor revisions to § 395.15 and recommended the Agency do so before requiring EOBR use. TCA also supported performance standards, adding that they should be subject to notice-and-comment rulemaking.

IIHS, in addition to its comment (mentioned previously under *Key Research Factors*) that FMCSA has enough information to craft a workable mandate, stated that FMCSA is not required to design a system and has not explained why a performance-based system would be problematic for enforcement. It recommended FMCSA incorporate a design component into the overall system requirements and specify a uniform method of accessing the data and a uniform output record.

Qualcomm and PeopleNet reasoned that design specifications, as opposed to performance standards, would limit innovation, reduce competition among suppliers, and hinder motor carriers' adoption of new features. Qualcomm stated that FMCSA could achieve uniformity via standardized reporting or display formats of RODS, and recommended that determination of system failure be based on a performance standard. Finally, a motor carrier stressed the need to establish standards to ensure interoperability.

#### Agency Response

As noted in the section titled *Reporting and Presentation (Display) Formats*, the fundamental need is to provide a clear record of the *sequence and progression* of duty status. FMCSA's review of the docket comments, as well as the March 2005 Volpe Center study findings, suggest it would be appropriate to propose a single set of new performance

requirements for EOBRs rather than several sets of requirements for devices with varying degrees of sophistication and complexity. These proposed performance requirements reflect what FMCSA believes the EOBR development community can currently provide to the marketplace at an affordable cost.

At the same time, FMCSA recognizes that many motor carriers have used, and will continue to use, AOBDRs that meet the definition at § 395.2 and comply with the performance requirements of § 395.15. FMCSA proposes to allow motor carriers to continue to use these devices in CMVs manufactured before the implementation date of this rule. FMCSA encourages motor carriers to adopt newer versions of on-board recording devices, but at a pace that avoids causing hardship either to carriers or to device providers. FMCSA proposes to allow AOBDRs voluntarily installed in CMVs manufactured up to 2 years after the effective date of a final rule to be used for the remainder of the service life of the CMVs in which they are installed.

As noted in the Agency response under *Key Research Factors*, FMCSA would continue to allow Werner to operate under the exemption granted on September 21, 2004 (69 FR 56474) for vehicles manufactured prior to 2 years after the effective date of an EOBR final rule. Vehicles manufactured after that date would be required to comply with the new requirements for EOBRs. Because the Agency is not proposing to require integral synchronization of the EOBR with the CMV engine, Werner's system would likely meet the proposed requirements either in full or with minor modifications.

In proposing under § 395.16 a single set of performance-based EOBR specifications, as opposed to different specifications for EOBRs with varying levels of functionality and using different communications methods, FMCSA is focusing the proposed rule on the accuracy of records of duty status rather than on the methods used to collect, store, and report the data.

FMCSA's preference is to allow flexibility in how HOS data are collected and information is derived, so long as the data accurately reflect the driver's sequence of duty status periods and the CMV's location at each change of duty status. Emerging technologies may well allow this information to be collected in ways not envisioned today, or improve the efficiency, accuracy, and cost-effectiveness of gathering and recording data.

In response to commenters who urged that the scope of the current requirement be revised, FMCSA notes

that the data recorded on these systems, and the information derived from that data, relate to compliance with the HOS regulations. The data requirements are therefore limited, and the technological challenges to collecting, recording, and retaining the data on the EOBR and support systems are generally well known to, and met by, many manufacturers. With the exception of an advocacy organization's suggestion to use EOBRs for crash reconstruction, commenters did not recommend expanding the scope of EOBR data collection.

In response to IIHS's comment concerning uniformity of data output formats, FMCSA proposes to require a specified data output file format to promote improved data interchange between EOBRs and portable microcomputers used by roadside enforcement officials. This is discussed in depth under *Agency Proposal*.

#### 12. Definitions—Basic Requirements

Most comments on the issue of definitions concerned the ability of GPS-based products to meet the requirements of the EOBR regulations.

##### AOBRD

CHP, Tripmaster, Nextel, and ATA agreed with the definition. PeopleNet pointed out that older CMVs (those manufactured before the advent of electronically controlled engines) would require costlier AOBDRs because the earlier engines do not broadcast engine use, road speed, or miles driven over the CMV's electronic network. Qualcomm contended that the key requirement should center around the ability of an AOBDR to detect the movement of a CMV and use that information to capture driving time.

##### EOBR

Several commenters agreed with the definition. However, Advocates would support only a performance specification requiring GPS. CHP and CVSA recommended adding an explicit requirement that EOBRs record drivers' duty status and HOS information. They also recommended a requirement for information attributable to a single driver. In contrast, the American Moving and Storage Association and Darby Corporate Solutions pointed out that an EOBR cannot identify a specific driver or distinguish whether a driver is off duty or on duty, and they believe the definition should more accurately reflect these limitations. IIHS suggested FMCSA consider adopting the EU electronic tachograph regulation.

Qualcomm offered several suggestions for the definition. In its view, the

definition should encompass the EOBR's ability to continuously monitor and record CMV functions and to notify the driver and dispatcher of malfunctions. Qualcomm believes the definition also should reflect that an EOBR has several components, but should not include a requirement to record engine status and road speed. One commenter thought FMCSA should expand the definition to allow an in-cab system of computers, scanners, and printers.

Various commenters asserted the definition should include references to date and time, engine on/off status, location, distance traveled, and road speed data.

#### Agency Response

FMCSA has carefully examined the need for EOBRs to capture operating or "road speed" data. Ensuring that drivers operate their CMVs within the posted speed limits, while important, is outside the scope of this rulemaking. EOBRs (and AOBRDs) are intended to ensure accurate information about duty status time, rather than the speed at which a CMV is operated. Furthermore, "driving time" means all time spent at the driving controls of a commercial motor vehicle in operation. Drivers' duty status includes all the time the driver is at the controls of the CMV, regardless of whether the CMV is moving or is paused in heavy, slow-moving traffic. Therefore, FMCSA is not proposing that EOBRs record road speed.

#### 13. Potential Benefits and Costs

Only a few commenters based their responses on tangible experience using EOBRs and support systems. Although some motor carriers noted benefits from the use of the devices, others considered them too costly or questioned EOBRs' ability to capture the operations typical of their industry sector.

##### 13.1 Safety, Operational, and Compliance Benefits Experienced by Motor Carriers With Actual Use of AOBRDs or EOBRs

Werner Enterprises, which has piloted a GPS technology approach for HOS monitoring, noted evidence of safety improvements as measured by driver out-of-service rates related to HOS compliance. Its driver out-of-service rate is 1.2 percent, far lower than the national average of 6.8 percent. United Natural Foods noted both compliance and operational improvements since it began using EOBRs in the CMVs based at some of its facilities.

EOBR vendors XATA and PeopleNet noted that their customers see improved HOS compliance as one of the benefits

of using their products, but XATA noted "it has been difficult for fleets to justify technology based on HOS compliance alone." Siemens asserted that European motor carriers' experience with HOS recording has led not only to acceptance of conventional tachographs but also to improved designs for "reduced possibilities of cheating the system." According to Tripmaster, its customers' drivers saved 15 to 30 minutes per day and believed the safety and compliance assurance benefits justified the EOBRs' cost.

The International Food Distributors Association (IFDA) stated that its members' experience with AOBRDs varied. Some found the devices to be excellent and consistent tools, while others reported greater than anticipated AOBRD failure rates. The National Ready Mixed Concrete Association noted its members already employ "sophisticated electronic fleet monitoring equipment." Moreover, as most of its members operate under the 100-air-mile-radius provision and use timecards rather than RODS, they would be unlikely to realize any new compliance benefits from EOBRs.

OOIDA questioned the safety history of Werner during the first 4 years of the carrier's GPS Technologies Pilot Program. OOIDA's analysis of crash statistics (crashes per power unit per year) for the period 1998–2002 for Werner and several other large truckload motor carriers indicated an increase in Werner's crashes relative to its peers. OOIDA wondered whether this diminished safety performance was related to the use of the HOS recording devices.

Public Citizen cited several reports, some written under FHWA and FMCSA sponsorship and included in the docket, suggesting benefits of EOBRs related to improved safety and HOS compliance.

##### 13.2 Driver HOS Violation Rates, Out-Of-Service Rates, and Crash Experience of Motor Carriers Using AOBRDs or EOBRs

J.B. Hunt reported that its use of an electronic monitoring system (which does not use AOBRDs) has helped the carrier achieve a driver out-of-service rate well below the national average. In contrast, another carrier that tested EOBR technology saw no noticeable improvement in safety outcomes. One driver for a carrier using electronic RODS has noted a decline in crashes and out-of-service orders. A Werner driver thought the EOBR system works well, keeping drivers in compliance and preventing dispatchers from asking drivers to exceed HOS limits. An owner-operator driving for Werner found the

EOBR system "an excellent way of logging," noting its integration with the vehicle logistics system already in place.

CVSA and CHP cited a lack of data linking EOBRs and safety outcomes. CVSA requested that FMCSA consider a pilot program to monitor EOBR-equipped and non-EOBR-equipped vehicles to assess differences in compliance and safety performance.

OOIDA contended research has failed to show a statistically significant improvement in crash reductions as an outcome of EOBR use. OOIDA also cited the 2002 Cambridge Systematics study sponsored by FMCSA, which noted the inability of EOBRs to automatically capture non-driving duty statuses.

In contrast, Public Citizen cited positive CMV crash rate data from Germany. In 1975, the year mechanical tachographs were first mandated, the injury crash rate for CMVs was one crash per 790,000 km traveled. Ten years later, the injury crash rate for CMVs had dropped 54 percent, while the injury crash rate for passenger cars fell only 22 percent. These changes were viewed as notable, even when one considers that mechanical tachographs are "highly susceptible to tampering."

Siemens asserted EOBR-equivalent technology has been widely accepted in Europe and is perceived as effective for promoting road safety. Tripmaster also noted its customers had experienced safety improvements; one tank carrier reduced its overall crash rates nearly 50 percent the first year it used an EOBR system. Qualcomm reported that carriers using its system were able to monitor driving behavior and quickly take remedial action, in some cases reducing liability insurance costs.

#### Agency Response

FMCSA recognizes that comprehensive research data regarding the safety benefits of EOBR deployment are sparse. However, many EOBR vendors and carriers, as noted earlier, filed comments asserting that deployment of EOBRs resulted in greater HOS compliance in addition to other benefits (e.g., economic efficiency and security benefits). These comments are generally consistent with case studies and other anecdotal information from both the United States and abroad showing improved HOS compliance with EOBR deployment. As was extensively analyzed in the regulatory impact analysis for the 2003 and 2005 HOS final rules, increased compliance with HOS regulations correlates with reduced CMV driver fatigue, thereby reducing the incidence of CMV-involved crashes.

FMCSA considered the potential for EOBRs to reduce or eliminate specific types of HOS violations, such as exceeding daily driving time limits, exceeding daily duty limits, exceeding weekly duty limits, false logs, "no log" violations, form and manner log violations, and non-current logs. We believe that carriers using EOBRs under an FMCSA remedial directive would significantly reduce, and in some cases virtually eliminate, several types of HOS violations including driving time violations, form and manner violations, and false-log violations. Requiring EOBR use by carriers with recurring HOS violations could also reduce at least a portion of these carriers' "no log" and non-current-log violations. As discussed in the 2003 and 2005 HOS final rules, these reductions in HOS violations would yield safety benefits for CMV drivers and the traveling public.

The Agency sponsored a 2004 study entitled "Hazardous Materials Safety and Security Technology Field Operational Test"<sup>2</sup> (HM FOT), which examined the effectiveness of technological system solutions to enhance safety, security, and operational efficiency. This study found that deploying particular types of technology, including EOBR-related technology, potentially leads to significant gains in operational efficiency by reducing vehicle miles traveled. By eliminating unnecessary exposure to CMV highway traffic, this increased operational efficiency would improve safety and security.

In developing the Regulatory Impact Analysis (RIA) for this NPRM, the Agency considered data submitted by several vendors and carriers commenting on the ANPRM. However, because the Agency was unable to independently verify the analyses conducted by these commenters, we did not use this information directly in our economic analysis.

In the case of the HM FOT, we did consider the potential efficiency gains from deployment of EOBR-related technology, and used this information when considering tertiary (non-safety) benefits of installation of EOBRs on CMVs. Given the limited scope of the study, however, we evaluated only the findings related to efficiency benefits. Additionally, because this was the only study available to us that quantified estimates of the efficiency benefits of EOBR technology, FMCSA undertook a

sensitivity analysis in which we varied the level of these potential efficiency benefits to examine the effects on our benefit-cost analysis results.

Based on a review of 2003 and 2004 HOS compliance rate information from the Agency's Motor Carrier Management Information System (MCMIS), FMCSA concludes that mandated EOBR deployment has the potential to significantly reduce or practically eliminate several of the specific HOS violations noted previously, resulting in a 50 percent reduction in HOS-related violations for carriers using the devices. This is supported by a qualitative analysis by FMCSA enforcement personnel of HOS violations likely to be eliminated as a result of implementing EOBRs for HOS compliance. The assumption of a 50 percent reduction in HOS violations is further supported by an FMCSA case-study analysis of a motor carrier in the Southeast that implemented EOBRs for HOS compliance and experienced a 79 percent reduction over a 3-year period.

We used the 50 percent-reduction assumption in the benefits analysis of the RIA for this proposed rule. However, because of a lack of comprehensive data on EOBR safety benefits and the qualitative nature of the assumption, FMCSA subjected it to a sensitivity analysis similar to that performed on the estimated efficiency benefits in the HM FOT. In the RIA sensitivity analysis, we varied the assumption concerning the effects of EOBR deployment on compliance rates. That analysis is contained in the RIA, available in the docket.

### 13.3 Cost Savings From Paperwork Reduction, Reviewing RODS, and Other Efficiencies

PeopleNet, @Road, Tripmaster, and Qualcomm stated that their motor carrier customers enjoy significant improvements in operational efficiency when they add communications and logistics modules to a basic EOBR system. Their customers see improvements in communicating timely information to drivers, automating fuel tax data collection, reviewing odometer readings and engine usage, and performing billing and payroll functions. PeopleNet said its customers attain a return on investment of 100 percent or more, often within the first year, and an aggregate savings in driver and back-office administrative staff time ranging from 10–15 minutes per driver per month. CPS said that automation of recording and reporting industrywide "can be provided without any increase to current costs."

Other commenters, including advocacy organizations, contended that EOBRs would reduce compliance costs and generally pointed to improved carrier operational efficiency. Public Citizen noted many carriers already use electronic scheduling and tracking systems, "making the additional HOS tracking function a relatively simple matter." They cited studies of EOBR use and discussed the positive responses of drivers, unions, and carriers in Europe to EOBRs used there. IHS cited several FMCSA studies that discussed potential benefits of EOBR use. However, Public Citizen criticized FMCSA's failure to mention driver health in its ANPRM discussion of the benefits of EOBRs.

CVSA noted EOBRs "can do little to reduce this risk [of HOS violations to highway safety] without rigorous monitoring by both law enforcement and the industry itself." CVSA predicted larger carriers would tend to gain the greatest productivity benefits from EOBR use.

Motor carriers and industry associations expressed greater skepticism regarding the benefits of EOBRs. As IFDA noted in its response to the previous question concerning safety, operational, and compliance benefits experienced by motor carriers, its members reported mixed experiences. Yellow Freight was concerned that a transition to a new system could adversely affect its current high level of HOS compliance. Schneider believes the current cost of EOBRs cannot be justified and noted its crash rate already compares favorably to the crash rates of motor carriers using EOBRs. Werner cautioned that a basic EOBR system might not achieve the same level of benefits as its own comprehensive system. Greyhound expected that paper backup documents would still be required for EOBRs, and thus disagreed with FMCSA's estimates of time savings associated with EOBR use.

ATA, MFCA, and the American Bus Association (ABA) stated their members that have experimented with EOBRs have seen little or no savings in administrative costs. ATA indicated that motor carriers are currently using EOBRs for maintenance and fleet management, not HOS recording, and are deriving benefits from those applications. ABA reported that its EOBR-using members have had to invest extra resources into double-checking EOBR records and backup RODS. UMA predicted carriers would continue to maintain paper RODS, in tandem with EOBR records.

OIDA conjectured that drivers' other tasks would absorb any time savings

<sup>2</sup> Hazardous Materials Safety and Security Technology Field Operational Test Final Report, November 11, 2004, <http://www.fmcsadot.gov/Safety-Security/hazmat/fot/index.htm>.

from completing electronic records and that reconstructing RODS from a malfunctioning EOBR would take a significant amount of time. Citing a 1998 UMTRI study (Campbell and Smith, "Electronic Recorder Study: Final Report," 1998, page 37; see docket entry FMCSA-2004-18940-7), OOIDA stated there is no evidence EOBRs are cost-effective in small fleets, and motor carriers would not derive benefits from any savings in drivers' time if they pay drivers by the mile. Several other commenters offered similar viewpoints.

Specialized carrier services were especially skeptical about EOBR benefits. Petroleum Marketers Association of America stated that because its members are already subject to close regulation, EOBRs are unlikely to improve their compliance and would offer no additional benefits. The North Carolina Forestry Association asserted that RODS falsification is "not the norm by any means," and doubted EOBRs would improve HOS compliance. The Colorado Ready Mixed Concrete Association stated EOBRs would have few benefits for its members because most are currently exempt from RODS under the 100-air-mile radius exemption, are already using advanced technology, and are committed to HOS compliance.

U.S. Telecom Association (USTA) said that because telecom drivers have no motivation to violate the hours-of-service regulations, EOBRs would not benefit this industry sector. USTA noted that utility service vehicle drivers are allowed to exceed HOS in situations of a declared emergency.

IBT was skeptical of any productivity benefits from EOBR use. It echoed several other commenters in pointing to the need for a driver to interact with an EOBR and to resort to paper RODS should the device malfunction.

#### Agency Response

Several studies have documented the efficiency benefits of EOBR-related technologies, including time savings from logbook recordkeeping. Most notably, the previously mentioned HM FOT discussed efficiency benefits in the form of vehicle routing changes. The 1998 UMTRI Study, also mentioned earlier, noted that "Electronic HOS records obviously offer administrative efficiencies through ease of access to and management of these records." This study found that carrier respondents to a survey cited "vehicle operating cost management" as the most frequent reason carriers install EOBRs on their vehicles. Additionally, numerous commenters to the ANPRM docket pointed to benefits from paperwork

savings. Therefore, FMCSA believes it is plausible to anticipate that carriers would experience cost savings from reduced paperwork as well as other gains in operational efficiency. The potential savings would of course vary depending on the operational characteristics of the carrier and other factors. As discussed in the Incentives section below, FMCSA seeks comment on whether paperwork savings and operational efficiencies from EOBR use also reduce driver fatigue or otherwise mitigate crash risk sufficiently to justify affording motor carriers that use EOBRs relief from some of the HOS rules.

In the RIA for this proposal, FMCSA estimated average cost savings to affected carriers based on reduced paperwork burden associated with EOBR deployment. Our estimates for time savings were conservative. For instance, it was assumed that time savings would equal 6.5 minutes saved per day per driver, much lower than reported in several studies as well as by commenters to the ANPRM. In contrast to OOIDA, the Agency believes that, for small carriers whose drivers are paid by the mile, this reduced paperwork burden would indirectly benefit the carrier by increasing net income. The time savings would have a small tendency to increase the supply of drivers at any given rate of pay, or to reduce the pay needed to realize any given level of supply. See section 3.3 of the RIA for a general discussion.

We also used conservative estimates for cost savings from paper reduction and paper storage. A third conservative assumption incorporated into the RIA by the Agency was that EOBR deployment would not produce back-office savings, even though some carriers would in fact reap such savings. Details of the assumptions and cost savings analyses are available in the RIA.

In response to Public Citizen's comment that the Agency's ANPRM failed to analyze the benefits of EOBR use for CMV driver health, it is important to note that we did conduct such analysis for the current notice. Specifically, FMCSA analyzed the NPRM to ensure its conformance with the requirements of 49 U.S.C. 31136(a):

At a minimum, the regulations shall ensure that—(1) commercial motor vehicles are maintained, equipped, loaded, and operated safely; (2) the responsibilities imposed on operators of commercial motor vehicles do not impair their ability to operate the vehicles safely; (3) the physical condition of operators of commercial motor vehicles is adequate to enable them to operate the vehicles safely; and (4) the operation of commercial motor vehicles does not have a

deleterious effect on the physical condition of the operators.

Our review revealed little scientific documentation regarding the health effects on commercial motor vehicle operators of monitoring driving time. Overall, however, since we expect the proposal to increase compliance with the HOS regulations, thereby reducing fatigue, it would not have a deleterious effect on the physical condition of drivers. On the other hand, there is substantial literature regarding the health effects of electronic monitoring of workers, as well as on the general health effects of operating commercial motor vehicles.

A review of the available literature suggests that monitoring an employee is likely to increase stress levels in certain cases. Those cases appear to be limited to people who must work harder to meet quantitative performance expectations as a result of being monitored. This may not apply to commercial motor vehicle operators, who would be monitored to ensure compliance with safety regulations. However, some functions of EOBRs may enable fleet managers to monitor the performance of their drivers as well as their compliance with hours-of-service regulations and could therefore have similar effects to the studies described here. A November 2005 report by ICF Consulting, "Literature Review of Non-Safety Health Effects of Electronic On-Board Recorders," describes the range of available literature. This study, which we relied upon to assess the potential direct health effects of monitoring drivers' duty status with EOBRs, is available in the docket. As noted in Appendix A of the RIA for this NPRM, the literature search found no material regarding the relationship between driver health and the use of driving time recorders, "or indeed between driver health and any form of monitoring of truck drivers." There were, however, a few articles on the health effects—particularly stress-induced effects—of being electronically monitored at work.

#### 13.4 Training for Drivers, Dispatchers, and Other Motor Carrier Employees

United Natural Foods, an EOBR user, estimated that training required to use EOBR and EOBR-generated records was 3 hours per driver and 3 days for office staff at \$900 per day plus expenses; Maverick, which also uses EOBRs, estimated 4 to 5 hours or an average of \$150 per person. Two motor carriers not currently using EOBRs, Schneider and Ralph Meyers Trucking, estimated training costs of \$1,500,000 (Schneider based its estimate on the costs of retraining staff to comply with the April

2003 HOS final rule; the company believes the rulemaking would increase ongoing training costs by \$130,000 and \$165 per hour (Ralph Meyers Trucking's estimate for the cost of training, maintenance, and support).

ATA estimated 2½ to 3 hours per driver for EOBR training, plus additional training on completing paper RODS if they were required as backup documents. UMA estimated total costs of \$6.4 million for motorcoach carriers, assuming a fleet size of 40,000 vehicles. Smaller companies needing to upgrade their back-office computer systems could see additional costs. ATA and the Minnesota Trucking Association (MnTA) both pointed out that field enforcement officers would also require training on EOBRs. MnTA was concerned that creating a new EOBR audit system would "further remove the focus of the industry and FMCSA from promoting safe driving."

PeopleNet estimated their "train-the-trainer" modules would take 2 days. Qualcomm provided detailed estimates of training time for drivers (30–60 minutes online, 1 classroom hour, and 1 hour for hands-on exercises), dispatchers (30–60 minutes online, 2.5 classroom hours, and 1 hour for hands-on exercises), and information technology staff (30–60 minutes online and 4–6 classroom hours). XATA estimated 2.5–3 hours training for drivers and 3–4 days for back-office

staff. CPS and Siemens said training would be "minimal," although Siemens advised that dispatchers may need "some hours" of software training. Tripmaster estimated 1 hour for driver training and 16 hours or more for supervisor training.

Agency Response

FMCSA received an abundance of information regarding training costs associated with EOBR deployment, from both vendors and carriers. We incorporated driver and back-office worker training costs into the RIA for the NPRM. (We did not calculate costs for training drivers to prepare backup paper RODS if the EOBR malfunctions, as training in record of duty status preparation is already required under § 380.503, Entry-level driver training requirements.) We estimated high, median, and low equipment purchase and installation costs, depending upon which types of units are most likely to be purchased and installed as a result of this rule. For instance, the factor most affecting per-unit EOBR purchase and installation costs was whether or not the unit would be integrally synchronized with the truck engine; integral synchronization correlates with a high cost estimate. In this way we could account for the entire range of EOBR deployment costs likely to result from the rule.

Next, we calculated driver and back-office worker training costs corresponding with the type of unit to be installed (high, median, or low estimate); this information was supplied by vendors or carriers in comments submitted to the docket or gathered from production information in manufacturers' sales or marketing packets. In the case of the high estimate (integrally synchronized units), driver training was assumed to take 3 hours per driver, while back-office worker training was assumed to require 12 hours per employee. For the median cost estimate, FMCSA assumed 1 hour of driver training would be required, while 10 hours would be required for back-office staff.

Finally, for the low cost estimate, FMCSA assumed only 30 minutes of driver training would be required, with 2 hours required to train back-office staff. Again, these estimates were based either on comments filed to the docket by equipment vendors or carriers or on EOBR information provided by vendors or manufacturers. Evaluating training costs in this way enabled us to test the sensitivity of these cost assumptions on the cost-benefit analysis results.

13.5 Typical Cost of a Minimally Compliant EOBR

Commenters' estimates are shown in the following table:

TABLE 1.—EOBR COST ESTIMATES

Association commenter	Cost for units and back-office support	Total cost to industry sector (estimate)
United Motorcoach Association .....	\$1,500–\$3,000 per unit .....	\$60,000–\$120,000 for units.
American Bus Association .....	\$1,500–\$3,000 per unit, \$10,000–\$80,000 computer costs.	\$120 million for units, \$280 million for system upgrades.
National Propane Gas Association .....	\$1,000 per unit, \$15,000 per office unit .....	\$35,000,000 for units, \$52,500,000 for back offices.
Colorado Ready Mixed Concrete Association ...	\$1,000–\$3,000 per unit..	
American Trucking Associations .....	\$1,000–\$2,000 per unit, not including back office and communications..	
Truckload Carriers Association .....	\$1,000–\$3,000 per unit, more for retrofit on older trucks..	
National Solid Wastes Management Association	\$500 for new trucks, \$3,000 for old .....	Up to \$333 million for retrofit (private sector). Up to \$75 million for retrofit (public sector).
Cost for units and back-office support		
Carrier:		
United Natural Foods (using XATA's system).	\$4,100 per unit, \$150 installation per unit.	
Windy City .....	\$700 per unit, \$20–\$40 monthly fee.	
Golden Plains Trucking, Ralph Meyers Trucking.	\$4,000 per unit.	
Schneider National .....	Total cost to business \$14–\$15 million including installation (for 13,000 tractors).	
Vendor:		
XATA .....	Current: \$1,000–\$2,000 per unit.	
TACS .....	\$1,000–\$3,000 based on sophistication, \$30–\$500 for driver identification, \$3,000 and up for management software.	
Siemens .....	\$300 per unit (original in vehicle), \$450–\$700 per unit (after-market installation).	
Karta Technologies .....	\$500 per unit (purchase), \$20–\$25 per unit per month (leased).	
PeopleNet .....	\$1,000–\$1,500 per unit.	
Tripmaster .....	\$1,200 per unit (basic), \$2,000–\$3,500 per unit (advanced).	



	Cost for units and back-office support
Qualcomm .....	\$500 per unit (minimal phone and black box technology), \$8 per unit per month for web-based back office (not including wireless costs).
GPS-based systems:	
Scanware .....	\$3,000 per unit, not including data acquisition and auditing. If ruggedized, \$6,000–\$7,000.
LinksPoint .....	\$3,200 per unit (incl. computer, GPS receiver and software).
CPS .....	\$2–\$3 per day per unit.
Vendor:	
Karta Technologies .....	\$40 per vehicle per month.
PeopleNet .....	\$20 per vehicle per month; up to \$55 including communication costs (Back-office costs negligible, system is Web-based.).
Tripmaster .....	\$10 per vehicle per month (or \$20,000 to purchase software for carrier's use).
Scanware .....	\$1 per driver per month (assuming carriers provide software and hardware support).
CPS .....	"Minimal or nil" because the units should be compatible with existing systems.

A few commenters provided estimates of EOBR operating costs. ATA estimated \$60 to \$75 per unit/month for communications, depending on the frequency of contacts with satellite or other centers; recalibration at \$45 per "event" plus technician travel and CMV downtime; and additional costs for record storage and retrieval. United Natural Foods, a Xora client, estimated start-up costs of \$4,100 per truck and \$20,000 for software upgrade and technical support. Operational costs run \$24 unit/month for satellite tracking and communications. Schneider estimated its operating costs for RODS would go up from \$1.1 to \$5.8 million per year, for a net annual increase of \$4.7 million. CT Transportation Services and Ralph Meyers Trucking each estimated training, maintenance, and support at \$165 per hour. First-year costs were estimated at \$175,000 and annual operations costs at \$25,000.

Agency Response

In developing the cost analysis for the RIA, FMCSA considered the docket comments, conducted its own research regarding which type of unit would be minimally compliant with the proposed rule, and then developed "low estimate" cost figures for this minimally compliant device. We defined a minimally compliant device as one not integrally synchronized to the ECM but capable of recording the truck's location at least as often as required by the performance standards outlined in this NPRM. For the purposes of developing this "low" cost estimate, FMCSA considered certain cell-phone-based products without engine synchronization to be a reasonable proxy for a minimally compliant device. As detailed in the RIA, we used the costs associated with installing and operating that device to develop the "low" cost estimate.

13.6 Typical Cost To Incorporate EOBR Capabilities Into On-Board Computer and Communications Systems

XATA estimated that installing its units in existing trucks would cost \$1,000 to \$2,000 per vehicle, not including communications support. Qualcomm estimated a monthly cost of \$8 per CMV to add an HOS application to a current Qualcomm subscription. Depending upon the system and features selected, a Qualcomm subscription costs \$20 to \$65 per vehicle per month. Older Qualcomm in-cab units might require upgrades ranging from \$80 to \$400.

For its fleet of 13,000 power units, Schneider estimated equipment and system licensing and installation costs of \$1 million; \$2.8 million for installation labor, mileage, routing, and downtime; \$2 million for enhancing fleet management software; and \$5 million for increased satellite data communications. ATA estimated EOBR unit costs of \$3,500, including communications and GPS. Other commenters expressed concerns about costs but did not provide quantitative estimates.

ATA and four other motor carrier association commenters listed a variety of potential cost items, including development and execution of training programs for drivers, office, and information technology staff; communications costs (airtime); enhancements to computer system capabilities; EOBR inspection, maintenance, calibration, repair, and recordkeeping; CMV downtime; and future equipment and system upgrades and replacements, including costs for replacing existing systems to comply with new regulatory requirements. ATA stated that EOBR performance criteria would generate lower priced solutions, and advised FMCSA to carefully consider costs for replacements and upgraded devices.

Many commenters addressed broader concerns about potential EOBR costs. ATA, TCA, the Tri-State Truckers Association, and the Kansas Motor Carriers Association questioned whether carriers could sustain economic viability in the face of EOBR costs added to the costs of current regulation. They also contended an EOBR mandate would exacerbate the CMV driver shortage. In addition, these commenters recommended that an EOBR mandate be partly offset by eliminating the requirement to maintain paper RODS.

TCA, PMAA, the North Carolina Forestry Association, and the Kansas Motor Carriers Association asserted that small carriers would bear an undue burden if required to install EOBRs. Gases and Welding Distributors Association stated EOBR costs are high relative to the limitations of EOBR technology. SCRA pointed to increasing costs of training, computer upgrades, replacement, maintenance, inspection, and equipment calibration. USTA calculated that if EOBRs cost \$3,000 each, the organization's four largest members would incur a total cost of \$75 million.

TCA drew an analogy between the costs of complying with the rules on controlled substances abuse and alcohol abuse prevention as revised in the early 1990s and the proposed EOBR regulations, asserting that complying with a mandate costs twice as much as operating under a voluntary regime. MnTA contended that Minnesota law enforcement agencies have difficulty interfacing with various State and FMCSA databases. SCRA called attention to the need for proper training for law enforcement officials.

Individual drivers and owner-operators also expressed concerns about what they considered to be the significant potential costs of EOBRs. OOIDA contended the potential costs of EOBRs and related accessories, communications equipment, and back-office systems would "dwarf [EOBRs]"

de minimus, if any, contribution to public safety." IBT thought any time savings would be more than consumed by training time. In addition, IBT contended EOBRs are unreliable and thus would produce few benefits. Many drivers and owner-operators painted a grim economic picture for small motor carriers required to comply with any new regulation mandating EOBR use, raising concerns about the impact of such a rule upon the current driver shortage and questioning the potential cost savings and safety benefits. One in this group predicted any carrier with fewer than 20 vehicles would go out of business.

Some drivers offered a more optimistic view. A few said EOBR cost estimates were not as high as they had feared, and they could foresee possible safety and operational benefits. One driver predicted costs would go down if the devices were manufactured in bulk; however, another was concerned costs would remain high without adequate competition among vendors.

Advocacy organizations also were more optimistic. IHS asserted cost is not a significant factor. It cited two studies showing that affordable EOBRs are available and that prices would drop even further if EOBRs were mandated.

Vendors, too, were generally optimistic about their ability to provide low-cost solutions to carriers. They suggested several potential areas for cost savings in system hardware and software. For example, Nextel expected costs for its potential EOBR product to be negligible because their solution is based on cell phones. PeopleNet stated it currently offers an EOBR/HOS product, and aftermarket installation takes 1.5 hours or less. IBM recommended an industrywide mandate to lower costs through economies of scale. Qualcomm asserted that minimizing EOBR cost would be key to motor carriers' acceptance of an EOBR requirement. The company recommended that road speed not be recorded because retrieving such data at frequent intervals is not otherwise necessary and would increase the EOBR memory requirements. Qualcomm maintained that recording malfunction events, third-party documentation on installation, repair, and calibration, and smart cards would add costs and be unduly burdensome.

The Santa Clara Valley Transportation Authority said that its buses already have a GPS/Automatic Vehicle Location system providing location updates at 2-minute intervals, and that any requirement to synchronize this system with the engine would be very costly. Santa Clara noted that its current HOS

compliance system is working well overall, and that installing EOBRs would involve high costs without significant benefits.

#### Agency Response

It is difficult to estimate all of the initial and ongoing EOBR costs reliably. Costs to the motor carrier would vary depending both on the system currently installed and the prospective new system. Rather than addressing these variables, many commenters focused on the potential costs of an industrywide mandate to install EOBRs. FMCSA has estimated the effects and concluded that the cost of universal EOBR installation would not justify the benefits at this time. Therefore, the NPRM focuses on the highest risk carriers, a targeted approach that allows FMCSA to concentrate its resources (and EOBR use) on the most serious violators of the HOS regulations. In the RIA, FMCSA made the assumption that all carriers subject to an EOBR mandate would be installing these units and supporting equipment and software for the first time. This is a conservative estimate intended to ensure we do not underestimate the costs associated with this rulemaking. The Agency believes the population of high-risk carriers, which appears to be less than 1 percent of the overall carrier population, is the group least likely to have EOBRs at present. These are the carriers most likely to be affected by the rule. Because they represent such a small percentage of the total carrier population, costs are unlikely to be large overall.

#### 14. Incentives To Promote EOBR Use

Commenters were generally in favor of incentives to promote EOBR use. Federal tax relief was the most common incentive mentioned. Motor carriers including J.B. Hunt, Maverick Transportation, Roehl Transport, and Schneider suggested that Federal tax relief would serve as an incentive to promote EOBR installation. Motor carrier associations, an EOBR manufacturer, and an individual driver made the same point.

Four EOBR vendors recommended specific design specifications they believe would make EOBRs more appealing to motor carriers. For example, LinksPoint suggested FMCSA allow systems that do not need to be integrated with the vehicle and could be used with current mobile computing and GPS technologies. Qualcomm recommended EOBR specifications that allow the rounding of driving time to the nearest 15-minute increment. Otherwise, Qualcomm reasoned, drivers using EOBRs could be at a disadvantage,

in terms of HOS compliance, compared with drivers using paper RODS. For example, if a driver drove 11 hours and 7 minutes using an EOBR without a rounding feature, the driver would have an HOS violation identified. However, in Qualcomm's view, most drivers using paper logs would round down the time to 11 hours. Allowing EOBRs to be programmed to ignore intervals of 15 minutes or less would serve as an incentive by leveling the playing field between EOBR-using carriers and those using paper records of duty status.

Vendors also suggested regulatory incentives that FMCSA could offer to encourage EOBR use. For example, Qualcomm specifically recommended that FMCSA relieve motor carriers using EOBRs from the requirement to maintain supporting documents other than the information collected by the EOBR that supports the automated RODS recordkeeping.

Many commenters suggested that one of the most significant deterrents to voluntary EOBR installation was the fear of post-crash litigation based upon the extensive operational data EOBRs are capable of producing. They recommended limiting the data elements EOBRs would be required to produce and restricting access to the data as incentives for voluntary installation. For example, ATA recommended that future EOBR regulations specify that EOBR data accessed by government officials would be restricted to information required to enforce the HOS regulations, and that access to the data be restricted to the motor carrier and its agents, FMCSA officials, authorized State enforcement personnel, and representatives of the NTSB for purposes of post-crash investigations. The ATA also suggested that an FMCSA commitment to work with the industry to seek enactment of statutory protections for data beyond that required under part 395 would significantly alleviate a major impediment to acceptance of EOBRs.

#### Agency Response

FMCSA finds merit in vendor comments that appealing design specifications would serve as incentives to EOBR installation. Toward that end, the performance specifications proposed in this rulemaking address many of the design proposals recommended by commenters. For example, as recommended by LinksPoint, the proposed EOBR performance specifications do not require "integral synchronization" to the vehicle engine and thus allow for both innovation and potentially reduced costs.

FMCSA does not agree, however, with Qualcomm's suggestion to establish specifications that allow for rounding of driving time to the nearest 15-minute increment. The current regulations concerning paper records of duty status do not provide for rounding, and FMCSA's question-and-answer guidance indicates that periods of less than 15 minutes may be identified by drawing a line to the Remarks section of the RODS and entering the amount of time, such as 7 minutes.

FMCSA sees some merit in Qualcomm's comment that motor carriers using EOBRs should not have to maintain supporting documents other than those produced by the EOBR. This NPRM proposes adopting a new 49 CFR 395.11 to provide partial relief from the current supporting document requirements under 49 CFR 395.8(k) for motor carriers that install a device compliant with proposed § 395.16. EOBRs meeting the requirements of § 395.16 produce regular time and CMV location position histories sufficient to verify adequately a driver's on-duty driving activities. However, additional supporting documentation, such as driver payroll records, is still necessary to verify on-duty not-driving activities. Therefore, the proposed § 395.11 does not provide a blanket exemption from supporting document requirements for carriers using EOBRs compliant with § 395.16. Rather, it would limit the volume of required supporting documents to those necessary to verify on-duty not-driving time and off-duty status. FMCSA issued a supplemental notice of proposed rulemaking concerning HOS supporting documents on November 3, 2004 (69 FR 63997) and expects to publish the final rule in the near future. The Agency will consider public comments to today's NPRM in determining whether adjustments to the supporting documents exemption procedures may be necessary.

We recognize commenters' concerns regarding legal protection and access to EOBR data, and believe the performance specifications and regulations proposed in this rulemaking help to mitigate these concerns. For example, the proposed EOBR performance specifications do not require that non-HOS data, such as vehicle speed, be recorded. While FMCSA agrees that statutory protections against access to data from EOBRs beyond what is required to determine HOS compliance would further acceptance of the devices, legislative efforts toward that goal are outside the scope of this proposed rule. FMCSA seeks comment, however, on data access protections that could be provided under current statutes.

## 15. Miscellaneous Questions

As many responses to the questions in this section are similar to those discussed earlier, we will summarize them here. Commenters generally consider EOBRs highly reliable, with equipment vendors estimating them to have a useful life of 7 to 10 years or longer. Motor carriers agreed.

### Agency Response

FMCSA's analysis of the data and further consultation with equipment vendors suggest a more conservative estimate for the useful life of EOBRs than that provided in equipment vendors' comments to the ANPRM. Vendors we consulted estimated the devices to have a useful life of 3 to 5 years, if technological obsolescence is factored in. Please see the RIA, available in the docket, for further discussion.

### 15.1 Should FMCSA Propose To Require That Motor Carriers in General, or Only Certain Types of Motor Carrier Operations, Use EOBRs?

*Mandate EOBRs for some motor carriers.* The National Private Truck Council and two other commenters said that any requirement to use EOBRs should apply only to long-haul trucking companies, reasoning that the cost of installing and using EOBRs would not be justified for local distribution operators.

Several commenters stated FMCSA should exempt motor carriers operating under the 100-air-mile-radius exemption. The Colorado Ready Mixed Concrete Association noted that the 100-air-mile-radius exemption is based on the recognition that short-haul operators are at reduced risk of excessive driving time and resulting driver fatigue; requiring these carriers to use EOBRs would be tantamount to rescinding the exemption. The Highway Safety Committee of the International Association of the Chiefs of Police suggested that if FMCSA requires EOBRs for interstate carriers, it should avoid penalizing States that choose not to require EOBRs for intrastate carriers using the 100-air-mile-radius exemption.

The Motor Freight Carriers Association (MFCA) and several LTL carriers said that FMCSA should exempt the LTL sector because its systems for managing driver fatigue and ensuring compliance with the HOS rules already make it one of the safest segments of the trucking industry. They asserted that LTL carriers locate their facilities and dispatch their drivers in ways that "virtually eliminate" HOS violations. Yellow Roadway Corporation added

that its drivers are in personal contact with supervisory personnel at the beginning and end of the workday, and the company uses software to flag any dispatch that would cause an HOS violation. ATC Leasing Company, a provider of driveaway services, noted that its drivers operate a given CMV only once and would therefore need to use portable EOBRs. The company believes that, in general, the marketplace demand for portable EOBRs would be low, resulting in high per-device costs.

Several commenters asked for operational-based exemptions from any future EOBR requirement for particular types of short-haul operations. These included the National Solid Wastes Management Association (100-air-mile-radius exemption or solid waste collection trucks); PMAA (short-haul drivers delivering gasoline); NRMCA and its Colorado State association (ready-mixed concrete industry); NPGA (local propane delivery operations); the National Rural Electric Cooperative Association (utility service vehicles in general); and the USTA (utility service vehicles, particularly those operating under the 100-air-mile-radius exemption); and the National Ground Water Association (well drillers whose CMVs travel less than 5,000 miles annually). ATA recommended FMCSA assess whether drivers and operations not currently required to keep RODS (100-air-mile-radius drivers, drivers in the State of Hawaii, and certain drivers in agricultural operations) should be exempted from an EOBR requirement.

Motor carriers of passengers and their industry associations asserted that FMCSA should not require EOBR use by carriers in this industry segment, in part because of its already strong record of safety and HOS compliance. The United Motorcoach Association added that 95 percent of such companies registered with FMCSA meet the Small Business Administration's definition of a small business. Greyhound Lines noted that its drivers have considerably different work patterns from those of truck drivers and operate on fixed, published schedules that are designed to comply with HOS requirements. The National School Transportation Association (NSTA) argued against an EOBR requirement for its members because only about 1 percent of school bus operations are interstate activity trips subject to the FMCSRs. Similarly, the Santa Clara Valley Transportation Authority argued that FMCSA should not require EOBRs for local public transit agencies using the 100 air-mile-radius exemption.

One commenter argued that EOBRs must remain voluntary for owner-operators but did not provide supporting rationale. Two commenters, citing the potential financial impact on small businesses that operate CMVs, requested FMCSA consider limiting the requirement for EOBRs to those carriers operating CMVs requiring a commercial driver's license.

Five of the seven carriers commenting on this issue said that lack of a broad EOBR mandate would create an uneven playing field, while noting that their own potential costs to add EOBRs could be considerable. ATA pointed out that motor carriers exempt from a requirement to use EOBRs would derive a competitive advantage because they could more readily attract independent contractors (which presumably would also be exempt). The few drivers favoring a universal EOBR requirement also expressed concerns about competition. EOBR vendors XATA, PeopleNet, and Qualcomm made a similar point. Another EOBR vendor stated that homeland security considerations should be the sole reason to exempt a carrier from an EOBR requirement. CHP said that FMCSA could apply an EOBR requirement only to particular segments of the trucking industry, but expressed concerns about economic equity.

*Mandate EOBRs for all motor carriers.* Public Citizen and Advocates supported mandatory EOBR use for all CMVs over which FMCSA has jurisdiction. They contended FMCSA should require States to mandate EOBRs for intrastate CMVs as a condition of a State's receiving Motor Carrier Safety Assistance Program funds. Advocates added that NHTSA should issue a complementary regulation requiring EOBRs on all newly manufactured vehicles subject to the prohibition on making safety equipment inoperative (49 U.S.C. 30122). CTA recommended requiring EOBRs in commercial motor vehicles for which the driver is required to hold a CDL.

J. B. Hunt commented that if FMCSA determines EOBRs would provide an enhanced level of compliance and improved safety outcomes, the Agency should mandate EOBR use in all operations subject to the HOS regulations, including 100-air-mile-radius operations. Schneider expressed a similar view, asserting it would be irrational to exempt small carriers that typically have less sophisticated compliance programs and higher crash rates than large carriers. One carrier predicted that political considerations would lead to a universal EOBR mandate.

*Mandate EOBRs only for motor carriers with poor safety or compliance records.* Seven commenters suggested that if FMCSA chooses to mandate EOBRs for any motor carriers, it should do so only for carriers or industry segments that have shown poor compliance with HOS regulations. Three in this group—a motor carrier, a trade association, and an owner-operator—noted that such an approach would relieve carriers already in compliance with the HOS rules of the financial burden of purchasing and installing EOBRs. United Motorcoach Association stated that it “would endorse the mandatory implementation of EOBRs only for chronic offenders.” CVSA suggested that EOBRs could be used as “punishment” for carriers that show continued violations of HOS rules or are found to have falsified their RODS. The Motor Freight Carriers Association and the Yellow Roadway Corporation encouraged FMCSA to adopt a rule requiring individual companies or industry sectors to demonstrate a proven record of HOS compliance and to subject carriers not meeting that compliance rate to “more strenuous requirements, including the possible imposition of recording devices.”

#### Agency Response

FMCSA agrees that focusing first on motor carriers with significant HOS compliance problems is a sound approach. The Agency believes this is the strategy most likely to improve the safety of the motoring public on the highways in the near term and to make the best use of resources, both those of enforcement agencies and of the motor carrier industry. We are therefore proposing procedures for issuance of remedial directives requiring EOBR installation, maintenance, and use by only those motor carriers with serious and repeated HOS noncompliance. By focusing on this narrow carrier population, we would increase highway safety while minimizing the cost to the motor carrier industry, giving the Agency maximum return on the investment of its enforcement resources.

As discussed in the *Remedies* section of this preamble, FMCSA examined a variety of possible parameters that might be used to establish subpopulations of poor-HOS-compliance carriers to which an EOBR mandate might apply. Agency CR results indicate that a substantial number of motor carriers do not routinely violate the HOS rules, and thus (based on the RIA for the proposal) the benefits of an industrywide EOBR mandate do not outweigh the costs. In

focusing first on the most severe violations and the most chronic violators, we are proposing a mandatory-installation “trigger” designed to single out motor carriers that have a demonstrated history of poor hours-of-service compliance. The trigger for a notice of remedial directive and proposed unfitness determination would be a “final determination” of one or more “pattern violations” of any regulation in proposed new Appendix C to Part 385 (“Appendix C regulations”), followed by the discovery of one or more pattern violations of any Appendix C regulation during a CR completed within 2 years after the closing date of the CR that produced the first determination. A pattern violation of Appendix C regulations is a violation rate equal to or greater than 10 percent of the number of records reviewed. For example, 25 violations out of 100 records reviewed would be a 25 percent violation rate and therefore a pattern violation. Based on data concerning HOS violation from CRs conducted between June 2001 and June 2005, this trigger, if adopted, would result in the issuance of approximately 465 remedial directives to install EOBRs annually.<sup>3</sup> The Agency believes this relatively small carrier population, with its severe and recurring HOS compliance deficiencies, poses a disproportionate risk to public safety. Therefore, mandatory EOBR installation and use by this narrow subset of carriers is an appropriate and resource-effective means of promoting motor carrier safety.

FMCSA recognizes that there may be other factors that bear consideration in determining the potential application of an EOBR requirement, such as risks to passengers or to the general public from a release of hazardous materials. The Agency requests public comment on whether EOBRs should be required of passenger carriers and carriers transporting hazardous materials in quantities requiring placarding.

#### 15.2 Other Comments

IIHS recommended that FMCSA conduct a field operational test of EOBR devices and conduct formal surveys to gather data on EOBR benefits, costs, and use in HOS enforcement.

ATA and IIHS asked how FMCSA would determine that EOBRs would achieve the intended results. ATA believes the Agency should provide evidence that EOBR use will reduce

<sup>3</sup> FMCSA considered, but is not proposing to adopt, CVSA's suggestion that EOBR installation be required as a “punishment” for part 395 violations. The current civil and criminal penalties authorized under 49 U.S.C. 521 for violations of the FMCSRs would remain unchanged under the proposed rule.

fatigue-related crashes and thereby improve truck safety, arguing that any correlation between electronic recording and crash reduction is merely speculative unless documented. ATA added that a study of motor carriers' experiences with automated recording devices could be useful in determining whether they contribute to safer driving performance and crash prevention.

#### Agency Response

In response to IIHS's recommendation for a field operational test of EOBRs and surveys to gather data on EOBR benefits, costs, and use in HOS enforcement, FMCSA conducted such a survey and published the results in 1998 (the UMTRI study, docket entry number 7). The study results were limited because of a very low (12 percent) response rate. Another field operational test, the FMCSA-sponsored HM FOT discussed previously in section 13.2, found that use of EOBR-related technology led to potential increases in operational efficiency, which could benefit safety indirectly.

However, as also noted in section 13.2, there is little research data linking EOBR deployment directly to safety benefits. A study such as ATA suggested, in which data on many potential contributors to driving safety would be tracked and analyzed statistically, could certainly shed useful light on the relative contributions of factors such as CMV driver selection, in-service training, motor carrier oversight, and use of HOS recording devices. Such a study would likely be extremely challenging to design, given that: (1) Highway CMV-involved crashes are statistically rare events, so that several years' worth of data might be needed before a statistically valid comparison could be drawn; (2) motor carriers may make changes to several of these areas concurrently; (3) the "before" data might not have been maintained in a way that allows for direct comparison with the "after" data; and (4) participants' awareness of and involvement in an active study could influence their data (i.e., a "Hawthorne effect").

As noted previously, in the absence of comprehensive research data in this area, the Agency infers from motor carriers' comments to the ANPRM, case studies, and anecdotal information that EOBR installation and use correlates with increased HOS compliance and reduced driver fatigue. This in turn could reduce the incidence of crashes involving CMVs.

The HOS compliance of motor carriers subject to remedial directives under the proposed rule could improve

even more as a result of EOBR installation and use. These are motor carriers that FMCSA has determined to have hours-of-service violations in 10 percent or more of the records of duty status examined during two or more CRs within a 2-year period. Such carriers have already demonstrated repeated noncompliance with the HOS regulations after being afforded an opportunity to improve. The Agency's existing compliance oversight processes would already have singled out these carriers for FMCSA's attention because violations found during roadside inspections, crash involvement, or both, placed them statistically well outside the norm at the time of the second CR. The Agency would also have provided recommendations to these carriers to guide them toward improving their safety performance and regulatory compliance. These carriers would be offered a choice: Install a tool—the EOBR—to enable the carrier to gather and use more accurate data than are contained in a paper RODS and provide more specific information on areas of noncompliance the carrier must address, or cease operations. As discussed in detail in section 13.2, HOS compliance rate information in the MCMIS, an FMCSA case-study analysis of a particular carrier, and analysis by Agency enforcement personnel support an inference that compliance with an EOBR remedial directive could reduce a carrier's HOS-related violations by 50 percent.

#### V. Agency Proposal

As noted in the Executive Summary and the discussion of public comments, FMCSA proposes a comprehensive rule to increase EOBR use within the motor carrier industry. The proposed regulation has three elements: (1) Performance-oriented standards for EOBR technology; (2) the mandatory use of EOBRs by certain motor carriers in a safety remediation context; and (3) incentives to promote voluntary EOBR use. FMCSA believes this approach strikes an appropriate balance between promoting highway safety and minimizing cost and operational burdens on motor carriers demonstrating strong and consistent compliance with the HOS regulations. We seek public comment on these proposals, discussed in what follows.

##### A. Technology

FMCSA proposes a new set of performance-based standards for EOBRs that reflect the significant advances in recording and communications technologies since introduction of the first AOBDRs in 1985.

In developing this proposal, we also considered findings related to the seven key research factors discussed in FMCSA's April 2003 HOS final rule and the September 2004 ANPRM on EOBRs. Equally important, as noted previously, we considered several additional factors recommended by commenters to the ANPRM, including interoperability with other commercial motor vehicle intelligent transportation system (ITS) applications and the use of standardized file formats. The latter criteria are directly related to the factors discussed in the preamble of the April 2003 HOS final rule. Following is a discussion of the seven research factors with consideration of interoperability and standardized file formats.

##### Factor 1: Ability To Identify the Individual Driver

FMCSA proposes to correct an apparent gap in the existing AOBDR regulation. The current rule includes no explicit requirement for driver identification beyond requiring the driver's signature on hard copies of the record of duty status (§ 395.15(b)(5)). Commenters suggested a broad range of identification methods—PINs, removable smart cards, assignment of EOBR handsets to individual drivers, and biometric systems. FMCSA's proposed approach takes into consideration the operational realities of EOBR use, including potential cost or operational burdens upon drivers and motor carriers.

The NPRM includes a proposal for a requirement for driver identification, without prescribing a specific method. Motor carriers could use either data entry approaches, such as PINs or user ID and passwords, or methods such as smart cards that carry identifying information or biometrics. This proposed approach would allow motor carriers to use identification systems they may already employ in their fleet management systems, allow adoption without regulatory change of newer and possibly more secure technologies as they become feasible, and accommodate future use of credentials currently being developed for transportation workers.

Additionally, the EOBR would be required to display the driver's name or employee ID number, if applicable, on all EOBR records associated with that driver. This requirement would also apply when the driver serves as a co-driver.

##### Factor 2: Resistance to Tampering

The broad term "resistance to tampering" denotes that the EOBR and its support systems cannot be manipulated to produce inaccurate

information. The intent is to prevent tampering both at the input stage (for example, a driver enters a keystroke sequence and presses a reset button to erase the last 2 hours of data) and the output stage (for example, a motor carrier's central file server uses an algorithm to replace all driving time over the 11-hour limit with an "off-duty" status entry). Thus it encompasses EOBR certification and testing; self-diagnosis of failures in hardware, software, and communications; and in-service maintenance and calibration.

Because myriad possible methods exist to meet data integrity and auditability requirements, FMCSA proposes a performance-oriented, outcome-based regulation. The EOBR and associated support systems must be tamper resistant to the maximum extent practicable. They must not permit alteration or erasure of the original

information collected concerning the driver's hours of service, or alteration of the source data streams used to provide that information.

A RODS, whether in paper or electronic form, provides a record of the sequence of duty status events—date and time they began, date and time they ended, and location of each change of duty status. Although the 1988 final rule on AOBDRs (53 FR 38666, Sept. 30, 1988) offered one approach to generating an electronic record, it was limited by the recording and communications technologies that were state-of-the-practice at that time. Date, time, and driving status information had to be obtained from on-vehicle sources. Most of the requirements promulgated by the 1988 rule, found under § 395.15, are logical candidates for a proposed EOBR regulation. These include requirements concerning driver interaction with the AOBDR, tamper

resistance, ability to record duty status for each driver in a multiple-driver operation, and ability to identify sensor failures and edited data.

However, several of the § 395.15 requirements warrant revision. Rather than amending § 395.15, the NPRM proposes a new § 395.16. The proposed performance specifications in § 395.16 reflect the need for and expectation of a high degree of reliability in 21st century electronic devices and the data and information they record. For example, language concerning the device's ability to "identify sensor failures and edited data when reproduced in printed form" (as currently set forth in § 395.15(i)(7)) would be revised in proposed § 395.16(i)(2)–(5) to include electronic as well as paper output records. Table 2 compares the similarities and differences between the § 395.15 and § 395.16 requirements.

TABLE 2.—COMPARISON OF §§ 395.15 AND 395.16 REQUIREMENTS

[The twelve items listed below are contained in "Notice of interpretation; request for participation in pilot demonstration project," published by FHWA on April 6, 1998 (63 FR 16697 at 16698).]

49 CFR § 395.15	Proposed § 395.16
1 Sec. 395.15(a)(1) permits use of "Automatic on-board recording device" (OBR) as defined at 49 CFR 395.2: capable of recording driver's duty status accurately and automatically * * * must be integrally synchronized with specific CMV functions * * * must record engine use, road speed, miles driven (axle revolutions), date and time of day (internal clock).	The EOBR does not have to be integrally synchronized to the engine or other vehicle equipment. The EOBR does have to use GPS or other location tracking systems that record location at least once a minute; EOBRs could still use sources internal to the vehicle to record distance traveled and time. Requirement to record road speed is removed.
2 Sec. 395.15(b)(3) Support systems: Must provide information about on-board sensor failures and identify edited data.	Sec. 395.16(i)(6) Support systems: Must provide information about on-board sensor failures and identify edited data. Support systems must provide a file in the format specified in Appendix A of this part. The system must also be able to produce a copy of files on portable storage media (CD–RW, USB 2.0 drive) upon request of authorized safety assurance officials.
3 Sec. 395.15(f) Reconstruction of records of duty status: Drivers must note any failure of automatic OBRs and reconstruct records of duty status (RODS) for current day and past 7 days * * * must prepare handwritten RODs until device is operational.	Same requirement. See § 395.16(k)(2).
4 Sec. 395.15(h)(1) Submission of RODS: Driver must submit, electronically or by mail, to motor carrier, each RODS within 13 days following completion of each RODS.	Sec. 395.16(m)(1): Driver must submit electronically, to the employing motor carrier, each record of the driver's duty status. (2) For motor carriers not subject to the remedies provisions of part 385 of this chapter, each record must be submitted within 13 days of its completion. (3) For motor carriers subject to the remedies provisions of part 385 of this chapter, each record must be submitted within 3 days of its completion.
5 Sec. 395.15(h)(2): Driver must review and verify all entries are accurate before submission to motor carrier.	Same requirement. See Sec. 395.16(m)(4).
6 Sec. 395.15(h)(3): Submission of RODS certifies all entries are true and correct.	Same requirement. See Sec. 395.16(m)(5).
7 Sec. 395.15(i)(1): Motor carrier must obtain manufacturer's certificate that the design of OBR meets requirements.	Sec. 395.16(q)(2): The exterior faceplate of the EOBR must be marked by the manufacturer with the text "USDOT–EOBR" as evidence that the device has been tested and certified as meeting the performance requirements of § 395.16 and Appendix A of this part.
8 Sec. 395.15(i)(2): Duty status may be updated only when CMV is at rest, except when registering time crossing State boundary.	Sec. 395.16 (o)(1): The EOBR must permit the driver to enter information into the EOBR only when the commercial motor vehicle is at rest.
9 Sec. 395.15(i)(3): OBR and support systems must be, to the maximum extent practicable, tamperproof.	Sec. 395.16(o)(2) The EOBR and associated support systems must be, to the maximum extent practicable, tamperproof and not permit alteration or erasure of the original information collected concerning the driver's hours of service, or alteration of the source data streams used to provide that information.
10 Sec. 395.15(i)(4): OBR must warn driver visually and/or audibly the device has ceased to function.	Sec. 395.16(o)(6) The EOBR must warn the driver via an audible <i>and</i> visible signal that the device has ceased to function.

TABLE 2.—COMPARISON OF §§ 395.15 AND 395.16 REQUIREMENTS—Continued

[The twelve items listed below are contained in “Notice of interpretation; request for participation in pilot demonstration project,” published by FHWA on April 6, 1998 (63 FR 16697 at 16698).]

49 CFR § 395.15	Proposed § 395.16
11 Sec. 395.15(i)(7): OBR and support systems must identify sensor failures and edited data.	Sec. 395.16(o)(9) The EOBR device/system must identify sensor failures and edited and annotated data when downloaded.
12 Sec. 395.15(i)(8): OBR must be maintained and recalibrated in accordance with the manufacturer’s specifications.	Same requirement. See Sec. 395.16(p)(1) specifications.

*Integral synchronization.* The matter of integral synchronization is probably the most critical element of this rulemaking action, in the context of regulatory obstacles to the voluntary use of on-board recorders. Recent research and assessments indicate that devices providing frequent reports of location and time information, obtained from signals not under the direct control of the driver or carrier, have the ability to provide a record of equivalent or greater accuracy than data from an internal CMV data source. Therefore, although the requirement for integral synchronization with the CMV was fundamental to the definition of AOBRD in § 395.2, it would not apply to EOBRs. The proposed regulation would instead require accurate and frequent reporting of the CMV’s physical location, whether through a device installed on the CMV or one worn (as a cellular telephone might be) by the driver.

Unlike a conventional AOBRD (i.e., one meeting, but not going beyond, the definition in § 395.2), the EOBR specified in proposed § 395.16 would be required to autonomously record the CMV’s physical location at intervals no greater than once per minute. The EOBR could use GPS, terrestrial, inertial guidance, or a combination of methods to accomplish this. For a GPS-enabled EOBR or a cellular telephone, gaps in coverage can be expected to be brief—generally on the order of minutes. The EOBR record of distance traveled must be accurate to within 1 percent of actual distance traveled by the CMV within a 24-hour period. Furthermore, regardless of the communications mode—wireless or terrestrial—and the method used to synchronize the time and CMV-operation information into an electronic RODS, FMCSA would require the EOBR records to maintain and display duty status information (including distance traveled per day  $\pm$  1 percent) accurately and to maintain the integrity of that information.

This change serves two purposes. It frees EOBR developers from the necessity of connecting to the CMV, and it opens the door to more accurate recording of non-driving duty status categories. The proposed regulation

would not prohibit the use of internal (on-CMV) sources to record CMV distance traveled and time. An EOBR may still use sources internal to the vehicle, such as an ECM with internal clock/calendar, to derive distance traveled.

*Self-tests and self-monitoring.* Several commenters supported FMCSA’s consideration of a requirement for EOBRs to perform self-tests and self-monitoring, with the driver and dispatcher receiving notification of test failures. Many commenters also indicated that verification by a roadside safety official or FMCSA compliance officer would be a very simple process. Taking these concerns into account, FMCSA proposes that EOBRs be capable of performing a power-on self-test upon demand. The display screen must provide an audible and/or visual signal as to its functional status. The EOBR would also be required to warn the driver by visual and audible means that it has ceased to function, and to record a code corresponding to the reason for cessation and the date and time of that event.

FMCSA proposes maintenance and recalibration requirements similar to those currently provided for AOBRDs under § 395.15(i)(8): “The on-board recording device is maintained and recalibrated in accordance with the manufacturer’s specifications.” We propose to broaden this requirement only slightly by requiring that the EOBR record malfunction events and that the motor carrier retain EOBR recalibration and repair records.

Although today’s electronic devices are generally highly reliable, they do occasionally malfunction. As with many electronic devices, losing access to an EOBR can present a range of operational and recordkeeping challenges for drivers and motor carriers. While commenters agreed that the driver should be allowed until the “next reasonable opportunity” to repair or replace a defective EOBR, they defined a “reasonable” period as anywhere from 13 to 90 days. FMCSA must strike a balance between requiring timely repair or replacement of an EOBR and imposing requirements that could place

a driver in an unworkable position. Therefore, we propose to require that drivers keep handwritten RODS until the EOBR is replaced or repaired. In addition, motor carriers using EOBRs under the proposed “Remedies” provision (see discussion below) would be required to repair or replace a malfunctioning EOBR within 14 days. We believe this would not place an unreasonable burden on motor carriers or drivers.

*EOBR certification.* At issue is how motor carriers and FMCSA would ensure EOBRs meet the specifications set forth in regulation. The basic choices are self-certification by manufacturers—the status quo—or independent certification by FMCSA or a third party.

Commenters were divided between the alternatives of continuing to allow self-certification and a move to testing and certification by FMCSA, possibly in conjunction with NHTSA, CVSA, and other agencies or organizations. Many commenters, particularly motor carriers, supported the idea of a list of “approved” devices, while recommending against the type-certification process used by the European Union for the new electronic tachographs (the EU standard is highly design specific and prescriptive, and several commenters believe it would be too complex and costly to implement).

FMCSA proposes to continue allowing manufacturers to self-certify EOBRs (as they have with AOBRDs), to provide assurance to their motor carrier clients that the EOBR and support systems have been sufficiently tested, under representative conditions, to meet the requirements of the FMCSRs. EOBR manufacturers would be required to ensure their devices and support systems meet or exceed the set of performance criteria presented in proposed new § 395.16 and Appendix A of this NPRM. Under this self-certification program, the EOBR manufacturer would certify the device conforms with certain pass/fail criteria including:

- Accuracy of recording of CMV distance traveled
- Frequency of recording location position



- Output display requirements
- Data interface requirements for hardwired and wireless transfer
- Data file format requirements
- Power-on self-test
- Ambient temperature functional limits
- Vibration and shock requirements
- Operator safety requirements

FMCSA believes this approach would provide improved guidance to EOBR manufacturers regarding the Agency's expectations for device performance. It would address motor carriers' and safety compliance officials' concerns about whether an EOBR had indeed been tested for regulatory compliance, and whether it passed the tests.

#### Factor 3: Ability To Produce Records for Audit

FMCSA acknowledges drivers' and motor carriers' comments that the current blanket prohibition against amending AOBDR records places unnecessary operational obstacles to wider adoption of electronic HOS recording devices. The proposed regulation would allow drivers to amend a non-driving record immediately before and after a trip or workday. This would provide operational flexibility to drivers to correct duty status errors arising because the driver forgot to log out of the system. The limitation would prevent attempts at amendments to "update" the EOBR record in anticipation of a roadside inspection. FMCSA recognizes this proposal significantly changes the status quo and places responsibility on EOBR designers to safeguard against fraudulent entries.

FMCSA agrees with commenters that some type of audit trail is useful and necessary. Although various elements of § 395.15 speak indirectly to auditability of AOBDR records, we believe the requirement needs to be strengthened. Therefore, we propose to require "parallel data streams" (sequences of original and modified data entries) to clearly indicate the content of original records, any revisions and amendments to the records, the identities of people who entered and revised or amended data, and when the original entries and amendments were made.

**Recording interval:** In order to specify an appropriate interval for an EOBR to record information, we must consider the way the information is to be used, not simply the capabilities of the various technologies to sense and record it.

Historically, CMV drivers have been required to record information on the RODS graph-grid in 15-minute increments and to note shorter periods

(less than 15 minutes) in the "Remarks" section of the document. A series of rounding errors—deliberate or otherwise—could easily result in errors of several hours of duty time over the course of a long trip. Drivers have been required to record location only when there is a *change* in duty status. This has the effect of increasing the complexity and time needed for a motor carrier or enforcement official reviewing the records to reconstruct a trip to determine compliance, particularly if the supporting documents are incomplete or missing.

The current definition of AOBDR at 49 CFR 395.2 states: "The device must be integrally synchronized with specific operations of the commercial motor vehicle in which it is installed. At a minimum, the device must record engine use, road speed, miles driven \* \* \*." When the regulation was published, it was necessary to include this requirement because integral synchronization and engine information were essential to enable verification of when a driver was in an on-duty driving status. Since that time, advances in object-location technologies and communication of location information are such that it may no longer be necessary to require integral synchronization.

However, in order to ensure that time and travel distance information is recorded accurately, the vehicle location information must be recorded at frequent intervals. The longer the recording interval, the less accurate the travel distance information, simply because the location will be computed as a straight line between points. On June 10, 1998, Werner Enterprises entered into a Memorandum of Understanding (MOU) with the agency to use GPS technology and related safety management computer systems as an alternative to handwritten driver RODS. Over the course of the pilot demonstration project, FMCSA conducted onsite reviews and investigated a complaint. FMCSA's reviews confirmed that the inability of Werner's original electronic logging system to accurately measure distance traveled and average speed was caused not by any limitations of GPS positioning but rather by the infrequent updates of vehicle position being recorded by the system. In March 2002, Werner and FMCSA entered into a revised MOU to amend the terms of the June 1998 agreement. FMCSA granted Werner a 2-year exemption in September 2004 to allow the carrier to continue to use its system. The Agency renewed the exemption for another 2-year period in September 2006 (71 FR

52846, Sept. 7, 2006). The terms and conditions of the exemption are described in that notice at FMCSA Docket No. 2003-15818.

The key concern is that travel distance—and the associated driving time—be recorded and reported at a level of accuracy appropriate to ensure HOS compliance. Specifically, it is critical that the device not "undercount" distance (or the associated travel time) because that could mask HOS violations. By the same token, an "overcount" of distance traveled could suggest HOS violations where none exist. FMCSA proposes to require that the difference between actual distance traveled and distance per day (i.e., a 24-hour period) computed via location-tracking methods be  $\pm 1$  percent, with a 1-minute interval for the EOBR to record location data. FMCSA believes this will keep the technology affordable for motor carriers while still providing an appropriate level of accuracy for location-based verification of RODS.

FMCSA requests comments on the technical requirements and associated costs of recording CMV location across a range of time intervals (1, 3, and 5 minutes) and accuracies (1, 3, and 5 percent).

The Agency stresses that it is not the intent of the NPRM to require the EOBR to transmit location information from the device (or the CMV in which it is used) to a tracking system maintained by a motor carrier or another party working on a motor carrier's behalf. We recognize that although there are no operational costs to receive satellite-generated location information (such as from the GPS array), transmitting that information from the EOBR to another location would entail costs. Because FMCSA does not propose to require the EOBR to transmit information at specific intervals to the motor carrier or anyone else, the location update intervals would not increase the cost of the EOBR or affect how it is used. The update intervals are simply a matter of programming or menu selection for the device.

FMCSA requests comments on the question of transmitting location information from the EOBR to the motor carrier.

#### Factor 4: Ability of Roadside Enforcement Personnel To Access the HOS Information Quickly and Easily

**Data presentation (display) format.** The presentation requirements for HOS data on an AOBDR are fundamentally different from those for paper RODS: AOBDRs do not require the familiar graph-grid output format, and devices

lacking electronic displays have no output presentation. This presents a challenge to roadside safety officials. Most commenters supported a standardized, simple EOBR display format showing the current driver-related status and highlighting any noncompliance.

The data file format for an output display must facilitate review by roadside safety officials using handheld computers. The current regulation requires only a hardware interface between the AOBRD and the motor carrier's back-office system. Some commenters believe the current hardware standard (RS-232) for serial communications is outdated. Others maintained that manufacturers should develop data interchange standards. Still others pointed to the wide range of standard data interchange methods available (e.g., USB) but emphasized the importance of having standardized data formats and communications protocols.

FMCSA's proposed performance-based approach to standards for EOBRs would provide several options for information transfer and display. EOBRs would be required to produce upon demand a driver's HOS chart using a graph-grid format in either electronic or printed form and a digital file in a flat file using a specified format. The graph grid and digital file must show the time and sequence of duty status changes including the driver's starting time at the beginning of each day.

The option for providing the RODS data via a flat file would serve two purposes. It would allow the use of smaller and less costly electronic displays on the EOBR itself and also permit the data to be transferred to a safety official's laptop computer, PDA, or similar device.

With respect to options for hardwired and wireless data transfer methods, the Agency's intent is to allow only a one-way transfer—the enforcement official's computer would not transfer data to the EOBR. In addition, the use of a standard file format for EOBR data transfer could permit an extra layer of motor carrier compliance verification through automated screening of the records. A standard file format could also reduce the cost of EOBRs and support systems, particularly for small motor carriers using desktop-computer-based back-office recordkeeping systems. The reduction in support system costs would flow from the “few to many” relationship between the back-office systems and EOBRs; according to some industry estimates, there are more than 400,000 EOBRs and “EOBR-ready” devices in use today. This same equation holds for the motor carrier

safety compliance assurance community—there are perhaps 10,000 laptops and handheld computers in use by FMCSA and State commercial vehicle safety officials today.

In addition to requiring the graph-grid and flat file output of the full record on a 24-hour basis, the proposed rule requires duty status summary information similar to that currently required under § 395.15(i)(5). This information would immediately indicate to the enforcement official whether a more detailed review of the records might be appropriate.

Reportedly, many safety enforcement officials are apprehensive about entering the cab of a commercial motor vehicle to check HOS records on an AOBRD. They perceive their physical presence in the driver's workspace as being potentially unsafe. To address this concern, FMCSA proposes to require that information displayed and stored on the EOBR be made accessible to authorized Federal, State, or local enforcement officials for review without the official's having to enter the CMV. This proposed requirement could be met in a variety of ways—by using various hardwired and wireless communications methods; by copying the EOBR information to removable media and handing the media to the official; or by simply handing the EOBR to the official.

#### Factor 5: Level of Protection Afforded Other Personal, Operational, or Proprietary Information

The existing information collection requirements for paper RODS and AOBRDs, as well as those proposed for EOBRs, are intended to produce an accurate HOS record. The record must accurately disclose the amount of time the driver spends in each of the four duty status categories, the date, and the location of each change of duty status. The information is recorded and reviewed by FMCSA and its government Agency partners to determine compliance with the HOS requirements of part 395. Location information is limited to city and State, the level of detail required to enable reconstruction of the sequence of events for compliance-assurance purposes. The level of detail that would be required for EOBR records is the same as for paper RODS.

As discussed under Factor 1, driver identification requirements would be geared to verification of the driver's identity on an HOS record. This rulemaking would not require disclosure of a driver's proprietary information.

*Other uses for data.* Drivers and motor carriers opposing an EOBR mandate also expressed concerns about the potential for “scope creep”—collection by EOBRs of data for use in enforcement and litigation actions unrelated to hours-of-service compliance. It is FMCSA's intent that the data recorded on EOBRs and support systems, and the information derived from those data, relate solely to compliance with the HOS regulations. The data requirements are therefore limited, and the technological challenges of collecting, recording, and retaining the data on the EOBR and support systems are generally well known and are met by many manufacturers. As discussed in the Agency's response to comments about the development of a “basic” EOBR to promote increased carrier acceptance, one reason for proposing to eliminate the requirement for recording road speed is that § 392.6, Schedules to conform with speed limits, addresses road speed in a broader safety context. Notwithstanding these deliberate measures to narrow the scope of today's rule, FMCSA reserves the right to adopt enforcement policies and practices to take advantage of continuing technological advances. Any future proposals to use EOBRs or other electronic monitoring for enforcement, compliance, or other Agency purposes will be evaluated on their merits.

We recognize industry concerns regarding the potential use of electronic monitoring data in litigation. For the Agency to withhold such data in response to a Freedom of Information Act request, a court order, or another legal process, however, would require statutory amendments. FMCSA emphasizes that, under the proposal, the vast majority of motor carriers would have full discretion as to whether to use EOBRs that comply with proposed § 395.16 (or AOBRDs compliant with § 395.15) or to continue using paper RODS. Only those motor carriers with significant and recurring HOS noncompliance would be required to install and use EOBRs.

*Data security of EOBRs.* The September 2005 Volpe Center report, *Recommendations Regarding the Use Of Electronic On-Board Recorders (EOBRs) for Reporting Hours of Service (HOS)* and the July 2005 National Institute of Standards and Technology (NIST) report, *Technical Review and Assessment: Recommendations Regarding the Use of Electronic On-Board Recorders (EOBRs) for Reporting Hours of Service (HOS)*, address data security in terms of physical security for portable storage media devices and data security for the RODS information.

As discussed in the NIST report, although data stored on the portable media are not encrypted, they are written in binary code. This non-text format renders the data unintelligible to a person attempting to view or edit the log file using a personal computer with a text editor. This approach offers an improved level of data tampering protection. If text files are used, they can be made “read only” to prevent alteration except by authorized personnel. This would allow drivers to review their logs, but not to alter them.

Finally, NIST noted that although encryption provides a high level of privacy and security, the technologies involved can be complex and costly to administer. NIST’s assessment is that data security, rather than privacy of personal information, is probably the principal concern. Thus, data encryption may provide a higher level of security than that required for RODS applications. FMCSA agrees with this assessment and therefore is not proposing use of encryption for EOBR data for wired data transfers between EOBRs and roadside enforcement computers, or between motor carrier back-office systems and safety enforcement computers during CRs.

However, for wireless data transfers between EOBRs and roadside enforcement computers via Bluetooth or Institute of Electrical and Electronics Engineers, Inc. (IEEE) 802.11g “Wi-Fi” standards, FMCSA plans to specify a standard for data security and encryption. We have not identified an optimal standard, and request comments on which existing industry standards for data security and encryption should be required to cost-effectively prevent the hacking of both EOBRs and roadside enforcement computers. Such attacks would include unauthorized access to data and device functions as well as denial of service.

*EOBRs and privacy.* This NPRM does not change the treatment of HOS records with respect to privacy matters. FMCSA’s predecessor agencies have had the authority to review drivers’ and motor carriers’ documents since 1937, when the first HOS regulations were promulgated (3 MCC 665, Dec. 29, 1937; 3 FR 7, Jan. 4, 1938).

From the Motor Carrier Act of 1935 onward, Congress has recognized the Federal Government’s interest in providing a higher level of safety oversight to CMV drivers than to drivers of other motor vehicles. CMV driver licensing, assessment of physical qualifications, training, and performance of driving and other safety-sensitive duties are subject to Federal regulation. The regulations also require

records to document the results of various types of assessments (such as a driver’s physical qualifications) and compliance with regulations concerning CMV operations (such as a RODS to document HOS).

FMCSA’s commitment to promoting highway safety and preventing crashes involving CMVs is compatible with requiring records to determine the number of hours CMV drivers drive, are on duty, are off duty, or are using a sleeper berth, and the location of changes in duty status. Except in the context of an investigation of a crash or a complaint of alleged FMCSR violations, when the Agency might inquire into off-duty time to learn if a driver was working for another motor carrier or performing other work during an alleged off-duty period, FMCSA generally does not inquire into a driver’s off-duty activities. The Agency’s interest in records of duty status that identify the date, time, and location at each change of duty status is based on its need to reconstruct the sequence of events for trips to determine compliance with the HOS regulations, including whether the driver was afforded an off-duty period and had the opportunity to obtain restorative sleep. If during this enforcement process FMCSA found evidence of vehicle activity during a claimed off-duty period, we would inquire further to establish the veracity of the RODS.

Finally, as stated in the September 2004 ANPRM (69 FR 53386, at 53392, Sept. 1, 2004) and reiterated under *Audit Trail/Event Log* in this NPRM preamble, the Agency recognizes that the need for a verifiable EOBR audit trail—a detailed set of records to verify time and physical location data for a particular CMV—must be counterbalanced by privacy considerations. See also the discussion on FMCSA’s Privacy Impact Assessment later in this preamble.

#### Factor 6: Cost

The ANPRM requested public comments on development of requirements for a “basic” EOBR to promote increased motor carrier acceptance of the technology. At issue was whether the Agency should propose requirements for “minimally compliant” EOBRs that would provide the electronic-data equivalent of an accurate RODS yet be more affordable for small motor carriers and independent drivers (69 FR 53386, at 53394); propose a performance-based specification in the spirit of § 395.15; or propose a detailed design specification similar to the European Union 2135/98

requirement for electronic tachographs and their support systems.

FMCSA proposes a single set of performance-based specifications for EOBRs under a new § 395.16. This has the advantage of being simpler and more straightforward for motor carriers to use, for manufacturers and system providers to develop, and for safety officials to enforce. It would promote the use of advanced technologies as they become more affordable and appropriate for motor carrier applications.

Several of the proposed performance requirements discussed earlier—such as the removal of the “integral synchronization” requirement and substitution of a requirement for accuracy of information on distance traveled by the CMV, the requirement for flat-file output, and the provision to allow communications via several alternative hardwired and wireless methods—have in common the potential to decrease the cost of EOBRs. The proposed elimination of the integral synchronization requirement opens the door to using a large variety of commercial off-the-shelf telecommunications devices as the EOBR, for a significant reduction in EOBR hardware costs. Another potential change in performance requirements would be the elimination of any requirement for the EOBR to accept keyboard input for State border crossing information. This AOBDR requirement, which facilitated motor carriers’ compliance with fuel tax reporting procedures, reflected a design feature common to 1980s-era recorders. FMCSA does not propose to remove from § 395.15 the requirements for integral synchronization, for recording of State border crossing information, and for the capability to transfer data to a “back-office” system.

Under this NPRM, motor carriers now using AOBDRs compliant with § 395.15 would not be required to invest in § 395.16-compliant EOBRs. These carriers could continue to use the AOBDRs for the life of the CMVs in which they are installed. Any devices used for recording HOS installed or used in CMVs manufactured on or after 2 years following the effective date of an EOBR final rule would be required to comply with the new requirements.

#### Factor 7: Driver Acceptability

Drivers’ comments to the ANPRM docket (as well as to the dockets of the 2000 NPRM on hours of service, the 2003 HOS final rule, and the 2005 HOS NPRM and final rule) reflect mixed feelings about EOBRs. Some drivers appreciate that use of these devices can significantly reduce the time and effort

of preparing and filing paper RODS. They also value the accurate and timely duty status information an EOBR provides the motor carrier, which removes an incentive for a dispatcher to ask a driver to drive longer or take less off-duty time than the regulations require. Other drivers view the prospect of using an EOBR as an unwanted and unwarranted intrusion. These drivers value their independence and self-reliance, and resent the notion of oversight by their supervisors or Government authorities.

In August 1995, FHWA conducted a survey of truck and motorcoach drivers to gauge potential acceptance of commercial vehicle operations (CVO) user services (*User Acceptance of Commercial Vehicle Operations Services, Task B Final Report, Penn and Schoen Associates, Inc., August 8, 1995*). On the whole, commercial vehicle drivers were receptive to and supportive of the use of CVO technologies and user services on the road and in their vehicles. Technologies garnering the most support were seen by survey respondents as having the potential to "make my work easier," be "useful for me," and " \* \* \* work [in my vehicle]/I would rely on it." See page 9 of the report.

At the same time, drivers expressed concern that certain of the technologies would constitute an invasion of driver privacy by either the government or the driver's company. Another concern was that the systems would rely too much on computers and diminish the role of human judgment. Drivers were wary of services that might overpromise, leaving them dependent on unproven technology. They wanted systems that would be consistently reliable, workable, and useful yet pose no threat to the driver, his vehicles, his privacy, or his livelihood.

On the whole, drivers tended to evaluate the commercial vehicle operations services from the perspective of personal experience rather than focusing on the industry as a whole. For example, independent owner-operators, who have historically been more skeptical of technology and wary of intrusion by either the government or trucking companies, reacted more negatively toward the technologies than did other drivers.

A second study, required by Congress under the Fiscal Year 1995 U.S. Department of Transportation Appropriations Act, assessed technological, economic, and institutional factors requiring consideration if smart-card applications were to be implemented. The study found that smart-card applications were

feasible for driver's licenses, operations- and maintenance-oriented vehicle cards, and electronic toll collection, but not for international border crossing (telecommunications protocols were already in place) and drivers' records of duty status. The researchers noted the lack of a requirement for motor carriers to automate the RODS, and believed "any proposed regulation specifying the use of smart cards would almost certainly encounter fierce opposition." (*Smart Cards in Commercial Vehicle Operations* [Report FHWA-MC-97-022, Dec. 1996], page 51).

It is clear that any type of technological innovation must be introduced in a forthright way. Users must be aware of the technology and understand the HOS regulations with which they must comply. Users must be provided appropriate training, and the technology should not distract them from their primary tasks. For most motor carriers, the decision to use EOBRs (or AOBRDs) would continue to be voluntary under the proposed rules. Motor carriers operating in compliance with the HOS regulations may continue to choose between paper or automated RODS systems, according to what works best for them and their drivers. Only those motor carriers demonstrating recurrent, significant noncompliance with the HOS regulations would be required to use EOBRs. However, all drivers used by those carriers would be required to operate vehicles equipped with EOBRs.

FMCSA believes the EOBR remedial provisions must, to be effective, apply to carriers using owner-operators and to the owner-operators' equipment. We recognize that a carrier leasing equipment from owner-operators could argue that those CMVs are outside the scope of the remedial provisions because ownership remains in control of the lessor, and the carrier has no control over whether the owner-operator installs the equipment. However, 49 CFR 376.12(c)(1) requires a motor carrier using leased equipment to assume "exclusive possession, control, and use of the equipment" for the duration of the lease. Therefore, FMCSA proposes that the remedial directive apply to all vehicles used by the carrier to perform transportation services on the carrier's behalf. If a motor carrier is issued an EOBR remedial directive, then it must install (or have installed) EOBRs in all vehicles it uses. Owner-operator vehicles leased to such a remediated carrier would be required to have EOBRs installed even if the owner-operator holds separate operating authority. Before leasing to a particular carrier, an owner-operator should ask

the carrier whether it is operating under an EOBR remedial directive.

As discussed elsewhere in this notice, FMCSA proposes to encourage motor carriers, and owner-operators leased to motor carriers, to consider using EOBRs by offering incentives in the form of an alternative process of reviewing HOS records. In addition, the performance specifications under proposed § 395.16 include a number of enhancements that take advantage of the significant advances in monitoring, recording, and communications technologies since the § 395.15 requirements were developed. These features should improve the usefulness of EOBRs to drivers.

We are proposing that an EOBR be required to provide an audible and visible signal to the driver at least 30 minutes in advance of reaching the driving time limit and the on-duty limit for the 24-hour period. EOBRs would also be required to provide an audible and visible signal to the driver at least 30 minutes in advance of reaching the 60/70-hour limits for on-duty time. The visual signal must be visible to the driver when seated in the normal driving position. The audible signal must be capable of being heard and discerned by the driver when seated in the normal driving position, whether the CMV is in motion or parked with the engine operating.

FMCSA acknowledges there is room to improve the accuracy of recording non-driving duty status categories. Comments to the docket by several EOBR manufacturers suggested methods for noting on-duty not-driving status. Generally, these required a driver to annotate the record or to select a different duty status if on-duty not-driving was not appropriate. FMCSA proposes that EOBRs be required to select on-duty not-driving as the default status when the vehicle is not moving for a certain period of time. The EOBR would also advise the driver via audible and visible means to enter a new duty status when the transmission is placed in park, the parking brake is engaged, or the ignition is turned off. The driver would still need to enter the duty status on the EOBR manually if his or her duty status differed from the on-duty not-driving default setting. We believe this requirement would reduce direct driver interaction with the EOBR, as recommended in comments provided by the IBT and advocacy organizations. Although some commenters recommended FMCSA mandate EOBRs that would record duty status categories accurately without driver-EOBR interaction, FMCSA is not aware of any such devices in the commercial marketplace at this time. We request

public comment on the availability of such devices in the near future.

This NPRM also includes a provision requiring an EOBR to provide for the driver's review of each day's record before submitting it to the motor carrier. As noted previously, the driver would be allowed at that time to make annotations and amendments to the electronic RODS, but not to amend driving-status information. The EOBR must be designed so that if a driver or any other person annotates a record in the device or a support system for the device, the annotation does not overwrite the original contents of the record. This would preserve the auditability of EOBR records.

#### B. Remedies

FMCSA, based on its safety research, believes that motor carriers whose drivers routinely exceed HOS limits or falsify their HOS records have an increased probability of involvement in fatigue-related crashes and therefore present a disproportionately high risk to highway safety. Based on the Agency's analysis of its Motor Carrier Management Information System (MCMIS) data from CRs conducted since 1995 on motor carriers operating in interstate commerce, carriers to which a remedial directive would apply under this proposal have crash rates that are 87 percent higher than average.

FMCSA selects motor carriers to undergo CRs based in part on data generated during roadside inspections. FMCSA and enforcement personnel in States receiving Motor Carrier Safety Assistance Program funds under 49 U.S.C. 31102 enforce motor carrier HOS rules through roadside inspections and CRs. Unlike CRs, which usually are conducted at a carrier's principal place of business, roadside inspections are performed at a fixed or mobile roadside facility. Inspectors may perform any of six categories, or levels, of inspection. Level I, II, and III inspections include examination of the driver's HOS compliance, commercial driver's license, medical certification, and hazardous materials (HM) requirements. Level I and II inspections include additional factors such as examination of parts and accessories necessary for safe operation, motor carrier operating authority and financial responsibility, and applicable HM inspection items. These roadside inspections are intended to assess the compliance of a company's motor vehicles and drivers with FMCSA safety, economic, and hazardous materials regulations. Where certain serious violations are discovered, the driver or vehicle may be placed out of service.

In prioritizing among carriers for CRs, FMCSA investigators consider a number of factors, including whether the carrier has crash involvement, the carrier's vehicle and driver out-of-service rates, Safety Status (SafeStat) information system results, the date and result of the previous CR, non-frivolous complaints the Agency has received concerning the carrier, and whether the carrier is seeking an upgrade to its existing safety rating. During CRs, FMCSA or State safety investigators examine in detail the motor carrier's compliance with all applicable safety regulations.

In examining HOS records during CRs, safety investigators look at samples of drivers' RODS, checking for violations, accuracy, and completeness. It is worthwhile to note that FMCSA's method of selecting records during the course of a CR has withstood a judicial challenge. *American Trucking Ass'n v. Department of Transportation*, 166 F. 3d 374 (D.C. Cir. 1999). In its decision, the court recognized the distinctive character of HOS regulations and held that the Agency had acted rationally in assigning two points within its Safety Fitness Rating Methodology (SFRM) scheme—a double weighting—for a pattern of HOS violations. The court stressed the importance of controlling driver fatigue and the fact that the HOS regulations are the only ones dealing with driver fatigue. These same patterns of HOS violations are the focus of the EOBR remedial directives proposed in this NPRM.

During that portion of the CR involving HOS records review, safety investigators use uniform sampling standards including the number of drivers to be reviewed, the minimum number of RODS to be checked, and other factors designed to focus the investigation on areas where there has been probable noncompliance. The number of drivers whose RODS are checked varies depending on the size of the carrier (e.g., 0–5 drivers, all drivers' logs; 6–10 drivers, 5 drivers' logs; 16–50 drivers, 7 drivers' logs; etc.). The minimum number of RODS reviewed for part 395 violations also depends on the carrier's driver population (e.g., 1–5 drivers, 30 × number of drivers; 6–15 drivers, 150 RODS reviewed; 6–15 drivers, 210 RODS reviewed). Investigators generally look at RODS for the 6-month period prior to the CR.

The investigator prepares a CR report for the motor carrier documenting the sample size used, the number of records reviewed, and the number of violations discovered under part 395. If the violation rate for any "critical" part 395 regulation (see 49 CFR Part 385 App. B § VII) is equal to or greater than 10

percent, this pattern of noncompliance will potentially affect the carrier's safety rating.

Traditionally, the Agency has relied on two of its regulatory powers to deter HOS violations and obtain motor carrier compliance: (i) The issuance of civil penalties under 49 U.S.C. 521(b) followed by enforcement proceedings under 49 CFR Part 386; and (ii) the issuance of proposed or final "unsatisfactory" or "conditional" safety ratings under 49 CFR Part 385. Motor carrier records examined during Agency CRs, however, indicate that some motor carriers routinely violate the HOS regulations despite the Agency's use of these enforcement and compliance tools. Incidents of log falsification continue to be a significant concern, and civil penalties in particular have come to be viewed by some carriers—particularly those with significant and repeated HOS violations—less as a deterrent than simply as a cost of doing business. FMCSA therefore concludes that additional regulatory measures are needed to improve HOS compliance of certain motor carriers.<sup>4</sup>

#### Proposed Trigger for Remedial Directives

FMCSA proposes that the trigger for an EOBR notice of remedial directive and proposed unfitness determination be the "final determination" of one or more pattern violations of any Appendix C regulation, followed by the discovery of one or more pattern violations of any Appendix C regulation during a CR completed in the 2-year period subsequent to the closing date of the CR that resulted in the first final determination. A "pattern violation," for purposes of the remedial directive, is defined with respect to Appendix C regulations as a violation rate equal to or greater than 10 percent of the records reviewed. For example, 25 violations out of 100 records reviewed would represent a 25 percent violation rate and therefore constitute a pattern violation.

If the motor carrier failed to install and use the EOBRs, it would be prohibited from operating in interstate commerce and intrastate operations affecting interstate commerce. Further, if the motor carrier were a for-hire carrier, it would have its registration revoked.

<sup>4</sup>In addition to drawing upon the expertise of FMCSA enforcement and compliance personnel, the Agency solicited and received input from State enforcement officials regarding mandatory EOBR installation for carriers with poor HOS compliance. Representatives from the Nebraska and Washington State Patrols and the Connecticut Department of Motor Vehicles served as members of the Agency's EOBR rulemaking team.

The mandatory EOBR installation period would be for 2 years following issuance of the remedial directive. The two CRs need not be consecutive, so long as they occur within the relevant 2-year period. For the purpose of the remedial directive, FMCSA would focus only on part 395 HOS violations where noncompliance relates to management and/or operational controls. These are indicative of breakdowns in a motor carrier's safety management controls and considered relevant to the proposed remedial provisions. All violation calculations would be based on, and all proposed remedial directives would apply to, *motor carriers* rather than to individual drivers.

The proposed EOBR remedial directive would be reserved for carriers whose safety management controls are seriously deficient. FMCSA bases its EOBR proposal on the Agency's authority under 49 U.S.C. 31144 to determine motor carrier safety fitness. This invocation of the Agency's safety fitness authority is in keeping with FMCSA's Comprehensive Safety Analysis 2010 (CSA 2010), a reform initiative launched in 2004. The ultimate goal of CSA 2010 is development of an optimal operational model that will allow FMCSA to focus its limited resources on improving poor safety performers. For more information about CSA 2010, visit <http://www.fmsca.dot.gov/safety-security/safety-initiatives/csa2010listening.htm>.

This proposal thus focuses on HOS violations where noncompliance relates to management and/or operational controls. Violations of only those regulations listed in proposed new Appendix C to Part 385 will be counted toward issuance of a remedial directive and proposed unfitness determination or a notice of potential remedial directive applicability (NPRDA). The Appendix C regulations consist of all the part 395 regulations that currently appear in Part 385 Appendix B, section VII. These 24 provisions, which also are classified as "critical" regulations under the current rules, are the HOS violations that FMCSA has determined reflect deficiencies in safety management or operational controls. (See Part 385, App. B, II(c); 62 FR 60035 at 60044, Nov. 6, 1997.) They are therefore well suited to use as part of the EOBR remedial directives trigger. In order to allow maximum flexibility for the work of the CSA 2010 initiative noted previously, however, the Agency is proposing to duplicate and house these 24 regulations in a separate Appendix C. FMCSA intends this approach to permit a significant future revision of the Agency's acute and critical regulatory

scheme, if such a change is deemed appropriate, without necessitating an additional rulemaking change to the EOBR remedial directives provisions.

In addition, rather than focusing on single violations, FMCSA is looking for patterns of noncompliance. The focus on these violations as a basis for EOBR remedial directives is consistent with the current safety fitness determination process and logically related to the structure of current part 385. This management and control aspect is an appropriate focus for the EOBR remedial program because patterns of noncompliance with these types of regulations are linked to inadequate safety management controls and higher than average crash rates. As stated in Part 385, App. B II(e), "FMCSA has used patterns of noncompliance with safety management-related regulations since 1989 to determine motor carriers' adherence to the Safety fitness standard in § 385.5."

Where a number of documents are reviewed, as with the HOS component of the CR, a pattern of noncompliance can be established when at least 10 percent of the documents examined reflect a violation of any regulation listed in Appendix C to Part 385. FMCSA believes that motor carriers with effective safety management controls should be able to maintain a noncompliance rate of less than 10 percent for the Appendix C regulations.

FMCSA emphasizes that issuance of a remedial directive would not preclude the Agency from also imposing appropriate civil penalties on the carrier for HOS violations, just as all motor carriers would continue to be subject to civil penalties for HOS violations that do not rise to the level of a "pattern." Likewise, the Agency's civil penalty policy under section 222 of the Motor Carrier Safety Improvement Act of 1999 (Pub. L. 105-159, 113 Stat. 1748) (MCSIA) would remain in effect for all carriers. Under this policy, as explained in "Section 222 of the Motor Carrier Safety Improvement Act of 1999; Clarification of Agency Policy Statement" (69 FR 77828, Dec. 28, 2004), the Agency imposes a maximum civil penalty on motor carriers committing three violations of the same regulatory part within 6 years. In proposing a shorter, 2-year period during which discovery of one or more pattern violations by the carrier would trigger a remedial directive, FMCSA intends to supplement, rather than negate, the Agency's civil penalty policy under MCSIA section 222.

The proposed remedial directives are predicated on pattern violations of Appendix C regulations discovered

during CRs by FMCSA or State safety investigators. FMCSA considered, but rejected, approaches for a remedial directives trigger based on roadside inspections or other non-CR procedures. Far more roadside inspections than CRs are performed, and these inspections generate a significant volume of HOS compliance data. However, certain of the Agency's algorithms using these data, such as the Driver Safety Evaluation Area (SEA) component of SafeStat scores, incorporate both HOS and some non-HOS violations, such as commercial driver's license violations. In addition, roadside inspections are designed to determine the safety status of a driver or vehicle at a given point in time, not to provide, on the basis of a single examination, a broad assessment of a motor carrier's general operations and safety management controls.

CRs, by contrast, are indeed intended to provide a broad assessment of a motor carrier's general operations and safety management controls. They are ordinarily conducted at a motor carrier's place of business, involve larger samples of records, examine multiple vehicles and drivers' RODS, and typically produce a series of violation findings. Motor carrier safety ratings, as calculated under the SFRM, are based largely on CR data. Given the potential for an EOBR remedial directive to place a serious financial burden on a motor carrier, we believe such a directive should be issued only on the basis of the broad scope of operational examination and extensive record review inherent to the CR process. Although the Agency will continue to compile and use non-CR data as in the past and may consider cumulative roadside data in the future, FMCSA is proposing to use only CR-based violations as direct grounds for issuance of EOBR remedial directives.<sup>5</sup>

Additionally, the Agency proposes not to issue a remedial directive until after the motor carrier has committed a pattern violation of an Appendix C regulation twice within a 2-year period. FMCSA considered the option of imposing the EOBR remedial directive after a single 10 percent violation but rejected this alternative because the Agency believes public safety is best served by placing its focus on repeat violators of Appendix C regulations. The vast majority of motor carriers strive to comply with the HOS regulations. The selected, "2 x 10" approach would allow the Agency to strengthen its safety oversight yet avoid

<sup>5</sup> The Agency would continue to capture and make use of this valuable roadside input indirectly by using SafeStat results as a basis for selecting carriers for CRs.

penalizing carriers that demonstrate overall compliance with the HOS rules.

As noted earlier, FMCSA is aware of the potential financial burden the EOBR remedy may place on some motor carriers. By requiring a second "strike," we intend to afford carriers fair warning and an opportunity to adopt new or additional safety management steps, if that is their choice, to improve their HOS compliance and possibly avoid receiving a remedial directive. The two-strike approach is also intended to work in tandem with the proposed EOBR incentives by encouraging carriers to install EOBRs voluntarily following the first final determination that a pattern violation of an Appendix C regulation has occurred.

The Agency also considered, but rejected, a proposal to raise the threshold pattern violation rate for Appendix C regulations to 20 percent. A statistical analysis of motor carriers that would have been affected, over the 3-year period 2003–2005, by a "2 x 20" compared with a "2 x 10" trigger scheme showed that the former approach would have resulted in approximately 55 percent fewer EOBR remedial directives (577 versus 1,288). As previously noted, MCMIS data indicate that carriers to which a remedial directive would apply under the "2 x 10" proposal have a significantly higher crash rate than the average crash rate for interstate carriers that have had a CR since 1995. The Agency believes that significantly lowering the EOBR remedial installation rate among such carriers by adoption of a higher, "2 x 20," threshold would represent an unwarranted missed opportunity to improve motor carrier safety.

Finally, the Agency considered and rejected the option of requiring three 10 percent pattern violations. We determined this protracted trigger, in combination with a 2-year window, would not result in sufficient numbers of EOBR installations to effectively address the problem of recurring noncompliance. Projections of the anticipated findings of pattern violations of Appendix C regulations do not support the use of a 3-year or longer window.<sup>6</sup> As noted previously, the 2-year period is significantly shorter than the 6-year period that the Agency uses for its civil penalty policy under section 222 of MCSIA.

By establishing a 2-year period within which the two CR-based pattern

violations must occur, the Agency would create a window wide enough for FMCSA or State enforcement officials to perform at least two CRs, at current CR rates, on over 90 percent of carriers with indicia of poor driver safety. At the same time, a potential 2-year interim between the Agency's initial findings and its issuance of remedial directives would be short enough to preserve the directives' efficacy in remedying repeated noncompliance. The proposed 2-year window for Appendix C violations under the EOBR remedial installation provision should, in addition to its advantages as a compliance improvement strategy, impose lower recordkeeping and related administrative costs on motor carriers than the comparable "multi-strike," 6-year period applied in the civil penalty context under section 222 of MCSIA.

The proposed 2-year window would be measured from the closing date of the first CR in which one or more pattern violations of any Appendix C regulation were discovered. If there is a final determination of any pattern violation of an Appendix C regulation, and if, within 2 years following the first CR, the carrier has any subsequent CRs in which one or more pattern violations of any Appendix C regulations are discovered, the carrier would be subject to issuance of a remedial directive and proposed unfitness determination.

A "final determination," for purposes of part 385 subpart F, would include: (1) An adjudication under new part 385 subpart F upholding an NPRDA or remedial directive and proposed unfitness determination; (2) the expiration of the period for filing a request for administrative review of an NPRDA or remedial directive and proposed unfitness determination under subpart F; or (3) the entry of a settlement agreement stipulating that the carrier is subject to mandatory EOBR installation, use, and maintenance requirements.

Following the first CR in which any pattern violation of an Appendix C regulation is discovered, the Agency would issue the carrier full and fair notice that a repeat of that finding during the subsequent 2 years will result in the issuance of an EOBR remedial directive. (49 CFR 385.507) The NPRDA would afford carriers desiring to avoid a mandatory installation directive an opportunity to improve their HOS compliance practices. It would explain the future circumstances that would trigger issuance of a remedial directive and describe generally the CR findings that prompted the issuance of the NPRDA.

Installation, Use, and Maintenance of Mandatory EOBRs

Under FMCSA's proposal, motor carriers subject to a remedial directive would be required to install § 395.16-compliant devices in all of their CMVs. These carriers would be required to use the EOBRs to record their drivers' HOS, review the EOBR records for HOS compliance, and take appropriate actions with respect to drivers found in violation. They also would be required to submit documentation demonstrating their continued use of the EOBRs for these purposes. Failure or refusal to use EOBRs in this manner during the required period or to document such use would subject the motor carrier to an immediate out-of-service order. Carriers also would be required to maintain the devices in good working order and to repair or replace any malfunctioning devices within 14 calendar days. During any time an EOBR is not functioning, and a spare device is not available, the Agency would require preparation of a paper RODS. Failure to maintain the devices properly could likewise subject the carrier to an immediate out-of-service order applicable to some or all of its vehicles and operations.

Following the same schedule currently applicable to the issuance of proposed and final safety ratings, motor carriers potentially subject to remedial directives would have 60 days (45 days for motor carriers transporting passengers or placardable quantities of hazardous materials) after the date of the notice of remedial directive to install § 395.16-compliant EOBRs in their CMVs and to submit proof of installation to FMCSA. The 45/60-day period would commence upon FMCSA's issuance of an NPRDA or a notice of remedial directive and proposed unfitness determination following the CR. During this period the carrier could seek administrative review of the CR findings under new proposed § 385.517, but no reviews based on corrective action (comparable to current § 385.17) would be permitted.

The proposal would require a motor carrier subject to a remedial directive to verify EOBR installation in all of the carrier's CMVs within the 45/60-day period discussed previously. Verification could be accomplished either through a visual and operational inspection of the carrier's CMVs by FMCSA or State enforcement personnel or by submission of required documentation to FMCSA. The documentation would consist of receipts for device purchases and installation work, if available, digital or

<sup>6</sup> Of 2,457 poor Driver Inspection Indicator motor carriers (those in the poorest 25 percent) that underwent two or more CRs during 1999–2005, 2,386 had their two CRs within a 24-month period.



other photographic evidence of the installed devices, and documentation linking the EOBR serial number with the vehicle identification number of the CMV into which the device has been installed. If no receipt was submitted for an installed device or the installation work, the carrier would be required to submit a written statement explaining who installed the devices, how many devices were installed, the manufacturer and model numbers of the devices installed, and the vehicle identification numbers of the CMVs in which the devices were installed.

Either FMCSA or State enforcement personnel would perform inspections to assess whether the EOBRs were properly installed and are operating correctly. Carriers issued remedial directives could request these inspections instead of submitting the above documentation. The proposed rule would revise 49 CFR Part 350 to add a new requirement that States receiving Motor Carrier Safety Assistance Program funds under 49 U.S.C. 31102 provide such inspection services.

FMCSA proposes that those carriers directed to install EOBRs in their CMVs be required to use and maintain the devices in their vehicles for 2 years. The Agency believes this period would allow affected drivers and motor carrier employees to become familiar with the devices and enable the carrier to begin realizing improved HOS compliance. The Agency also believes that, for carriers wishing to remove the devices and return to use of paper RODS as soon as possible, a 2-year installation period is not unduly harsh. The Agency requests comment on the appropriate duration of mandatory EOBR installation, use, and maintenance under the proposed remedial directives.

#### Scope

The remedial directives provisions of the proposed rule would apply to all carriers subject to the requirements of part 395, as specified in section 395.1. The regulations listed in Appendix C incorporate all applicable revisions to the hours-of-service rules published in the **Federal Register** on August 25, 2005 (70 FR 49978). All revisions to the critical part 395 regulations (those listed in Part 385, App. B, section VII) that were effected in the August 25, 2005, final rule are included in the proposed Appendix C to Part 385. Thus, pattern violations of any Appendix C regulations arising from violations of the new sleeper berth, short-haul, or other revised HOS provisions could result in issuance of an NPRDA or remedial directive and proposed unfitness

determination through citation of the appropriate regulation in Appendix C.

#### Limited Exemption for AOBRD Users

If a motor carrier currently using monitoring devices that are not compliant with new § 395.16 is issued an EOBR remedial directive, the motor carrier generally would be required to install, use, and maintain devices meeting the § 395.16 requirements. If a carrier with AOBRDs installed in its CMVs demonstrated a pattern of Appendix C regulatory violations sufficient to result in a remedial directive, the carrier's use of the older generation devices would demonstrably have failed to remedy its safety management deficiencies. The Agency therefore starts from the position that the same remedial directive should be issued to an AOBRD-using carrier as to one with no devices installed, and the carrier would be required to install EOBRs compliant with proposed new § 395.16.

In addition, one goal of this proposed rulemaking is to encourage migration, over time, toward use of the newer generation devices. These devices would be designed to meet performance standards that FMCSA concludes are more appropriate for HOS monitoring than the standards adopted under § 395.15 in 1988. Further, the increased uniformity of performance gained by phasing out the older devices would likely make enforcement and carrier personnel more familiar with the monitoring devices. This should improve compliance and enforcement efficiencies.

Notwithstanding these considerations, FMCSA appreciates that some carriers have made a significant investment in monitoring devices that are compliant with current regulations. Indeed, FMCSA in the past has encouraged carriers to install and use these devices. Moreover, the cause of the carrier's persistent HOS noncompliance may be unrelated to the additional features that devices compliant with § 395.16 offer over the § 395.15-compliant AOBRDs. The problem could be more managerial than technical, and use of newer devices might not be the answer.

FMCSA therefore proposes to suspend enforcement of otherwise applicable remedial directives, under certain conditions and at FMCSA's discretion, where motor carriers had installed devices compliant with § 395.15 (or pursuant to waiver of part of all of § 395.15) at the time of the CR immediately preceding the remedial directive. Motor carriers seeking this non-enforcement would be required to apply to FMCSA in writing and to

demonstrate that the carrier and its employees understand how to use the AOBRDs and the information derived from them. The carrier's HOS compliance would be subject to strict FMCSA oversight, and the Agency could reinstate the remedial directive at any time if additional significant HOS noncompliance were discovered. This proposed exemption would not apply to vehicles manufactured more than 2 years after the effective date of the proposed rule.

#### Revised Safety Fitness Determinations Under Part 385

Section 4009 of TEA-21 amended 49 U.S.C. 31144 to require the Secretary of Transportation to maintain, by regulation, a procedure under 49 U.S.C. 31144(b) for determining the safety fitness of an owner or operator of CMVs.<sup>7</sup> The Agency implemented this requirement in its Safety Fitness Procedures final rule, published on August 22, 2000 (65 FR 50919). This rule provided that the Agency will use an "unsatisfactory" rating assigned under the SFRM in part 385 as a determination of "unfitness."

This NPRM would amend the safety fitness standard at 49 CFR 385.5 and make necessary modifications to the safety fitness determination procedures.<sup>8</sup> The amended fitness standard would provide an additional requirement that CMV owners and operators must meet, independent of their achieving a "satisfactory" or "conditional" safety rating, in order to demonstrate safety fitness. The Agency's three-part safety rating scheme, as set

<sup>7</sup> Prior to the 1998 TEA-21 amendment, 49 U.S.C. 31144 applied to "owners and operators of commercial motor vehicles, including persons seeking new or additional operating authority as motor carriers." As amended, the section now refers to these entities as "owner[s] or operator[s]" of commercial motor vehicles, but not as "motor carriers." Although the congressional committee reports provide no explanation of this change, FMCSA believes the change was made to eliminate an anomaly. Under 49 U.S.C. chapter 311, the term "motor carrier" appeared only in section 31144; it was not included in the section 31132 definitions. The Motor Carrier Safety Act of 1984, from which chapter 311 was derived, used the jurisdictional term "commercial motor vehicle." "Motor carrier" and "motor private carrier" were defined separately in those provisions of title 49 of the United States Code administered by the Interstate Commerce Commission; the definition are now codified at 49 U.S.C. 13102. The FMCSRs have long treated owners and operators of CMVs as "motor carriers" (see 49 CFR 390.5). The regulatory text of 49 CFR Part 385 uses the term "motor carrier" as equivalent to "owners and operators" specified by amended section 31144.

<sup>8</sup> Current regulations contemplate such revisions to the fitness determinations, and the SFRM "has the capability to incorporate regulatory changes as they occur." Part 385 App. B VI (a).

forth in the SFRM, would remain unchanged.

Under the SFRM, the Agency assigns points to motor carriers within six distinct analytical categories, or “factors,” based on the number of regulatory violations and level of compliance with other criteria, as determined in a CR. The ratings for the six factors are then entered into a rating table that establishes the motor carrier’s overall safety rating of “satisfactory,” “conditional,” or “unsatisfactory.” Currently, a carrier must maintain either a “satisfactory” or “conditional” safety rating to continue operating in interstate commerce and intrastate operations affecting interstate commerce. A carrier issued a proposed “unsatisfactory” (or “conditional”) rating may challenge the rating through an administrative review under § 385.15; or the carrier may seek to have the proposed rating changed based upon corrective action under § 385.17. Unless a proposed “unsatisfactory” rating is changed under § 385.15 or § 385.17, however, the carrier is prohibited from operating a CMV on the 61st day (or the 46th day for carriers transporting passengers or placardable quantities of hazardous materials) after the date FMCSA issued the proposed “unsatisfactory” safety rating. (49 CFR 385.13(a)) Pursuant to section 4104 of SAFETEA-LU, the Agency will revoke the registration of a motor carrier prohibited from operating in interstate commerce, and in intrastate operations affecting interstate commerce, for failure to comply with the safety fitness requirements of 49 U.S.C. 31144. (49 U.S.C. 13905(e))

Nothing in this proposal would change any of the above requirements or procedures. The current procedures for calculation of motor carrier safety ratings, including the three-tier SFRM, would remain unchanged. Motor carriers would continue to be assigned “satisfactory,” “conditional,” or “unsatisfactory” safety ratings under §§ 385.7, 385.9, and the SFRM set forth in Appendix B of Part 385, and carriers rated “unsatisfactory” would continue to be prohibited from operating a CMV and engaging in contracts with Federal agencies as provided in § 385.13. FMCSA would continue to issue notifications of safety ratings under § 385.11<sup>9</sup> and to perform administrative

reviews under § 385.15 and corrective-action reviews under § 385.17.

However, as previously noted, FMCSA is proposing to revise the safety fitness standard in § 385.5. If a carrier were operating under an EOBR remedial directive, an overall safety rating of “satisfactory” or “conditional” under the SFRM, while still necessary to meet the safety fitness standard, would no longer be sufficient. A second condition would also have to be met—that the carrier be in compliance with all applicable requirements of part 385 subpart F, Remedial Directives. Of course, in the absence of a notice of remedial directive and proposed determination of unfitness under subpart F, the Agency’s notice of proposed or final safety rating would function, as it currently does under § 385.11, as the notice of safety fitness determination.

Following a CR resulting in findings that potentially subject the motor carrier to a remedial directive, the carrier would be issued a written notice of remedial directive based upon the pattern of violations of Appendix C regulations. The notice of remedial directive would require the carrier to install EOBRs in all of its CMVs, provide proof of installation within 60 days after issuance of the notice of remedial directive (45 days for hazmat and passenger carriers), and provide such other periodic reports as the FMCSA Enforcement Division determines are appropriate. The notice of remedial directive would explain how the carrier could challenge the directive and the time limits within which challenges could be filed.

The proposed unfitness determination would advise the motor carrier that if it failed or refused to install § 395.16-compliant EOBRs and to provide proof of installation as required under the remedial directive, FMCSA would deem the carrier unfit on the 60th day (45th day for hazmat and passenger carriers) after issuance of the notice, and the carrier would be prohibited from operating in interstate commerce, and in intrastate operations affecting interstate commerce, on the 61st (or 46th) day. It would also advise the carrier that, if it was subject to the registration requirements under 49 U.S.C. 13901, its registration would be revoked on the 61st (or 46th) day for failure or refusal to comply with the remedial directive.

If the carrier installed the EOBRs in all of its CMVs and supplied FMCSA with timely and necessary proof of installation, then the proposed “unfitness” determination would be conditionally rescinded, provided the carrier met all other terms and

conditions of the remedial directive. The directive would remain in effect for a period of 2 years following the date of issuance. If a carrier failed or refused to use EOBRs for HOS compliance during the required period, or failed to document such use sufficiently, the proposed unfitness determination would be reinstated, and the carrier would be subject to an immediate out-of-service order. A carrier could lift the prohibition on its operations at any time by providing proof that the devices had been installed and complying with the other terms and conditions of the remedial directive.

#### Appeal Rights and Administrative Review

If a motor carrier believed the Agency had committed an error in issuing either an NPRDA or a notice of remedial directive and proposed unfitness determination, the carrier could request an administrative review under § 385.517. Challenges to the NPRDA or notice of remedial directive and proposed unfitness determination should be brought within 15 days of the date of the NPRDA or notice of remedial directive. This timeframe would allow FMCSA to issue a written decision before the prohibitions in § 385.519 go into effect. The filing of a request for administrative review under § 385.517 within 15 days of the notice of remedial directive would stay the finality of the proposed unfitness determination until the Agency had ruled on the request. Failure to petition the Agency within the 15-day period may prevent FMCSA from ruling on the request before the prohibitions go into effect. However, within 90 days of the date of issuance of the NPRDA or notice of remedial directive and proposed unfitness determination, the carrier may still file a request for administrative review, although if such request is not filed within the first 15 days the Agency would not necessarily issue a final determination before the prohibitions go into effect. Challenges to issuance of the remedial directive and proposed unfitness determination would be limited to findings of error relating to the CR immediately preceding the notice of remedial directive.

The proposed rule would not affect current procedures under § 385.15 for administrative review of proposed and final safety ratings issued in accordance with § 385.11. The Agency is proposing non-substantive revisions to § 385.15(a), however, solely to correct two typographical errors.

A motor carrier subject to a remedial directive would not be permitted to request a change to the remedial

<sup>9</sup> The proposed rule would amend the section heading of § 385.11 to clarify that the notices issued pursuant to that section relate only to a motor carrier’s “safety rating” under § 385.5(a) and not to the Agency’s “safety fitness determination” regarding the carrier, which encompasses both § 385.5(a) and (b).

directive or proposed determination of unfitness based upon corrective actions. In contrast to § 385.17, under which the Agency considers corrective actions taken in reviewing a carrier's request for a safety rating change, the only "corrective action" the Agency would take into account in conditionally rescinding a proposed unfitness determination under subpart F would be the carrier's installation of § 395.16-compliant EOBRs and satisfaction of the other conditions of the remedial directive. The Agency may, nevertheless, consider a carrier's installation and use of EOBRs as "relevant information" that could contribute to an improvement of a carrier's safety rating under § 385.17(d). An upgraded safety rating based upon corrective action under § 385.17 would have no effect, however, on an otherwise applicable NPRDA, remedial directive, or proposed unfitness determination. A safety rating upgraded to "conditional" would be necessary, but not sufficient, to meet the safety fitness standard in proposed § 385.5.

#### Continuing EOBR Use, Maintenance, and Documentation Requirements

Motor carriers would have up to 60 days (45 days for hazmat and passenger carriers) following issuance of the notice of remedial directive to install EOBRs compliant with § 395.16. Once a motor carrier had installed the devices, the carrier would be required to maintain the devices in good working order, to document its drivers' use of the devices for recording hours of service, and to review the EOBR records of its drivers for HOS compliance. This documentation requirement would be satisfied by the carrier's ability to present, upon demand, electronic RODS in the format prescribed in proposed new Appendix A to Part 395. If, following receipt of an EOBR remedial directive, a carrier were discovered to be operating without a functioning § 395.16-compliant device in one or more of its CMVs, the carrier would be subject to an immediate out-of-service order until it installed the devices.

#### Example Remedial Directives Scenarios

FMCSA offers the following four scenarios as examples of how the proposed remedial directive procedures would operate:

##### Scenario 1

During a 2007 CR on a motor carrier of non-hazmat property (not a hazmat or passenger carrier)<sup>10</sup> an FMCSA safety

investigator finds 25 out of 150 logbooks examined reflect a violation of § 395.3(a)(2) (requiring or permitting driving after the end of the 14th hour after coming on duty), i.e., a pattern violation of an Appendix C regulation. FMCSA issues an NPRDA warning the carrier that it will be subject to an EOBR remedial directive if another CR within 2 years again finds a pattern violation of any Appendix C regulation. The motor carrier does not challenge the issuance of the NPRDA. A subsequent CR of the carrier in 2008 discloses a 14 percent violation rate for § 395.8(e) (false logs), another pattern violation of an Appendix C regulation. The carrier is issued a notice of remedial directive to install EOBRs within 60 days and provide proof of installation. Simultaneously, the carrier is issued a proposed unfitness determination. The carrier fails or refuses to install the device(s), or fails to provide proof, and is ordered to cease interstate operations, and intrastate operations affecting interstate commerce, on the 61st day after issuance of the notice of remedial directive and proposed unfitness determination. Moreover, because the carrier is required to be registered under 49 U.S.C. 13901, its registration is revoked on the 61st day.

##### Scenario 2

As in Scenario 1, a CR in 2007 discloses a pattern violation of an Appendix C regulation. Because, under Part 385 Appendix B § II (h), that same HOS violation also constitutes a "pattern of noncompliance with a critical regulation relative to Part 395," it is assessed two points (and an "unsatisfactory" Factor Rating) under the Operational Factor of the SFRM, just as it would be under the current rule. The carrier thus receives an overall safety rating of "conditional" and is issued an NPRDA, as in Scenario 1. However, in this scenario the carrier requests an administrative review of both the NPRDA, under § 385.517, and the "conditional" safety rating under § 385.15. The carrier prevails on its challenge in the administrative review under § 385.15 but loses its challenge under § 385.517. The Agency changes the carrier's overall safety rating to satisfactory. However, the NPRDA has not been rescinded and becomes a final determination. In 2008, FMCSA conducts a second CR, which also finds a pattern violation of an Appendix C regulation. The Agency issues the carrier a notice of remedial directive

and proposed unfitness determination based upon the prior final determination under § 385.517.

##### Scenario 3

A CR in 2007 finds a 10 percent or greater violation rate for an Appendix C regulation (which is also a critical HOS violation), plus multiple violations of other FMCSRs, resulting in a proposed overall safety rating of "unsatisfactory." As in scenarios 1 and 2, FMCSA also issues the carrier an NPRDA. The carrier takes immediate steps to improve its safety management practices and within 15 days requests a safety rating change under § 385.17. The carrier does not challenge the NPRDA, however. A second CR within 60 days of the first finds improved regulatory compliance, including no HOS violations, and FMCSA upgrades the carrier's safety rating to "conditional." A third CR in 2008, however, again finds a 10 percent or greater violation rate for an Appendix C regulation. The carrier is issued a notice of remedial directive, ordering installation of EOBRs within 60 days in all of the carrier's CMVs, and a proposed determination of unfitness. The carrier installs the devices and provides FMCSA with sufficient proof of installation. The proposed determination of unfitness is conditionally rescinded, and the carrier continues to operate in interstate (and intrastate) commerce.

##### Scenario 4

As in Scenario 3, a CR in 2007 discloses a 10 percent or greater violation rate of an Appendix C regulation, plus such other FMCSR violations that the carrier is assigned a proposed overall safety rating of "unsatisfactory" under § 385.11. The carrier again is issued an NPRDA in accordance with § 385.507(a). The carrier immediately initiates safety management improvements and, in accordance with § 385.17, within 15 days from the date of the notice of proposed safety rating requests a change to its safety rating based on corrective action. The Agency begins another CR 43 days after the date of the notice of proposed safety rating, which shows improvements in non-HOS areas but again discloses a 10 percent or greater violation rate for an Appendix C regulation. Based upon the motor carrier's improvements in the other safety areas, FMCSA upgrades the overall safety rating to "conditional" and the carrier continues in operation. At the same time, because of the HOS violations discovered in the second CR, the Agency issues a notice of remedial directive and proposed determination of

<sup>10</sup> All four scenarios assume the motor carrier is not a carrier of passengers or hazardous materials.

Thus, 60-day periods, rather than 45-day periods, would apply under §§ 385.11, 385.13, 385.15 and 385.17.

unfitness. The carrier fails to install EOBRs within 60 days following the second CR, and it also fails to seek administrative review of the remedial directive in accordance with § 385.517. The carrier is therefore placed out of service on the 61st day.

### C. Incentives

#### Background

FMCSA recognizes that many motor carriers are deterred from voluntary installation of EOBRs because they believe this would place them at a competitive disadvantage to carriers not using EOBRs. Motor carriers believe there is an “uneven playing field” in which those with EOBRs are held to a higher level of compliance. Qualcomm described this perceived inequity in its docket comments: “Qualcomm contends that in general the industry’s reluctance to employ technology to verify compliance is not based in being adverse to use of technology, but in being adverse to compliance enforcement not being conducted on a level playing field.”

We believe this concern may have some merit. Because of the extensive supporting documentation EOBRs are capable of producing, even minor violations of the HOS regulations can be more easily detected if the carrier uses EOBRs. In fact, these violations are often identified in automated reports that motor carriers can set up as part of their EOBR monitoring systems. This suggests EOBRs do what they are intended to (and would accomplish under the remedial provisions discussed previously)—make it more difficult to exceed the HOS limitations of the FMCSRs.

The inability to conceal even minor HOS violations can increase the chances of receiving a less than satisfactory safety fitness rating in the event of a CR—which in turn could hinder the carrier’s ability to compete. Among other things, a less than satisfactory safety rating prevents the carrier from maintaining self-insurance and may prevent it from maintaining contracts with major shippers. Civil penalties under 49 U.S.C. 521(b)(2) may also be imposed for violations discovered, even when the safety rating is unaffected.

FMCSA believes these fears of receiving an adverse safety fitness rating as a consequence of EOBR use may be compounded by motor carrier industry concerns with Agency policies and procedures for assigning safety fitness ratings. These concerns are longstanding. In particular, many motor carriers believe the Agency’s HOS sampling techniques during CRs should

be random across all areas of a carrier’s operation. Instead, FMCSA’s procedures for CRs direct safety investigators to focus first on known problem areas and drivers. FMCSA takes this approach because it is in the interest of public safety to focus the Agency’s limited resources on drivers most likely to be in violation of the regulations. If the number of HOS violations discovered using FMCSA’s focused sampling policy equals or exceeds 10 percent of the records reviewed, the motor carrier is automatically assigned a proposed “conditional” safety fitness rating. Thus, a carrier’s overall safety fitness rating can be adversely affected by FMCSA’s reviewing only operational areas already identified as problematic.

ATA unsuccessfully challenged the Agency’s HOS review techniques in 1997, arguing that the Agency’s CR procedures “[l]ack standards for ensuring that only statistically reliable samples of driver logs and other carrier records are relied upon in safety CRs. This deficiency would result in a safe carrier receiving an unwarranted adverse safety rating and having to bear the heavy burdens that accompany such a rating.” [*American Trucking Ass’ns, Inc. v. U.S. Dept. of Transp.*, 166 F.3d 374 (D.C. Cir. 1999)]. FMCSA’s predecessor Agency, FHWA, successfully defended the existing rating and sampling techniques against this challenge by citing the safety benefits of focusing Agency resources on the drivers and vehicles most likely to be in regulatory violation. In its final rule, “Safety Fitness Procedure; Safety Ratings,” FHWA had clarified the purpose of a CR: “The overall safety posture of the motor carrier is not being measured during the CR, rather the adequacy of the carrier’s safety management controls is being assessed pursuant to 49 CFR part 385.” (62 FR 60035 at 60039, Nov. 6, 1997)

Despite these reassurances, many in the motor carrier industry believe there nevertheless exists a public perception, with resulting consequences, that the safety fitness rating measures a carrier’s overall safety posture, as opposed to the efficacy of its safety management controls. We believe some motor carriers may be more willing to voluntarily install EOBRs if, under certain conditions, FMCSA offered the carrier incentives to make this safety commitment.

#### Proposed Incentives

1. As indicated previously, FMCSA conducts focused sampling of carrier HOS records during CRs and believes this approach is in the best interest of public safety. FMCSA’s routine CR

procedures call for FMCSA or State safety investigators to focus their sample of HOS records on the RODS of drivers involved in interstate recordable crashes, drivers placed out of service for hours-of-service violations during roadside inspections, drivers discovered to have poor driving records through Commercial Driver’s License Information System checks, recently hired drivers, and drivers having a high probability of excessive driving. This procedure makes efficient use of staff resources and helps ensure the CR report clearly identifies known problem areas for corrective action and attention by motor carrier management. We intend to continue this protocol as a standard operating procedure for motor carriers using traditional paper RODS.

However, when motor carriers voluntarily install EOBRs, the HOS portion of a CR can be much more efficient and less resource intensive than the review of a carrier using traditional paper RODS and supporting documents. In fact, the efficiency of the review of EOBR records for 11-, 14-, and 70-hour HOS violations can often be improved by use of the motor carrier’s “exception reports,” which allows more time to review records for accuracy and falsification. FMCSA therefore proposes an alternative approach to CRs and the issuance of safety fitness ratings that would be employed in limited instances as an incentive, strictly and solely for motor carriers that voluntarily install, use and maintain EOBRs meeting the requirements of proposed § 395.16, and for owner-operators leased to such carriers. This proposed approach to HOS records review during CRs would not be available to carriers using AOBDRs compliant with § 395.15.

Under the Agency’s proposed approach, the first course of action would be to conduct the HOS portion of the CR using standard, focused sampling policies and procedures and taking into account known violations of critical part 395 regulations. If the focused sample of HOS records resulted in a 10 percent or greater violation rate, then a separate random sample of HOS records would be selected for review based upon the minimum sample size recommended in FMCSA’s Field Operations Training Manual. The results of both samples, focused and random, would be cited on the CR report, but only the random sample results would be used to assign the carrier a safety fitness rating under part 385. This incentive would not be available to motor carriers and owner-operators that have been issued a remedial directive to install, use, and maintain EOBRs.

FMCSA believes this random review incentive for motor carriers voluntarily using EOBRs would mitigate industry concerns that currently tend to discourage EOBR use. FMCSA believes that, over time, widespread use of EOBRs will improve HOS compliance and reduce fatigue-related crashes. This incentive, which will foster broader EOBR use within the industry, is thus in keeping the Agency's mission of promoting motor carrier safety. At the same time, by continuing to require safety investigators to perform a focused sample of HOS records as the first step in a CR, FMCSA would meet its initial responsibility to detect and respond to known violations. The random review incentive would apply only to carriers voluntarily installing and using EOBRs, not to individual drivers.

FMCSA emphasizes that the Agency would continue to bring civil penalty enforcement cases against both drivers and carriers for HOS violations discovered during the initial logbook analysis, even though that analysis will not be used for purposes of determining the carrier's safety rating. The responsibility for assuring HOS compliance lies with both the carrier and the driver, and FMCSA would therefore continue to bring enforcement cases against both carriers and drivers for violations discovered during the initial focused sample analysis. These findings would be entered into the Agency's SafeStat system and would increase the probability of additional CRs for the carrier. FMCSA believes the adverse financial consequences, the negative SafeStat data, and the increased likelihood of undergoing additional compliance reviews would continue to give the carrier an incentive to correct any HOS problems cited on the CR report.

FMCSA seeks public comment on this issue. We are particularly interested in commenters' views on whether the proposed approach would provide motor carriers with incentives to voluntarily install EOBRs.

2. As an additional incentive to promote the installation and use of EOBRs by motor carriers, the Agency is proposing a new 49 CFR 395.11 to provide partial relief, for carriers that voluntarily install a device compliant with § 395.16, from the supporting documents requirements under 49 CFR 395.8(k). EOBRs meeting the requirements of § 395.16 produce regular time and CMV location position histories sufficient to verify adequately a driver's on-duty driving activities. Motor carriers voluntarily maintaining the time and location data produced by § 395.16-compliant EOBRs would need

to maintain only such additional supporting documents as are necessary to verify on-duty not-driving activities and off-duty status. The proposed § 395.11 would not provide a blanket exemption from all supporting documents requirements because, even for carriers using EOBRs, some additional supporting documentation (e.g., driver payroll records, fuel receipts) is still necessary to verify on-duty not-driving activities and off-duty status. The proposed incentive would, however, significantly reduce the volume of required supporting documents for those carriers voluntarily installing EOBRs. This incentive would not be available to motor carriers subject to remedial directives to install, use, and maintain EOBRs under part 385 subpart F.

FMCSA seeks comment on this proposal as well. The Agency issued a supplemental notice of proposed rulemaking concerning HOS supporting documents on November 3, 2004 (69 FR 63997) and anticipates publication of the final rule in the near future. Under that rule, motor carriers may, in accordance with the exemption procedures in part 381, seek FMCSA approval to meet the § 395.8(k) requirements by using electronic systems that incorporate GPS or other electronic location-referencing and tracking technology. As noted in the section titled *Incentives To Promote EOBR Use*, the Agency will consider public comments to today's NPRM in determining whether adjustments to the supporting documents exemption procedures may be necessary. FMCSA requests public comment on this proposed incentive and the random sample incentive discussed above.

3. The Agency is interested in identifying other incentives under which carriers could be relieved of regulatory burdens made unnecessary by the direct or indirect safety benefits that EOBR technology provides. Such incentives could therefore raise the productivity of both carriers and drivers safely and without impairing driver health. We therefore solicit comments and suggestions about other possible incentives in addition to the two identified. Because of the Agency's limited experience with the benefits of EOBR technology, we request any evidence demonstrating that voluntary use of EOBRs could mitigate safety risks associated with extended driving or on-duty time, such that carriers using EOBRs might be afforded added scheduling flexibility under the HOS rules. The Agency seeks information, for example, on whether the time savings that drivers are likely to achieve from

EOBR use (see section 13.3 above), or other safety and driver health benefits inherent in EOBR technology, would provide a sufficient basis for the Agency to allow drivers using the devices to extend their 14-hour driving window under 49 CFR 395.3(a)(2). Would using an EOBR reduce driver fatigue so that relief could be afforded under the sleeper berth provisions in 49 CFR 395.1(g)(1)? Likewise, would a motor carrier's voluntary use of EOBRs provide sufficient assurance of compliance with HOS regulations that FMCSA could safely forgo review of particular segments of the carrier's operations during a compliance review? We encourage both industry and safety groups to provide recommendations that will enable FMCSA to craft a rule that takes full advantage of EOBR technology in the safety program.

## VI. Rulemaking Analyses and Notices

### *Executive Order 12866 (Regulatory Planning and Review) and DOT Regulatory Policies and Procedures*

Under Executive Order 12866 (58 FR 51735, October 4, 1993) and DOT policies and procedures, FMCSA must determine whether a regulatory action is "significant," and therefore subject to OMB review and the requirements of the Executive Order. The Order defines "significant regulatory action" as one likely to result in a rule that may:

- (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal government or communities.
- (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another Agency.
- (3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof.
- (4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

FMCSA has determined that, although this proposed rule would not have an annual effect of \$100 million or more, it is a significant regulatory action within the meaning of the Executive Order and under the regulatory policies and procedures of DOT because of the level of public interest in rulemakings related to hours-of-service compliance. We have therefore conducted a Regulatory Impact Analysis (RIA) of the costs and benefits of this NPRM. The

RIA is summarized below. The full analysis is available in the docket.

The RIA examined three options, which differ based solely on the number and type of regulated entities that would be subject to mandatory EOBRs. Under the first option, the entire interstate trucking population would be required to use EOBRs, including those vehicles and drivers involved in short-haul (SH) and long-haul (LH) operations subject to HOS regulation. The second option was all LH trucks and drivers operating in interstate commerce. The third option was to mandate EOBR use for a relatively small population of companies and drivers with a recurrent HOS compliance problem, the “2 x 10” entities described under the *Remedies* section of this proposal. Owner-operators leased to other motor carriers are covered under the leasing carrier.

Based on a review of CR data, FMCSA estimated that approximately 465 motor carriers would be affected by the third option each year. After the first year,

therefore, FMCSA estimates that at any given time about 930 carriers would be using EOBRs the Agency had required them to install. We estimate these carriers to have approximately 16,000 power units and 17,500 drivers.

FMCSA gathered cost information from EOBR vendors. Because there was significant variation in costs among vendors, the analysis included costs for high, median, and low-cost EOBR devices. The annualized costs of purchasing, installing, and operating an EOBR were estimated to range from \$534 to \$989 per power unit. We estimated costs on an annualized basis on a 10-year horizon, with replacement of EOBR units at the end of their useful life (3 or 5 years, depending on the device). Training time costs for drivers, back-office staff, and State enforcement personnel were estimated across a range—from a half-hour to 3 hours for drivers and 2 to 12 hours for back-office staff. We estimated State inspectors would receive 8 hours of training. We

also estimated offsetting cost savings on paper log purchase, use, processing, and storage.

In estimating net benefits, we also considered the cost to carriers of achieving compliance with the HOS as a result of EOBR use. In section 6.4 of the full RIA, the results of the benefit-cost analysis are shown with these costs both included and excluded.

We assessed safety benefits of EOBR use by estimating reductions in HOS violations and resulting reductions in fatigue-related crashes. Other, non-safety health benefits for drivers, as a result of decreased driving time, were not quantified in this analysis. Possible negative health effects of being monitored were also discussed but not quantified. The impacts of incentives offered to increase EOBR use were not quantified.

The estimates of the total net benefits for each of the three options are presented in Table 3.

TABLE 3.—ANNUALIZED NET BENEFITS  
[Millions]

	Option 1: LH and SH	Option 2: LH only	Option 3: recurring non-compliant LH
High Cost Estimate .....	(\$3,690)	(\$930)	(\$7.53)
Median Cost Estimate .....	(2,142)	(355)	(1.66)
Low Cost Estimate .....	(1,846)	(264)	0.61

In sum, options 1 and 2 show negative net benefits for all three of the cost estimates, though the magnitudes of the negative net benefits vary with the cost assumptions. For Option 3, cost estimates for the EOBR devices determine whether there are net benefits or net costs: Net benefits are positive under the low cost estimate (which encompasses compliant, yet not integrally synchronized, devices) but negative under the high and median cost estimates (which correlate with integrally synchronized units).

*Regulatory Flexibility Act*

This rulemaking has been drafted in accordance with the Regulatory Flexibility Act, as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (5 U.S.C. §§ 601–612). FMCSA conducted an Initial Regulatory Flexibility Act (IRFA) analysis of the impacts on small entities to determine whether the proposed rule would have a significant economic impact on a substantial number of small entities. A brief summary of this Initial Regulatory Flexibility Analysis is

provided below. The full IRFA is provided in the docket.

At present, it is unclear whether this proposal would have a significant impact on substantial numbers of small entities. The proposed requirements would apply only to the relatively small number of motor carriers with significant HOS noncompliance—an estimated total of between 465 and 930 carriers per year, a majority of which are considered small. Although the cost impacts are generally quite small as a percentage of typical carrier revenues, they could vary substantially across affected carriers, ranging from 0.45 to 0.07 percent of annual revenues depending on the carrier’s revenue per CMV. Firms with higher revenues-per-truck would experience a proportionately lower cost impact. Further, these carriers would experience compensatory time savings, or administrative efficiencies, as a result of using EOBR records in place of paper RODS. The level of increased administrative efficiencies would vary with the number of CMVs the carrier operates.

*Unfunded Mandates Reform Act*

This rule would not result in the expenditure by State, local and tribal governments, in the aggregate, or by the private sector, of \$128.1 million or more (as adjusted for inflation) in any one year, nor would it affect small governments. Therefore, no actions are deemed necessary under the provisions of the Unfunded Mandates Reform Act of 1995.

*Executive Order 13132 (Federalism)*

This rulemaking would not preempt or modify any provision of State law, impose substantial direct unreimbursed compliance costs on any State, or diminish the power of any State to enforce its own laws. Accordingly, this rulemaking does not have Federalism implications warranting the application of Executive Order 13132.

*Executive Order 12372 (Intergovernmental Review)*

The regulations implementing E.O. 12372 regarding intergovernmental consultation on Federal programs and activities do not apply to this rule.

### *Paperwork Reduction Act*

Under the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3501, *et seq.*), Federal agencies must obtain approval from the Office of Management and Budget (OMB) for each collection of information they conduct, sponsor, or require through regulations. FMCSA determined that this NPRM would affect a currently approved information collection for OMB Control Number 2126-0001, titled "Hours of Service of Drivers Regulation." OMB approved this information collection on November 3, 2005, at a revised total of 153,103,292 burden hours, with an expiration date of November 30, 2008. The PRA requires agencies to provide a specific, objectively supported estimate of burden hours that will be imposed by the information collection. See 5 CFR 1320.8. The paperwork burden imposed by FMCSA's records of duty status (RODS) requirement is set forth at 49 CFR 395.8.

FMCSA estimated that the remedial provisions of this NPRM, requiring the installation, use, and maintenance of EOBRs by motor carriers with a pattern of severe HOS violations, would affect approximately 930 motor carriers with about 17,500 drivers annually. These drivers' total annual burden hours for meeting the RODS requirement at § 395.8 is estimated at 455,000 (17,500 CMV drivers x 26 hours per year to complete the RODS). The time required by EOBR-using motor carriers to review the RODS would likewise be reduced compared with that required for review of paper RODS. The total burden hours for carriers to review the RODS for 17,500 EOBR-using drivers was estimated at 210,000 annual burden hours. The combined reduction in burden hours for carrier and driver is 665,000 burden hours.

Under the 2005 HOS final rule, the total annual burden hours for carriers and drivers using traditional paper RODS is 104,754,884 burden hours for drivers' completion of RODS and 48,348,408 burden hours for carriers to review the RODS, for a combined total of 153,103,292 burden hours. Subtracting from that total the 665,000-burden-hour reduction achieved by carriers using EOBRs under this proposed rule, we derived an estimated total of 152,438,292 burden hours for compliance with the RODS requirement by all motor carriers—both those operating under the remedial provisions of this NPRM and those using traditional paper RODS.

Note that the above estimates of paperwork burden do not take into account potential paperwork savings

associated with voluntary use of EOBRs by motor carriers. Drivers employed by, and owner-operators leased to, such carriers would have a reduced paperwork burden to meet the RODS requirement at § 395.8, and the motor carrier's time-and-cost burden associated with reviewing and maintaining the RODS and supporting documents would be similarly reduced. Under proposed § 395.11, carriers maintaining time and location data produced by § 395.16-compliant EOBRs need only maintain such supporting documents as are necessary to verify on-duty not-driving and off-duty status to fully meet the supporting documents requirements in § 395.8(k). Depending on the number of CMVs these carriers operate, their paperwork savings could be substantial. However, because it is difficult to quantify the number of motor carriers that would voluntarily use EOBRs, the Agency did not estimate these potential paperwork savings.

A supporting statement reflecting this assessment will be submitted to OMB together with this NPRM.

### *National Environmental Policy Act*

The National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*, as amended) requires Federal agencies to consider the consequences of, and prepare a detailed statement on, all major Federal actions significantly affecting the quality of the human environment. In accordance with its procedures for implementing NEPA (FMCSA Order 5610.1, Chapter 2.D.4(c) and Appendix 3), FMCSA prepared a draft Environmental Assessment (EA) to review the potential impacts of this proposed rulemaking. The draft EA findings are summarized below. The full EA is in the docket.

Implementation of this proposed action would alter to some extent the operation of CMVs. However, the proposal, if implemented, would not require any new construction or change significantly the number of CMVs in operation. FMCSA found, therefore, that noise, hazardous materials, endangered species, cultural resources protected under the National Historic Preservation Act, wetlands, and resources protected under Section 4(f) would not be impacted by the rule.

The EA also examined impacts on air quality and public safety. We anticipate that drivers of CMVs operated by carriers that have been issued an EOBR remedial directive would now take the full off-duty periods required by the HOS rules. During off-duty periods, drivers frequently leave the CMV parked in "idle," which increases engine emissions on a per-mile basis. Hence,

drivers for remediated carriers would cause a modest overall increase in engine emissions by virtue of coming into compliance with the HOS regulations. Because the number of trucks likely to be required to install EOBRs is relatively small (7,600 out of 1.51 million total CMVs), FMCSA determined that the increase in air toxics would be negligible. Moreover, because drivers for carriers brought into HOS compliance would experience less fatigue and be less likely to have fatigue-related crashes, there would be a counterbalancing increase in public safety.

FMCSA concludes that the rule changes would have a negligible impact on the environment, and therefore would not require an environmental impact statement. The provisions under the proposed action do not, individually or collectively, pose any significant environmental impact.

### *E.O. 13211 (Energy Supply, Distribution or Use)*

FMCSA determined that the proposed rule would not significantly affect energy supply, distribution, or use. No Statement of Energy Effects is therefore required.

### *E.O. 12898 (Environmental Justice)*

FMCSA evaluated the environmental effects of this proposed action and alternatives in accordance with Executive Order 12898 and determined that there are no environmental justice issues associated with the proposal. The proposed rule would have notable consequences only for trucking firms that have repeatedly demonstrated noncompliance with the HOS regulations. It would not create any adverse health or environmental effects.

### *E.O. 13045 (Protection of Children)*

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks (62 FR 19885, Apr. 23, 1997), requires agencies issuing "economically significant" rules, if the regulation also concerns an environmental health or safety risk that an Agency has reason to believe may disproportionately affect children, to include an evaluation of the regulation's environmental health and safety effects on children. As discussed previously, this proposed rule is not economically significant. Therefore, no analysis of the impacts on children is required.

### *E.O. 12988 (Civil Justice Reform)*

This action meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation,



eliminate ambiguity, and reduce burden.

*E.O. 12630 (Taking of Private Property)*

This rule would not effect a taking of private property or otherwise have taking implications under E.O. 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

*National Technology Transfer and Advancement Act*

The National Technology Transfer and Advancement Act (15 U.S.C. 272 note) requires Federal agencies proposing to adopt Government technical standards to consider whether voluntary consensus standards are available. If the Agency chooses to adopt its own standards in place of existing voluntary consensus standards, it must explain its decision in a separate statement to OMB.

FMCSA determined there are no voluntary national consensus standards for the design of EOBRs as complete units. However, there are many voluntary consensus standards concerning communications and information interchange methods that could be referenced as part of comprehensive performance-based requirements for EOBRs to ensure their reliable and consistent utilization by motor carriers and motor carrier safety compliance assurance officials. For example, the digital character set would reference the ASCII (American Standard Code for Information Interchange) character set specifications, the most widely used form of which is ANSI X3.4-1986. This is described in the *Document Information Systems—Coded Character Sets—7-Bit American National Standard Code for Information Interchange (7-Bit ASCII)* (ANSI document # ANSI INCITS 4-1986 (R2002)) published by ANSI (American National Standards Institute). In another example, the Agency would reference the 802.11 family of standards for wireless communication published by IEEE (Institute of Electrical and Electronics Engineers).

We did review and evaluate the European Commission Council Regulations 3821/85 (analog tachograph) and 2135/98 (digital tachograph). These are not voluntary standards, but rather are design-specific type-certification programs. We concluded these standards lack several features and functions (such as CMV location tracking and the ability for the driver to enter remarks) that FMCSA desires to include in its proposed performance-based regulation, and require other features (such as an

integrated license document on the driver's data card) that are not appropriate for U.S. operational practices.

*Privacy Impact Assessment*

Section 522(a)(5) of the FY 2005 Consolidated Appropriations Act, Title V, General Provisions (Pub. L. 108-447, 118 Stat. 2809 at 3268) requires Federal agencies to conduct a privacy impact assessment (PIA) of proposed rules that will affect the privacy of individuals. The Agency conducted a PIA for this NPRM. We determined that the same personally identifiable information for CMV drivers currently collected as part of the RODS and supporting documents requirements would continue to be collected under this rulemaking.

Privacy was a significant consideration in FMCSA's development of this proposal. As stated earlier, we recognize that the need for a verifiable EOBR audit trail—a detailed set of records to verify time and physical location data for a particular CMV—must be counterbalanced by privacy considerations. The Agency considered, but rejected, certain alternative technologies to monitor drivers' HOS (including in-cab video cameras and biomonitors) as too invasive of personal privacy.

All CMV drivers subject to 49 CFR Part 395 must have their hours of service accounted for to ensure that drivers have adequate opportunities for rest. This NPRM would not change the treatment of HOS with respect to privacy matters, change which drivers and motor carriers are required to comply with the RODS requirement, or change the sharing of information. The HOS information recorded on EOBRs would be accessible to Federal and State enforcement personnel only when compliance assurance activities are conducted at the facilities of motor carriers subject to the RODS requirement or when the CMVs of those carriers are stopped for purposes of conducting roadside inspections. Motor carriers would not be required to upload this information into any Federal or State information system accessible either to the public or to motor carrier safety enforcement agencies. This would preserve data security and ensure that EOBR data collection does not result in a new or revised Privacy Act System of Records for FMCSA. Data accuracy concerning drivers' RODS should improve as a result of the proposals to establish new performance standards for EOBRs; to allow drivers to make EOBR entries to identify any errors or inconsistencies in the data; and to mandate EOBR use by motor carriers

with a history of serious noncompliance with the HOS rules.

In summary, the NPRM would neither enlarge the scope of personally identifiable information collected nor change the sharing of that information.

**List of Subjects**

*49 CFR Part 350*

Grant programs—transportation, Highway safety, Motor carriers, Motor vehicle safety, Reporting and recordkeeping requirements.

*49 CFR Part 385*

Administrative practice and procedure, Highway safety, Motor carriers, Motor vehicle safety, Reporting and recordkeeping.

*49 CFR Part 395*

Highway safety, Motor carriers, Reporting and recordkeeping.

*49 CFR Part 396*

Highways and roads, Motor carriers, Motor vehicle equipment, Motor vehicle safety.

For the reasons set forth above, FMCSA is proposing to amend 49 CFR parts 350, 385, 395, and 396 as follows:

**PART 350—COMMERCIAL MOTOR CARRIER SAFETY ASSISTANCE PROGRAM**

1. The authority citation for part 350 continues to read as follows:

**Authority:** 49 U.S.C. 13902, 31100-31104, 31108, 31136, 31140-31141, 31161, 31310-31311, 31502; and 49 CFR 1.73.

2. Amend § 350.201 by revising the introductory text and adding paragraph (w) to read as follows:

**§ 350.201 What conditions must a State meet to qualify for Basic Program Funds?**

Each State must meet the following conditions:

\* \* \* \* \*

(w) Enforce requirements relating to FMCSA remedial directives issued in accordance with 49 CFR Part 385, Subpart F, including providing inspection services for verification of electronic on-board recorder installation and operation as provided in § 385.511(b).

**PART 385—SAFETY FITNESS PROCEDURES**

3. The authority citation for part 385 is revised to read as follows:

**Authority:** 49 U.S.C. 113, 504, 521(b), 5105(e), 5109, 13901-13905, 31133, 31135, 31136, 31137(a), 31144, 31148, and 31502; Sec. 113(a), Pub. L. 103-311; Sec. 408, Pub. L. 104-88; Sec. 350, Pub. L. 107-87; and 49 CFR 1.73.

4. Amend § 385.1 by revising paragraph (a) to read as follows:

**§ 385.1 Purpose and scope.**

(a) This part establishes 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 determined to be unfit from operating a CMV.

\* \* \* \* \*

5. Amend § 385.3 by adding a definition for *safety fitness determination* in alphabetical order, and by revising the existing definition for *safety rating*, to read as follows:

**§ 385.3 Definitions and acronyms.**

\* \* \* \* \*

*Safety fitness determination* means the final determination by FMCSA that a motor carrier meets the safety fitness standard under § 385.5.

*Safety rating* or *rating* means a rating of “satisfactory,” “conditional” or “unsatisfactory,” which FMCSA assigns to a motor carrier using the factors prescribed in § 385.7, as computed under the Safety Fitness Rating Methodology (SFRM) set forth in Appendix B to this part and based on the carrier’s demonstration of adequate safety management controls under § 385.5(a). A safety rating of “satisfactory” or “conditional” is necessary, but not sufficient, to meet the overall safety fitness standard under § 385.5.

(1) *Satisfactory safety rating* means that a motor carrier has in place and functioning safety management controls adequate to meet that portion of the safety fitness standard prescribed in § 385.5(a). Safety management controls are adequate for this purpose if they are appropriate for the size and type of operation of the particular motor carrier.

(2) *Conditional safety rating* means a motor carrier does not have adequate safety management controls in place to ensure compliance with that portion of the safety fitness standard prescribed in § 385.5(a), which could result in occurrences listed in § 385.5(a)(1) through (a)(11).

(3) *Unsatisfactory safety rating* means a motor carrier does not have adequate safety management controls in place to ensure compliance with that portion of the safety fitness standard prescribed in § 385.5(a), and this has resulted in occurrences listed in § 385.5 (a)(1) through (a)(11).

(4) *Unrated carrier* means that FMCSA has not assigned a safety rating to the motor carrier.

6. Revise § 385.5 to read as follows:

**§ 385.5 Safety fitness standard.**

A motor carrier must meet the safety fitness standard set forth in this section. Intrastate motor carriers subject to the hazardous materials safety permit requirements of subpart E of this part must meet the equivalent State requirements. To meet the safety fitness standard, the motor carrier must demonstrate the following:

(a) It has adequate safety management controls in place, which function effectively to ensure acceptable compliance with applicable safety requirements to reduce the risk associated with:

(1) Commercial driver’s license standard violations (part 383 of this chapter),

(2) Inadequate levels of financial responsibility (part 387 of this chapter),

(3) The use of unqualified drivers (part 391 of this chapter),

(4) Improper use and driving of motor vehicles (part 392 of this chapter),

(5) Unsafe vehicles operating on the highways (part 393 of this chapter),

(6) Failure to maintain accident registers and copies of accident reports (part 390 of this chapter),

(7) The use of fatigued drivers (part 395 of this chapter),

(8) Inadequate inspection, repair, and maintenance of vehicles (part 396 of this chapter),

(9) Transportation of hazardous materials, driving and parking rule violations (part 397 of this chapter),

(10) Violation of hazardous materials regulations (parts 170 through 177 of this title), and

(11) Motor vehicle accidents, as defined in § 390.5 of this chapter, and hazardous materials incidents; and

(b) The motor carrier has complied with all requirements contained in any remedial directive issued under subpart F of this part.

7. Amend § 385.9 by revising paragraph (a) to read as follows:

**§ 385.9 Determination of a safety rating.**

(a) Following a compliance review of a motor carrier operation, FMCSA, using the factors prescribed in § 385.7 as computed under the Safety Fitness Rating Methodology set forth in Appendix B of this part, shall determine whether the present operations of the motor carrier are consistent with that portion of the safety fitness standard set forth in § 385.5(a), and assign a safety rating accordingly.

\* \* \* \* \*

8. Amend § 385.11 by revising the section heading and adding paragraph (g) to read as follows:

**§ 385.11 Notification of safety rating and safety fitness determination.**

\* \* \* \* \*

(g) If a motor carrier is subject to a remedial directive and proposed determination of unfitness under subpart F of this part, the notice of remedial directive will constitute the notice of safety fitness determination. If FMCSA has not issued a notice of remedial directive and proposed determination of unfitness under subpart F of this part, a notice of a proposed or final safety rating will constitute the notice of safety fitness determination.

9. Amend § 385.15 by revising paragraph (a) to read as follows:

**§ 385.15 Administrative review.**

(a) A motor carrier may request FMCSA to conduct an administrative review if it believes FMCSA has committed an error in assigning its proposed safety rating in accordance with § 385.11(c) or its final safety rating in accordance with § 385.11(b).

\* \* \* \* \*

10. Amend § 385.17 by adding paragraphs (k) and (l) to read as follows:

**§ 385.17 Change to safety rating based upon corrective actions.**

\* \* \* \* \*

(k) An upgraded safety rating based upon corrective action under this section will have no effect on an otherwise applicable notice of potential remedial directive applicability, remedial directive, or proposed determination of unfitness issued in accordance with subpart F of this part.

(l) A motor carrier may not request a rescission of a determination of unfitness issued under subpart F of this part based on corrective action.

11. Amend § 385.19 by revising paragraphs (a) and (b) to read as follows:

**§ 385.19 Safety fitness information.**

(a) Final safety ratings, remedial directives, and safety fitness determinations will be made available to other Federal and State agencies in writing, telephonically, or by remote computer access.

(b) The final safety rating, any applicable remedial directive(s), and the safety fitness determination pertaining to a motor carrier will be made available to the public upon request. Any person requesting information under this paragraph must provide FMCSA with the motor carrier’s name, principal office address, and, if known, the USDOT number or the ICCMC docket number if applicable.

\* \* \* \* \*

12. Amend § 385.407 by revising paragraph (a) to read as follows:

**§ 385.407 What conditions must a motor carrier satisfy for FMCSA to issue a safety permit?**

- (a) *Motor carrier safety performance.*
- (1) The motor carrier:
- (i) Must be in compliance with any remedial directive issued under subpart F of this part, and
- (ii) Must have a “Satisfactory” safety rating assigned by either FMCSA, under the Safety Fitness Procedures of this part, or the State in which the motor carrier has its principal place of business, if the State has adopted and implemented safety fitness procedures that are equivalent to the procedures in subpart A of this part.
- (2) FMCSA will not issue a safety permit to a motor carrier that:
- (i) Does not certify that it has a satisfactory security program as required in § 385.407(b);
- (ii) Has a crash rate in the top 30 percent of the national average as indicated in the FMCSA Motor Carrier Management Information System (MCMIS); or
- (iii) Has a driver, vehicle, hazardous materials, or total out-of-service rate in the top 30 percent of the national average as indicated in the MCMIS.

\* \* \* \* \*

13. Add subpart F to part 385 to read as follows:

**Subpart F—Remedial Directives**

- Sec.
- 385.501 Purpose and scope.
- 385.503 Definitions and acronyms.
- 385.505 Events triggering issuance of remedial directive and proposed determination of unfitness.
- 385.507 Notice of potential remedial directive applicability.
- 385.509 Issuance of remedial directive.
- 385.511 Proof of compliance with remedial directive.
- 385.513 Issuance and conditional rescission of proposed unfitness determination.
- 385.515 Exemption for AOBDR users.
- 385.517 Administrative review.
- 385.519 Effect of failure to comply with remedial directive.

**Subpart F—Remedial Directives**

**§ 385.501 Purpose and scope.**

- (a) This subpart establishes procedures for FMCSA’s issuance of notices of potential remedial directive applicability, remedial directives, and proposed determinations of unfitness.
- (b) This subpart establishes the circumstances under which FMCSA will direct motor carriers (including owner-operators leased to motor carriers, regardless of whether the owner-operator has separate operating

authority under part 365), in accordance with § 385.1(a), to install electronic on-board recorders (EOBRs) in their commercial motor vehicles as a remedy for recurring violations of the part 395 hours-of-service regulations listed in Appendix C to this part.

(c) This subpart establishes the procedures by which motor carriers may challenge FMCSA’s issuance of notices of proposed remedial directive applicability, proposed determinations of unfitness, and remedial directives.

(d) The provisions of this subpart apply to all motor carriers subject to the requirements of part 395 of this chapter.

**§ 385.503 Definitions and acronyms.**

(a) The definitions in subpart A of this part and part 390 of this chapter apply to this subpart, except where otherwise specifically noted.

(b) As used in this subpart, the following terms have the meaning specified:

*Appendix C regulation* means any of the regulations listed in Appendix C to Part 385 of this chapter.

*Appendix C violation* means a violation of any of the regulations listed in Appendix C to Part 385 of this chapter.

*Electronic on-board recording device (EOBR)* means an electronic device that is capable of recording a driver’s duty hours of service and duty status accurately and automatically and that meets the requirements of § 395.16 of this chapter.

*Final determination* for purposes of part 385, subpart F means:

(1) An adjudication under this subpart upholding a notice of potential remedial directive applicability (NPRDA) or remedial directive and proposed unfitness determination;

(2) The expiration of the period for filing a request for administrative review of an NPRDA or remedial directive and proposed unfitness determination under this subpart; or

(3) The entry of a settlement agreement stipulating that the carrier is subject to mandatory EOBR installation, use, and maintenance requirements.

*Motor carrier* includes owner-operators leased to carriers subject to a remedial directive, regardless of whether the owner-operator has separate operating authority under part 365 of this chapter.

*Notice of potential remedial directive applicability (NPRDA)* means a notice, following a compliance review of a motor carrier, that this subpart applies to the motor carrier and that violations or other findings during the compliance review may contribute to the future issuance of a remedial directive under

this subpart. The NPRDA will explain the future circumstances that would trigger issuance of a remedial directive and will describe generally the compliance review findings that prompted issuance of the NPRDA.

*Pattern violation* for the purposes of this subpart means a violation rate for any Appendix C regulation equal to or greater than 10 percent of the number of records reviewed.

*Proposed determination of unfitness or proposed unfitness determination* means a determination by FMCSA that a motor carrier will not meet the safety fitness standard under § 385.5 on a specified future date unless the carrier takes the actions necessary to comply with the terms of a remedial directive issued under this subpart.

*Remedial directive* means a mandatory instruction from FMCSA to take one or more specified action(s) as a condition of demonstrating safety fitness under 49 U.S.C. 31144(b).

**§ 385.505 Events triggering issuance of remedial directive and proposed determination of unfitness.**

(a) A motor carrier subject to 49 CFR Part 395 will be subject to a remedial directive and proposed unfitness determination in accordance with this subpart for pattern violations of any Appendix C regulation or regulations that occur within a 2-year period. A remedial directive and proposed unfitness determination will be issued if a compliance review conducted on the motor carrier resulted in a final determination of one or more pattern violations of any Appendix C regulation and, in a subsequent compliance review completed within the 2-year period following the closing date of the first review, one or more pattern violations of any Appendix C regulation(s) are discovered.

(b) The two compliance reviews under paragraph (a) of this section need not be conducted consecutively for a remedial directive and proposed unfitness determination to be issued.

**§ 385.507 Notice of potential remedial directive applicability.**

(a) Following the first of the two compliance reviews described in § 385.505(a), FMCSA will provide the motor carrier a written notice of potential remedial directive applicability (NPRDA).

(b) The NPRDA will contain the following information:

(1) Notification of the applicability of this subpart.

(2) Notification that violations discovered during the compliance review may cause the future issuance of a remedial directive under this subpart.

(3) The circumstances under which future violations would trigger issuance of a remedial directive.

(4) A brief statement of the compliance review findings that prompted issuance of the NPRDA.

(5) The manner in which a motor carrier may challenge the issuance of an NPRDA in accordance with § 385.517.

(6) Any other matters as FMCSA may deem appropriate.

(c) FMCSA will notify the carrier in writing of the rescission of an NPRDA.

#### **§ 385.509 Issuance of remedial directive.**

(a) Following the close of the second of the two compliance reviews described in § 385.505(a), FMCSA will issue the motor carrier a written notice of remedial directive and proposed determination of unfitness. FMCSA will issue the notice and proposed determination as soon as practicable, but not later than 30 days after the close of the review.

(b) The remedial directive will state that the motor carrier is required to install EOBRs compliant with § 395.16 of this chapter in all of the motor carrier's CMVs and to provide proof of the installation to FMCSA in accordance with § 385.511 within the following time periods:

(1) Motor carriers transporting hazardous materials in quantities requiring placarding, and motor carriers transporting passengers in a CMV, must install EOBRs and provide proof of the installation by the 45th day after the date of the notice of remedial directive.

(2) All other motor carriers must install EOBRs and provide proof of installation by the 60th day following the date of FMCSA's notice of remedial directive. If FMCSA determines the motor carrier is making a good-faith effort to comply with the terms of the remedial directive, FMCSA may allow the motor carrier to operate for up to 60 additional days.

#### **§ 385.511 Proof of compliance with remedial directive.**

(a) Motor carriers subject to a remedial directive to install EOBRs under this section must provide proof of EOBR installation by one of the following:

(1) Submitting all of the carrier's CMVs for visual and functional inspection by FMCSA or qualified State enforcement personnel.

(2) Transmitting to the FMCSA service center for the geographic area where the carrier maintains its principal place of business all of the following documentation:

(i) Receipts for all necessary EOBR purchases.

(ii) Receipts for the installation work.  
(iii) Digital or other photographic evidence depicting the installed devices in the carrier's CMVs.

(iv) Documentation of the EOBR serial number for the specific device corresponding to each CMV in which the device has been installed.

(3) If no receipt is submitted for an installed device or the installation work in accordance with paragraph (a)(2) of this section, the carrier must submit a written statement explaining who installed the devices, how many devices were installed, the manufacturer and model numbers of the devices installed, and the vehicle identification numbers of the CMVs in which the devices were installed.

(b) Visual and functional EOBR inspections may be performed at any FMCSA roadside inspection station or at the roadside inspection or weigh station facility of any State that receives Motor Carrier Safety Assistance Program funds under 49 U.S.C. 31102 and that provides such inspection services. The carrier may also request such inspections be performed at its principal place of business.

(c) Motor carriers issued remedial directives pursuant to this section must install in all of their CMVs EOBRs meeting the standards set forth in 49 CFR 395.16. Such motor carriers must maintain and use the EOBRs to verify compliance with part 395 for a period of 2 years following the issuance of the remedial directive. In addition to any other requirements imposed by the FMCSRs, during the period of time the carrier is subject to a remedial directive the carrier must maintain all records and reports generated by the EOBRs and, upon demand, produce those records to FMCSA personnel.

(d) *Malfunctioning devices.* Motor carriers subject to remedial directives shall maintain EOBRs installed in their CMVs in good working order. Such carriers must cause any malfunctioning EOBR to be repaired or replaced within 14 days from the date the carrier becomes aware of the malfunction. During this repair or replacement period, carriers subject to a remedial directive under this part must prepare a paper record of duty status pursuant to § 395.8 of this chapter as a temporary replacement for the non-functioning EOBR unit. All other provisions of the remedial directive will continue to apply during the repair and replacement period. Failure to comply with the terms of this paragraph may subject the affected CMV and/or driver to an out-of-service order pursuant to § 396.9(c) and § 395.13 of this chapter, respectively. Repeated violations of this paragraph

may subject the motor carrier to the provisions of § 385.519.

#### **§ 385.513 Issuance and conditional rescission of proposed unfitness determination.**

(a) Simultaneously with the notice of remedial directive, FMCSA will issue a proposed unfitness determination. The proposed unfitness determination will explain that, if the motor carrier fails to comply with the terms of the remedial directive, the carrier will be unfit under the fitness standard in § 385.5, prohibited from engaging in interstate operations and intrastate operations affecting interstate commerce, and, in the case of a carrier registered under 49 U.S.C. 13901, have its registration revoked.

(b) FMCSA will conditionally rescind the proposed determination of unfitness upon the motor carrier's submission of sufficient proof of EOBR installation in accordance with § 385.511.

(c) During the period the remedial directive is in effect, FMCSA may reinstate the proposed unfitness determination and immediately prohibit the motor carrier from operating in interstate commerce and intrastate operations affecting interstate commerce if the motor carrier violates the provisions of the remedial directive.

#### **§ 385.515 Exemption for AOBRD users.**

(a) Upon written request by the motor carrier, FMCSA will grant an exception from the requirements of remedial directives under this section to motor carriers that already had installed in all commercial motor vehicles, at the time of the compliance review immediately preceding the issuance of the notice of remedial directive, AOBRDs compliant with 49 CFR 395.15, or to motor carriers that had been issued a waiver allowing the carrier to use devices not fully compliant with § 395.15.

(b) The carrier will be permitted to continue using the previously installed devices if the carrier can satisfactorily demonstrate to FMCSA that the carrier and its employees understand how to use the AOBRDs and the information derived from them.

(c) The carrier must either use and maintain the AOBRDs currently in its CMVs or install new § 395.16-compliant devices.

(d) Although FMCSA may suspend enforcement for noncompliance with the remedial directive, the directive will remain in effect, and the hours-of-service compliance of any motor carrier so exempted will be subject to ongoing FMCSA oversight.

(e) The exemption granted under this section shall not apply to CMVs

manufactured on or after the date 2 years from the effective date of this rule.

**§ 385.517 Administrative review.**

(a) A motor carrier may request FMCSA to conduct an administrative review if the carrier believes FMCSA has committed an error in issuing an NPRDA under § 385.507 or a notice of remedial directive and proposed unfitness determination under § 385.509. Administrative reviews of notices of remedial directive and proposed unfitness determinations are limited to findings in the compliance review immediately preceding the notice.

(b) The motor carrier's request must explain the error it believes FMCSA committed in issuing the NPRDA or the notice of remedial directive and proposed unfitness determination. The motor carrier must include a list of all factual and procedural issues in dispute and any information or documents that support its argument.

(c) The motor carrier must submit its request in writing to the Assistant Administrator, Federal Motor Carrier Safety Administration, 400 Seventh Street, SW., Washington, DC 20590. The carrier must submit on the same day a copy of the request to FMCSA counsel in the FMCSA service center for the geographic area where the carrier maintains its principal place of business.

(1) If a motor carrier has received a notice of remedial directive and proposed unfitness determination, the carrier should submit its request in writing within 15 days from the date of the notice. This timeframe will allow FMCSA to issue a written decision before the prohibitions outlined in § 385.519(a) take effect. If the carrier submits its request for administrative review within 15 days of the issuance of the notice of remedial directive and proposed unfitness determination, FMCSA will stay the finality of the proposed unfitness determination until the Agency has ruled on the carrier's request. Failure to submit the request within this 15-day period may prevent FMCSA from ruling on the request before the prohibitions take effect.

(2) A motor carrier must make a request for an administrative review within 90 days following the date of the NPRDA under § 385.507 or the notice of remedial directive and proposed determination of unfitness under § 385.509.

(d) FMCSA may request the motor carrier to submit additional data or attend a conference to discuss the request for review. If the motor carrier does not provide the information

requested, or does not attend the conference, FMCSA may dismiss its request for review.

(e) FMCSA will notify the motor carrier in writing of its decision following the administrative review. FMCSA will complete its review:

(1) Within 30 days after receiving a request from a hazardous materials or passenger motor carrier that has received a proposed unfitness determination;

(2) Within 45 days after receiving a request from any other motor carrier that has received a proposed unfitness determination;

(3) With respect to requests for administrative review of notices of potential remedial directive applicability, as soon as practicable but not later than 60 days after receiving the request.

(f) The decision regarding a proposed unfitness determination constitutes final Agency action.

(g) The provisions of this section will not affect procedures for administrative review of proposed or final safety ratings in accordance with § 385.15 or for requests for changes to safety ratings based upon corrective action in accordance with § 385.17.

**§ 385.519 Effect of failure to comply with remedial directive.**

(a) A motor carrier that fails or refuses to comply with the terms of a remedial directive issued under this subpart, including a failure or refusal to provide proof of EOBR installation in accordance with § 385.511, does not meet the safety fitness standard set forth in § 385.5(b). With respect to such carriers, the proposed determination of unfitness issued in accordance with § 385.513 becomes final, and the motor carrier is prohibited from operating, as follows:

(1) Motor carriers transporting hazardous materials in quantities requiring placarding and motor carriers transporting passengers in a CMV are prohibited from operating CMVs in interstate commerce and in operations that affect interstate commerce beginning on the 46th day after the date of FMCSA's notice of remedial directive and proposed unfitness determination. A motor carrier subject to the registration requirements of 49 U.S.C. 13901 will have its registration revoked on the 46th day after the date of FMCSA's notice of remedial directive and proposed unfitness determination.

(2) All other motor carriers are prohibited from operating a CMV in interstate commerce and in operations that affect interstate commerce beginning on the 61st day after the date

of FMCSA's notice of remedial directive and proposed unfitness determination. A motor carrier subject to the registration requirements of 49 U.S.C. 13901 will have its registration revoked on the 61st day after the date of FMCSA's notice of remedial directive and proposed unfitness determination. If FMCSA determines the motor carrier is making a good-faith effort to satisfy the terms of the remedial directive, FMCSA may allow the motor carrier to operate for up to 60 additional days.

(b) If a proposed unfitness determination becomes a final determination, FMCSA will issue an order prohibiting the motor carrier from operating in interstate commerce. If the motor carrier is required to register under 49 U.S.C. 13901, FMCSA will revoke the motor carrier's registration on the dates specified in § 385.519(a)(1) and (a)(2).

(c) If FMCSA has prohibited a motor carrier from operating in interstate commerce under paragraph (a) of this section and, if applicable, revoked the carrier's registration, and the motor carrier subsequently complies with the terms and conditions of the remedial directive and provides proof of EOBR installation under § 385.511, the carrier may request FMCSA to lift the prohibition on operations at any time after the prohibition becomes effective. The request should be submitted in writing in accordance with § 385.517(c).

(d) A Federal Agency must not use for CMV transportation a motor carrier that FMCSA has determined is unfit.

(e) *Penalties.* If a proposed unfitness determination becomes a final determination, FMCSA will issue an order prohibiting the motor carrier from operating in interstate commerce and any intrastate operations that affect interstate commerce and, if applicable, revoking its registration. Any motor carrier that operates CMVs in violation of this section will be subject to the penalty provisions listed in 49 U.S.C. 521(b).

14. Amend Appendix B by revising introductory paragraphs (b), (c), and (d) and section VI Conclusion, paragraph (a), to read as follows:

**Appendix B to Part 385—Explanation of Safety Rating Process**

\* \* \* \* \*

(b) As directed, FMCSA promulgated a safety fitness regulation, entitled "Safety Fitness Procedures," which established a procedure to determine the safety fitness of motor carriers through the assignment of safety ratings and established a "safety fitness standard" that a motor carrier must meet to obtain a "satisfactory" safety rating. FMCSA later amended the safety fitness standard to add a distinct requirement that

motor carriers also be in compliance with applicable remedial directives.

(c) To meet the safety fitness standard, a motor carrier must meet two requirements. First, the carrier must demonstrate to FMCSA it has adequate safety management controls in place that function effectively to ensure acceptable compliance with the applicable safety requirements. (See § 385.5(a)). A "safety fitness rating methodology" (SFRM) developed by FMCSA uses data from compliance reviews (CRs) and roadside inspections to rate motor carriers. Second, a motor carrier must also be in compliance with any applicable remedial directives issued in accordance with subpart F. This second requirement is set forth in § 385.5(b).

(d) The safety rating process developed by FMCSA is used to:

1. Evaluate the first component of the safety fitness standard, under § 385.5(a), and assign one of three safety ratings (satisfactory, conditional, or unsatisfactory) to motor carriers operating in interstate commerce. This process conforms to § 385.5(a), Safety fitness standard, and § 385.7, Factors to be considered in determining a safety rating.

2. Identify motor carriers needing improvement in their compliance with the Federal Motor Carrier Safety Regulations (FMCSRs) and applicable Hazardous Materials Regulations (HMRs). These are carriers rated unsatisfactory or conditional.

\* \* \* \* \*

## VI. Conclusion

(a) FMCSA believes this "safety fitness rating methodology" is a reasonable approach to assignment of a safety rating, as required by the safety fitness regulations (§ 385.9), that most closely reflects the motor carrier's current level of compliance with the safety fitness standard in § 385.5(a). This methodology has the capability to incorporate regulatory changes as they occur.

\* \* \* \* \*

15. Add Appendix C to read as follows:

### Appendix C to Part 385—Regulations Pertaining To Remedial Directives in Part 385 Subpart F

#### § 395.1(h)(1)(i)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive more than 15 hours (Driving in Alaska).

#### § 395.1(h)(1)(ii)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive after having been on duty 20 hours (Driving in Alaska).

#### § 395.1(h)(1)(iii)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive after having been on duty more than 70 hours in 7 consecutive days (Driving in Alaska).

#### § 395.1(h)(1)(iv)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive

after having been on duty more than 80 hours in 8 consecutive days (Driving in Alaska).

#### § 395.1(h)(2)(i)

Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive more than 15 hours (Driving in Alaska).

#### § 395.1(h)(2)(ii)

Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty 20 hours (Driving in Alaska).

#### § 395.1(h)(2)(iii)

Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty more than 70 hours in 7 consecutive days (Driving in Alaska).

#### § 395.1(h)(2)(iv)

Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty more than 80 hours in 8 consecutive days (Driving in Alaska).

#### § 395.1(o)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive after having been on duty 16 consecutive hours.

#### § 395.3(a)(1)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive more than 11 hours.

#### § 395.3(a)(2)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive after the end of the 14th hour after coming on duty.

#### § 395.3(b)(1)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive after having been on duty more than 60 hours in 7 consecutive days.

#### § 395.3(b)(2)

Requiring or permitting a property-carrying commercial motor vehicle driver to drive after having been on duty more than 70 hours in 8 consecutive days.

#### § 395.3(c)(1)

Requiring or permitting a property-carrying commercial motor vehicle driver to restart a period of 7 consecutive days without taking an off-duty period of 34 or more consecutive hours.

#### § 395.3(c)(2)

Requiring or permitting a property-carrying commercial motor vehicle driver to restart a period of 8 consecutive days without taking an off-duty period of 34 or more consecutive hours.

#### § 395.5(a)(1)

Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive more than 10 hours.

#### § 395.5(a)(2)

Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty 15 hours.

#### § 395.5(b)(1)

Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty more than 60 hours in 7 consecutive days.

#### § 395.5(b)(2)

Requiring or permitting a passenger-carrying commercial motor vehicle driver to drive after having been on duty more than 70 hours in 8 consecutive days.

#### § 395.8(a)

Failing to require driver to make a record of duty status.

#### § 395.8(e)

False reports of records of duty status.

#### § 395.8(i)

Failing to require driver to forward within 13 days of completion, the original of the record of duty status.

#### § 395.8(k)(1)

Failing to preserve driver's record of duty status for 6 months.

#### § 395.8(k)(1)

Failing to preserve driver's records of duty status supporting documents for 6 months.

## PART 395—HOURS OF SERVICE OF DRIVERS

16. The authority citation for part 395 continues to read as follows:

**Authority:** 49 U.S.C. 508, 13301, 13902, 31133, 31136, 31502, 31504, and sec. 204, Pub. L. 104–88, 109 Stat. 803, 941 (49 U.S.C. 701 note); sec. 114, Pub. L. 103–311, 108 Stat. 1673, 1677; sec. 217, Pub. L. 106–159, 113 Stat. 1748, 1767; and 49 CFR 1.73.

17. Section 395.2 is amended to add the following definitions in alphabetical order:

### § 395.2 Definitions.

\* \* \* \* \*

*ASCII* (American Standard Code for Information Interchange) is a character set and a character encoding system based on the Roman alphabet as used in modern English and other Western European languages. ASCII is commonly used by computers and other communication equipment. The specifications for the ASCII standard (the most widely used form of which is ANSI X3.4–1986) are described in the document *Information Systems—Coded Character Sets—7-Bit American National Standard Code for Information Interchange (7-Bit ASCII)* (ANSI document # ANSI INCITS 4–1986 (R2002)), published by the American National Standards Institute (ANSI).

\* \* \* \* \*

*Bluetooth* is a short-range wireless data communications standard typically used to exchange information between electronic devices such as personal digital assistants (PDAs), mobile phones, and portable laptop computers.

The technical specifications for the Bluetooth standard are described in the document *Bluetooth Specification Version 2.0 + EDR [vol. 0]*, available from the Bluetooth Special Interest Group (SIG).

*CD-RW* (Compact Disc—ReWriteable) means an optical disc digital storage format that allows digital data to be erased and rewritten many times. The technical and physical specifications for CD-RW are described in the document *Orange Book Part III: CD-RW*, published by Royal Philips Electronics.

802.11 is a set of communications and product compatibility standards for wireless local area networks (WLAN). The 802.11 standards are also known as WiFi by marketing convention. The 802.11 standard includes three amendments to the original standard, 802.11a, 802.11b, and 802.11g. The technical specifications for 802.11a, 802.11b, and 802.11g are published by the Institute of Electrical and Electronics Engineers (IEEE).

*Electronic on-board recording device (EOBR)* means an electronic device that is capable of recording a driver's hours of service and duty status accurately and automatically and that meets the requirements of § 395.16.

*Integrally synchronized* refers to an AOBDR or EOBR that receives and records the engine use status for the purpose of deriving on-duty-driving status from a source or sources internal to the CMV.

*RS-232* is a standard for serial binary data interconnection. The technical specifications for the RS-232 standard are described in the document *Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange (ANSI/TIA-232-F-1997 (R2002))*, September 1, 1997, published by the Telecommunications Industry Association (TIA).

*USB (Universal Serial Bus)* is a serial bus interface standard for connecting electronic devices. The technical and physical specifications for USB are described in the document *Universal Serial Bus Revision 2.0 specification*, published by the USB Implementers Forum (USBIF), an industry standards group of leading companies from the computer and electronics industries.

*UTC (Coordinated Universal Time)* is the international civil time standard, determined by using highly precise atomic clocks. It is the basis for civil standard time in the United States and

its territories. UTC time refers to time kept on the Greenwich meridian (longitude zero), which is 5 hours ahead of Eastern Standard Time. UTC times are expressed in terms of a 24-hour clock. Standard time within any U.S. time zone is offset from UTC by a given number of hours determined by the time zone's distance from the Greenwich meridian.

*XML (Extensible Markup Language)* is text format used for including information about the conceptual structure of a piece of text. The primary purpose of XML is to facilitate the sharing of data across different computer systems. The technical specifications for XML are described in the document *Extensible Markup Language (XML) 1.0 (Third Edition)*, published by the World Wide Web Consortium (W3C).

18. Amend § 395.8 to revise paragraphs (a)(2) and (e) to read as follows:

**§ 395.8 Driver's record of duty status.**

(a) \* \* \*

(2) Every driver operating a commercial motor vehicle equipped with either an automatic on-board recording device meeting the requirements of § 395.15 or an electronic on-board recorder meeting the requirements of § 395.16 must record his or her duty status using the device installed in the vehicle. The requirements of this section shall not apply, except for paragraphs (e) and (k)(1) and (2).

(e) Failure to complete the record of duty activities of this section, failure to preserve a record of such duty activities, or making false reports in connection with such duty activities shall make the driver and/or the carrier liable to prosecution.

19. Add § 395.11 to read as follows:

**§ 395.11 Supporting documents for EOBR-created RODS.**

Time and location data produced by an EOBR meeting the requirements of § 395.16 are sufficient to verify on-duty driving time. Motor carriers maintaining time and location data produced by a § 395.16-compliant EOBR need only maintain additional supporting documents (e.g., driver payroll records, fuel receipts) that provide the ability to verify on-duty not-driving activities and off-duty status to fully meet the requirements of § 395.8(k). This section does not apply to motor carriers and owner-operators that have been issued a

remedial directive to install, use, and maintain EOBRs.

20. Amend § 395.13 to revise paragraph (b)(2) and to add paragraph (b)(4) to read as follows:

**§ 395.13 Drivers declared out of service.**

(b) \* \* \*

(2) Every driver required to maintain a record of duty status under § 395.8 must have a record of duty status current on the day of examination and for the prior 7 consecutive days.

(4) No driver shall drive a CMV in violation of § 385.511(d) of this chapter.

21. Amend § 395.15 to revise paragraph (a) to read as follows:

**§ 395.15 Automatic on-board recording devices.**

(a) *Applicability.* This section applies to automatic on-board recording devices (AOBRDs) used to record the driver's hours of service as specified by part 395. For commercial motor vehicles manufactured prior to [INSERT DATE 2 YEARS AFTER PUBLICATION OF FINAL RULE], manufacturers or motor carriers may install an electronic device to record hours of service if the device meets the requirements of either this section or § 395.16.

22. Add § 395.16 to read as follows:

**§ 395.16 Electronic on-board recording devices.**

(a) *Applicability.* This section applies to electronic on-board recording devices (EOBRs) used to record the driver's hours of service as specified by part 395. For commercial motor vehicles manufactured after [INSERT DATE 2 YEARS AFTER PUBLICATION OF FINAL RULE], any electronic device installed in a CMV by a manufacturer or motor carrier to record hours of service must meet the requirements of this section.

(b) *Information to be recorded.* An EOBR must record the following information:

- (1) Name of driver and any co-driver(s), and corresponding driver identification information (such as user IDs and passwords, PIN numbers, smart cards, or biometrics).
- (2) Duty status.
- (3) Date and time.
- (4) Location of CMV.
- (5) Distance traveled.
- (6) Name and USDOT number of motor carrier.
- (7) 24-hour period starting time (e.g., midnight, 9 a.m., noon, 3 p.m.).



(8) The multiday basis (7 or 8 days) used by the motor carrier to compute cumulative duty hours and driving time.

(9) Hours in each duty status for the 24-hour period, and total hours.

(10) Truck or tractor and trailer number.

(11) Shipping document number(s), or name of shipper and commodity.

(c) *Duty status categories.* An EOBR must use the following duty statuses:

(1) "Off duty" or "OFF", or other identifiable code or character.

(2) "Sleeper berth," or "SB" or other identifiable code or character, to be used only if sleeper berth is used.

(3) "Driving," or "D" or other identifiable code or character.

(4) "On-duty not-driving" or "ON" or other identifiable code or character.

(d) *Duty status defaults.*

(1) An EOBR must automatically record driving time.

(2) When the CMV is stationary for 15 minutes or more, the EOBR must default to on-duty not-driving, and the driver must enter the proper duty status.

(3) An EOBR must record the results of power-on self-tests and diagnostic error codes.

(e) *Date and time.*

(1) The date and time must be reported on the EOBR output record as specified under paragraph (f) of this section and displayed at each change of duty status.

(2) The date and time must be obtained, transmitted, and recorded in such a way that it cannot be altered by a motor carrier, driver, or third party.

(3) The driver's duty status record must be prepared, maintained, and submitted using the time standard in effect at the driver's home terminal, for a 24-hour period beginning with the time specified by the motor carrier for that driver's home terminal.

(4) The time must be coordinated to UTC and must not drift more than 2 seconds per day. The absolute deviation from the time base coordinated to UTC shall not exceed 10 minutes at any time.

(f) *Location.*

(1) Information used to determine the location of the CMV must be derived from a source not subject to alteration by the motor carrier or driver.

(2) The location description for the duty status change must be sufficiently precise to enable enforcement personnel to quickly determine the vehicle's geographic location at each change of duty status on a standard map or road atlas.

(3) When the CMV is in motion, location and time must be recorded at intervals no greater than 1 minute. This recorded information must be capable of being made available in an output file

format as specified in Appendix A of this part, but does not need to be displayed on the EOBR's visual output device.

(4) For each change of duty status (e.g., the place and time of reporting for work, starting to drive, on-duty not-driving, and where released from work), the name of the nearest city, town, or village, with State abbreviation, must be recorded.

(5) The EOBR must use location codes derived from satellite or terrestrial sources, or a combination of these. The location codes must correspond, at a minimum, to the Census Bureau 2000 Gazetteer "County Subdivision" data.

(g) *Distance traveled.*

(1) Distance traveled must use units of miles or kilometers driving during each on-duty driving period and total for each 24-hour period for each driver operating the CMV.

(2) If the EOBR records units of distance in kilometers, it must provide a means to display the equivalent distance in miles.

(3) If the EOBR obtains distance-traveled information from a source internal to the CMV, the information must be accurate to the distance traveled as measured by the CMV's odometer.

(4) If the EOBR obtains distance-traveled information from a source external to the CMV, the information recorded must be accurate to within  $\pm 1$  percent of actual distance traveled over a 24-hour period as measured by the CMV's odometer.

(h) *Review of information by driver.*

(1) The EOBR must allow for the driver's review of each day's record before the driver submits the record to the motor carrier.

(2) The driver must review the information contained in the EOBR record and affirmatively note the review before submitting the record to the motor carrier.

(3) The driver may annotate only non-driving-status periods, and may do so only immediately prior to the first driving period of the day and immediately following the last driving period of the day. The driver must electronically confirm his or her intention to make any annotations.

(4) If the driver makes a written entry on a hardcopy output of an EOBR relating to his or her duty status, the entries must be legible and in the driver's own handwriting.

(i) *Information reporting requirements.*

(1) An EOBR must make it possible for authorized Federal, State, or local officials to immediately check the status of a driver's hours of service.

(2) An EOBR must produce, upon demand, a driver's hours-of-service chart using a graph-grid format in either electronic or printed form in the manner described in § 395.8 and a digital file in the format described in Appendix A of this part. The chart must show the time and sequence of duty status changes including the driver's starting time at the beginning of each day.

(3) This information may be used in conjunction with handwritten or printed records of duty status for the previous 7 days.

(4) The information displayed on the device must be made accessible to authorized Federal, State, or local safety assurance officials for their review without requiring the official to enter in or upon the CMV. The output record must conform to the file format specified in Appendix A of this part.

(5) The driver must have in his or her possession records of duty status for the previous 7 consecutive days available for inspection while on duty. These records must consist of information stored in and retrievable from the EOBR, handwritten records, other computer-generated records, or any combination of these. Electronic records must be transferable to portable computers used by roadside safety assurance officials and must provide files in the format specified in Appendix A of this part. The communication information interchange methods must comply with the requirements of RS 232, USB 2.0, IEEE 802.11(g), and Bluetooth.

(6) Support systems used in conjunction with EOBRs at a driver's home terminal or the motor carrier's principal place of business must be capable of providing authorized Federal, State, or local officials with summaries of an individual driver's hours of service records, including the information specified in § 395.8(d). The support systems must also provide information concerning on-board system sensor failures and identification of amended and edited data. Support systems must provide a file in the format specified in Appendix A of this part. The system must also be able to produce a copy of files on portable storage media (CD-RW, USB 2.0 drive) upon request of authorized safety assurance officials.

(j) *Driver identification.* For the driver to log into the EOBR, the EOBR must require the driver to enter information (such as user IDs and passwords, PIN numbers) that identifies the driver or to provide other information (such as smart cards, biometrics) that identifies the driver.

(k) *Availability of records of duty status.*

(1) An EOBR must be capable of producing duty status records for the current day and the previous 7 days from either the information stored in and retrievable from the EOBR or computer-generated records, or any combination of these.

(2) If an EOBR fails, the driver must do the following:

(i) Note the failure of the EOBR.

(ii) Reconstruct the record of duty status for the current day and the previous 7 days, less any days for which the driver has records.

(iii) Continue to prepare a handwritten record of all subsequent duty status until the device is again operational.

(l) *On-board information.* Each commercial motor vehicle must have onboard the commercial motor vehicle an information packet containing the following items:

(1) An instruction sheet describing how data may be stored and retrieved from the EOBR.

(2) A supply of blank driver's records of duty status graph-grids sufficient to record the driver's duty status and other related information for the duration of the current trip.

(m) *Submission of driver's record of duty status.*

(1) The driver must submit electronically, to the employing motor carrier, each record of the driver's duty status.

(2) For motor carriers not subject to the remedies provisions of part 385 subpart F of this chapter, each record must be submitted within 13 days of its completion.

(3) For motor carriers subject to the remedies provisions of part 385 subpart F of this chapter, each record must be submitted within 3 days of its completion.

(4) The driver must review and verify that all entries are accurate prior to submission to the employing motor carrier.

(5) The submission of the record of duty status certifies that all entries made by the driver are true and correct.

(n) *EOBR display requirements.* An EOBR must have the capability of displaying all of the following information:

(1) The driver's name and EOBR login ID number on all EOBR records associated with that driver, including records in which the driver serves as a co-driver.

(2) The driver's total hours of driving during each driving period and the current duty day.

(3) The total hours on duty for the current duty day.

(4) Total miles or kilometers of driving during each driving period and the current duty day.

(5) Total hours on duty and driving time for the 7-consecutive-day period, including the current duty day.

(6) Total hours on duty and driving time for the prior 8-consecutive-day period, including the current duty day.

(7) The sequence of duty status for each day, and the time of day and location for each change of duty status, for each driver using the device.

(8) EOBR serial number or other identification, and identification number(s) of vehicle(s) operated that day.

(9) Remarks, including fueling, waypoints, loading and unloading times, unusual situations, or violations.

(10) Acknowledgement of an advisory message or signal concerning HOS limits.

(11) Override of an automated duty status change to driving if using the vehicle for personal conveyance or for yard movement.

(12) Date and time of crossing a State line (for purposes of fuel-tax reporting).

(o) *Performance of recorders.* A motor carrier that uses EOBRs for recording drivers' records of duty status instead of the handwritten record must ensure the EOBR meets the following requirements in order to address all hours-of-service requirements in effect as of October 24, 2005:

(1) The EOBR must permit the driver to enter information into the EOBR only when the commercial motor vehicle is at rest.

(2) The EOBR and associated support systems must, to the maximum extent practicable, be tamper resistant. The EOBR must not permit alteration or erasure of the original information collected concerning the driver's hours of service, or alteration of the source data streams used to provide that information.

(3) The EOBR must be able to perform a power-on self-test, as well as a self-test at any point upon request of an authorized safety assurance official. The EOBR must provide an audible and visible signal as to its functional status. It must record the outcome of the self-test and its functional status as a diagnostic event record in conformance with Appendix A of this part.

(4) The EOBR must provide an audible and visible signal to the driver at least 30 minutes in advance of reaching the driving time limit and the on-duty limit for the 24-hour period.

(5) The EOBR must be able to track total weekly on-duty and driving hours over a 7- or 8-day consecutive period. The EOBR must be able to warn a driver

at least 30 minutes in advance of reaching the weekly duty/driving-hour limitation.

(6) The EOBR must warn the driver via an audible and visible signal that the device has ceased to function.

(7) The EOBR must record a code corresponding to the reason it has ceased to function and the date and time of that event.

(8) The audible signal must be capable of being heard and discerned by the driver when seated in the normal driving position, whether the CMV is in motion or parked with the engine operating. The visual signal must be visible to the driver when the driver is seated in the normal driving position.

(9) The EOBR must be capable of recording separately each driver's duty status when there is a multiple-driver operation.

(10) The EOBR device/system must identify sensor failures and edited and annotated data when downloaded or reproduced in printed form.

(11) The EOBR device/system must identify annotations made to all records, the date and time the annotations were made, and the identity of the person making them.

(12) If a driver or any other person annotates a record in an EOBR or an EOBR support system, the annotation must not overwrite the original contents of the record.

(p) *Motor Carrier Requirements.*

(1) The motor carrier must ensure that the EOBR is calibrated, maintained, and recalibrated in accordance with the manufacturer's specifications; the motor carrier must retain records of these activities.

(2) The motor carrier's drivers and other personnel reviewing and using EOBRs and the information derived from them must be adequately trained regarding the proper operation of the device.

(3) The motor carrier must maintain a second copy (back-up copy) of the electronic hours-of-service files, by month, on a physical device different from that on which the original data are stored.

(4) The motor carrier must review the EOBR records of its drivers for compliance with part 395.

(q) *Manufacturer's self-certification.*

(1) The EOBR and EOBR support systems must be certified by the manufacturer as evidence that they have been sufficiently tested to meet the requirements of § 395.16 and Appendix A of this part under the conditions in which they would be used.

(2) The exterior faceplate of the EOBR must be marked by the manufacturer with the text 'USDOT-EOBR' as

evidence that the device has been tested and certified as meeting the performance requirements of § 395.16 and Appendix A of this part.

23. Add Appendix A to 49 CFR Part 395 to read as follows:

**Appendix A to Part 395—Electronic On-Board Recorder Performance Specifications**

*1. Data Elements Dictionary for Electronic On-Board Recorders (EOBRs)*

1.1 To facilitate the electronic transfer of records to roadside inspection personnel and

compliance review personnel, and provide the ability of various third-party and proprietary EOBR devices to be interoperable, a consistent electronic file format and record layout for the electronic RODS data to be recorded are necessary. This EOBR data elements dictionary provides a standardized and consistent format for EOBR output data.

EOBR Database Concept

1.2 Regardless of the particular electronic file type (such as ASCII or XML) ultimately used for recording the electronic RODS produced by an EOBR, RODS data must be

recorded according to a “flat file” database model. A flat file is a simple database in which all information is stored in a plain text format with one database “record” per line. Each of these data records is divided into “fields” using delimiters (as in a comma-separated-values data file) or based on fixed column positions. Table 1 below presents the general concept of a flat data file consisting of data “fields” (columns) and data “records” (rows).

**Table 1: Flat Data File Database Model**

FIELDS

	Person First Name	Person Last Name	Driver PIN	Event Date	Event Time	Status Code
RECORDS	William	Smith	978354	20050718	12:11	D
	William	Smith	978354	20050718	15:17	SB
	William	Smith	978354	20050718	18:53	D
	William	Smith	978354	20050718	21:43	ON
	William	Smith	978354	20050718	22:14	OFF
	William	Smith	978354	20050719	06:25	ON
	William	Smith	978354	20050719	06:47	D
	William	Smith	978354	20050719	13:32	SB
	William	Smith	978354	20050719	15:27	D
	William	Smith	978354	20050719	20:04	SB

1.3 The data elements dictionary describes the data fields component of the above framework. Individual data records must be generated and recorded whenever there is a change in driver duty status, an EOBR diagnostic event (such as power-on/

off, self test, etc.), or when one or more data fields of an existing data record are later amended. In the last case, the corrected record must be recorded and noted as “current” in the “Event Status Code” data field, with the original record maintained in

its unedited form and noted as “historical” in the “Event Status Code” data field. The EOBR Data Elements Dictionary is described in Table 2. The event codes are listed in Table 3.

**TABLE 2.—EOBR DATA ELEMENTS DICTIONARY**

Data element	Data element definition	Type	Length	Valid values & notes
<b>Driver Identification Data:</b>				
Driver First Name .....	First name of the driver .....	A .....	35	
Driver Last Name .....	Last name, family name, or surname of the driver.	A .....	35	
Driver PIN/ID .....	Numeric identification number assigned to a driver by the motor carrier.	A .....	40	
<b>Vehicle Identification Data:</b>				
Tractor Number .....	Motor carrier assigned identification number for tractor unit.	A .....	10	
Trailer Number .....	Motor carrier assigned identification number for trailer.	A .....	10	
Tractor VIN Number .....	Unique vehicle ID number assigned by manufacturer according to U.S. DOT regulations.	A .....	17	
<b>Co-Driver Data:</b>				
Co-Driver First Name .....	First name of the co-driver .....	A .....	35	
Co-Driver Last Name .....	Last name, family name or surname of the co-driver.	A .....	35	
Co-Driver ID .....	Numeric identification number assigned to a driver by the motor carrier.	A .....	40	

TABLE 2.—EOBR DATA ELEMENTS DICTIONARY—Continued

Data element	Data element definition	Type	Length	Valid values & notes
Company Identification Data:				
Carrier USDOT Number .....	USDOT number of the motor carrier assigned by FMCSA.	N .....	8	
Carrier Name .....	Name or trade name of the motor carrier company appearing on the Form MCS-150.	A .....	120	
Shipment Data:				
Shipping Document Number .....	Shipping document number .....	A .....	40	
Event Data:				
Event Sequence ID .....	A serial identifier for an event that is unique to a particular vehicle and a particular day.	N .....	4	0001 through 9999.
Event Status Code .....	Character codes for the four driver duty status change events, state border crossing event, and diagnostic events.	A .....	3	OFF=Off Duty; SB=Sleeper Berth; D=On Duty Driving; ON=On Duty Not Driving; DG=Diagnostic.
Event Date .....	The date when an event occurred .....	N .....	8	UTC (universal time) recommended. Format: YYYYMMDD.
Event Time .....	The time when an event occurred .....	N .....	6	UTC (universal time) recommended. Format: HHMMSS (hours, minutes, seconds).
Event Latitude .....	Latitude of a location where an event occurred.	N .....	2, 6	Decimal format: XX.XXXXXX.
Event Longitude .....	Longitude of a location where an event occurred.	N .....	3, 6	Decimal format: XXX.XXXXXX.
Place Name .....	Nearest populated place from the FIPS55 list of codes for populated places. (Census Bureau 2000 Gazetteer "County Subdivision").	N .....	5	Unique within a FIPS state code. Lookup list derived from FIPS55.
Place Distance Miles .....	Distance in miles to nearest populated place from the location where an event occurred.	N .....	4	
Total Vehicle Miles .....	Total vehicle miles (as noted on vehicle odometer or as measured by any other compliant means such as vehicle location system, etc.).	N .....	7	With total vehicle mileage recorded at the time of each event, vehicle miles traveled while driving, etc., can be computed.
Event Update Status Code .....	A status of an event, either Current (the most up-to-date update or edit) or Historical (the original record if the record has subsequently been updated or edited).	A .....	1	C=Current; H=Historical.
Diagnostic Event Code .....	For diagnostic events (events where the "Event Status Code" is noted as "DG"), records the type of diagnostic performed (e.g., power-on, self test, power-off, etc.).	A .....	2	(See Table 3).
Event Error Code .....	Error code associated with an event	A .....	2	(See Table 3).
Event Update Date .....	The date when an event record was last updated or edited.	N .....	8	UTC (universal time) recommended. Format: YYYYMMDD.
Event Update Time .....	Then time when an event record was last updated or edited.	N .....	6	UTC (universal time) recommended. Format: HHMMSS (hours, minutes, seconds).
Event Update Person ID .....	An identifier of the person who last updated or edited a record.	A .....	40	
Event Update Text .....	A textual note related to the most recent record update or edit.	A .....	60	Brief narrative regarding reason for record update or edit.

TABLE 3.—EOBR DIAGNOSTIC EVENT CODES

Code class	Code	Brief description	Full description
General System Diagnostic .....	PWR_ON	Power on .....	EOBR initial power-on.
General System Diagnostic .....	PWROFF	Power off .....	EOBR power-off.
General System Diagnostic .....	TESTOK	test okay .....	EOBR self test successful.
General System Diagnostic .....	SERVIC	Service .....	EOBR Malfunction (return unit to factory for servicing).
General System Diagnostic .....	MEMERR	memory error .....	System memory error.
General System Diagnostic .....	LOWVLT	Low voltage .....	Low system supply voltage.
General System Diagnostic .....	BATLOW	battery low .....	Internal system battery backup low.
General System Diagnostic .....	CLKERR	clock error .....	EOBR system clock error (clock not set or defective).
General System Diagnostic .....	BYPASS	Bypass .....	EOBR system bypassed (RODS data not collected).

TABLE 3.—EOBR DIAGNOSTIC EVENT CODES—Continued

Code class	Code	Brief description	Full description
Data Storage Diagnostic .....	INTFUL ..	internal memory full .....	Internal storage memory full (requires download or transfer to external storage).
Data Storage Diagnostic .....	DATAACC	Data accepted .....	System accepted driver data entry.
Data Storage Diagnostic .....	EXTFUL	external memory full .....	External memory full (smartcard or other external data storage device full).
Data Storage Diagnostic .....	EXTERR	external data access error .....	Access external storage device failed.
Data Storage Diagnostic .....	DLOADY	download yes .....	EOBR data download successful.
Data Storage Diagnostic .....	DLOADN	download no .....	Data download rejected (unauthorized request/wrong Password).
Driver Identification Issue .....	NODRID	no driver ID .....	No driver information in system and vehicle is in motion.
Driver Identification Issue .....	PINERR	PIN error .....	Driver PIN/identification number invalid.
Driver Identification Issue .....	DRIDRD	Driver ID read .....	Driver information successfully read from external storage device (transferred to EOBR).
Peripheral Device Issue .....	DPYERR	display error .....	EOBR display malfunction.
Peripheral Device Issue .....	KEYERR	keyboard error .....	EOBR keyboard/input device malfunction.
External Sensor Issue .....	NO_GPS	no GPS data .....	No GPS sensor information available.
External Sensor Issue .....	NOLTLN	no latitude longitude .....	No latitude and longitude from positioning sensor.
External Sensor Issue .....	NOTSYC	no time synchronization .....	Unable to synchronize with external time reference input.
External Sensor Issue .....	COMERR	communications error .....	Unable to communicate with external data link (to home office or wireless service provider).
External Sensor Issue .....	NO_ECM	no ECM data .....	No sensory information received from vehicle's Engine Control Module (ECM).
External Sensor Issue .....	ECM_ID	ECM ID number mismatch .....	ECM identification/serial number mismatch (with preprogrammed information).

2. Communications Standards for the Transmittal of Data Files From Electronic On-Board Recorders (EOBRs)

2.1 EOBRs must produce and store RODS in accordance with the file format specified in this Appendix and must be capable of a one-way transfer of these records through wired and wireless methods to authorized safety officials upon request.

2.2 EOBRs must be capable of transferring RODS using one of the following wired standards:

2.2.1 Universal Serial Bus 2.0

2.2.2 RS-232.

2.3 EOBRs must be capable of transferring RODS using one of the following wireless standards:

2.3.1 Institute of Electrical and Electronics Engineers (IEEE) 802.11g

2.3.2 Bluetooth

3. Certification of EOBRs To Assess Conformity With FMCSA Standards

3.1 The following outcome-based performance requirements must be included in the self-certification testing conducted by EOBR manufacturers:

3.1.1 Location—

3.1.1.1 The location description for the duty status change must be sufficiently precise (within 300 meters) to enable enforcement personnel to quickly determine the vehicle's geographic location at each change of duty status on a standard map or road atlas.

3.1.1.2 When the CMV is in motion, location and time must be recorded at

intervals of 1 minute. This recorded information must be available for an audit of EOBR data, but is not required to be displayed on the EOBR's visual output device.

3.1.1.3 Location codes derived from satellite or terrestrial sources, or a combination thereof must be used. The location codes must correspond, at minimum, to the Census Bureau 2000 Gazetteer "County Subdivision" data.

3.1.2 Distance Traveled

3.1.2.1 Distance traveled may use units of miles or kilometers driving during each on-duty driving period and total for each 24-hour period for each driver operating the CMV.

3.1.2.2 If the EOBR records units of distance in kilometers, it must provide a means to display the equivalent distance in English units.

3.1.2.3 If the EOBR obtains distance-traveled information from a source internal to the CMV, the information must be ±1 percent accurate to an odometer calibrated per 24-hour period.

3.1.2.4 If the EOBR obtains distance-traveled information from a source external to the CMV, the information recorded must be accurate to within ±1 percent of actual distance traveled per 24-hour period as measured by a calibrated odometer.

3.1.3 Date and Time

3.1.3.1 The date and time must be reported on the EOBR output record and display for each change of duty status and at such additional entries as specified under "Location."

3.1.3.2 The date and time must be obtained, transmitted, and recorded in such a way that it cannot be altered by a motor carrier or driver.

3.1.3.3 The time must be coordinated to the Universal Time Clock (UTC) and must not drift more than 60 seconds per month.

3.1.4 File format and communication protocols: The EOBR must produce and transfer a RODS file in the format and communication methods specified in sections 1.0 and 2.0 of this Appendix.

3.1.5 Environment

3.1.5.1 Temperature—The EOBR must be able to operate in temperatures ranging from -20 degrees F to 120 degrees F.

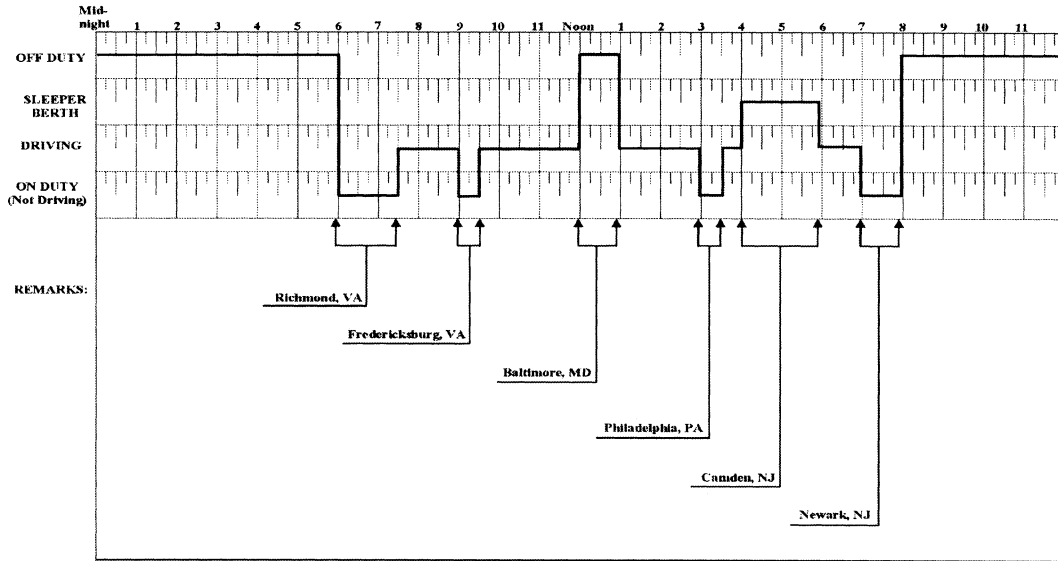
3.1.5.2 Vibration and shock—The EOBR must meet industry standards for vibration stability and for preventing electrical shocks to device operators.

3.2 The EOBR and EOBR support systems must be certified by the manufacturer as evidence that their design has been sufficiently tested to meet the requirements of § 395.16 under the conditions in which they would be used.

3.3 The exterior faceplate of EOBRs must be marked by the manufacturer with the text "USDOT-EOBR" as evidence that the device has been tested and certified as meeting the performance requirements of § 395.16.

4. Example of Grid Generated From EOBR Data

4.1 The following picture shows an acceptable format for grid versions of logs generated by EOBR data.



**PART 396—INSPECTION, REPAIR AND MAINTENANCE**

24. The authority citation for part 396 continues to read as follows:

**Authority:** 49 U.S.C. 31133, 31136, and 31502; and 49 CFR 1.73.

25. Amend § 396.9 to revise paragraph (c)(1) to read as follows:

**§ 396.9 Inspection of motor vehicles in operation.**

\* \* \* \* \*

(c) *Motor vehicles declared “out of service.”* (1) Authorized personnel shall declare and mark “out of service” any motor vehicle which by reason of its mechanical condition or loading would likely cause an accident or a breakdown. Authorized personnel may declare and mark “out of service” any motor vehicle

not in compliance with § 385.511(d) of this chapter. An “Out of Service Vehicle” sticker shall be used to mark vehicles “out of service.”

\* \* \* \* \*

Issued on: January 5, 2007.

**John H. Hill,**  
*Administrator.*

[FR Doc. 07-56 Filed 1-11-07; 8:45 am]

**BILLING CODE 4910-EX-P**