**MCSAC Task 11-04: Electronic On-Board Recorders (EOBR) Communications Protocols, Security, Interfaces, and Display of Hours-of-Service Data During Driver/Vehicle Inspections and Safety Investigations**

**Introduction**

This Task 11-04 Report consists of the MCSAC’s recommended changes to the 2010 EOBR Final Rule to date. The EOBR regulation, 49 CFR § 395.16, as amended by the 2010 EOBR Final Rule, is re-printed below to provide context for the MCSAC’s recommended changes. The MCSAC’s recommendations are presented below in italics font to differentiate from the text of the regulation, which is printed in regular font. Suggested changes to regulatory text are presented by either tracked changes to the regulatory text, or as language stricken from the regulatory text. Such changes made to the regulatory language are consensus recommendations.

In several instances, the subcommittee’s recommendation was not unanimously accepted by the MCSAC. Those subcommittee recommendations are presented in Appendix 1 to this Task 11-04 Report with a recorded vote of MCSAC members in support of, in opposition to, and those who abstained from voting on the specific subcommittee recommendation. These non-consensus recommendations are presented to illustrate the relevant issues and concerns with certain regulatory provisions. Although the Committee could not reach consensus on recommendations regarding the resolution of these issues, the MCSAC believes the concerns demonstrated by the failed recommendations are nonetheless important for the Agency’s consideration as it works to develop a new EOBR final rule consistent with the 7th Circuit’s August 26, 2011 opinion.

**Hours of service of drivers**

§ 395.16 Electronic on-board recording devices.

(a) **Applicability and authority to use.** This section applies to electronic on-board recording devices (EOBRs) used to record the driver's hours of service as specified by part 395. Motor carriers subject to a remedial directive to install, use and maintain EOBRs, issued in accordance with 49 CFR part 385, subpart J, must comply with this section.

(1) A motor carrier may require a driver to use an EOBR to record the driver's hours of service in lieu of complying with the requirements of §395.8 of this part. For commercial motor vehicles manufactured after June 4, 2012, 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.

*MCSAC Recommendation: FMCSA should consider exemptions (Part 381) for early adopters of 395.15 automatic on-board recording device (AOBRD) technology for carriers that use existing AOBRDs to track hours of service and that have an exceptional safety record to install in vehicles manufactured after the implementation date of the final rule.*

 (2) Every driver required by a motor carrier to use an EOBR shall use such device to record the driver's hours of service.

(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 a user ID and password). However, the name of the driver and any co-driver is not required to be transmitted as part of the downloaded file during a roadside inspection.

*MCSAC Recommendation: A unique driver identifier must be made available to the authorized Federal, State, or local officials, to connect the EOBR device to the driver.*

(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”.

(2) “Sleeper berth” or “SB”, to be used only if sleeper berth is used.

(3) “Driving” or “D”.

(4) “On-duty not driving” or “ON”.

*MCSAC Recommendation:*

1. *Definition of personal conveyance is needed. The regulation should specify how EOBR devices account for personal conveyance. Personal conveyance should be entered as a separate line of duty status on the EOBR, not as an annotation.*

(d) **Duty status defaults.** (1) An EOBR must automatically record driving time.

*MCSAC Recommendation: Revise (d)(1) as indicated above. Personal conveyance should be entered as a separate line in the EOBR and not as an annotation, per the MCSAC recommendation immediately above.*

(2) When the CMV is stationary for 5 minutes or more, the EOBR must default to on-duty not driving, and the driver must enter the proper duty status.

 (3)

*MCSAC Recommendation: Given the self-test requirements in subparagraph (o)(3), this provision is redundant. Delete (d)(3) and expand the (o)(3) requirement for self-test to define what must be recorded [see (o)(3) MCSAC recommendation].*

(e) **Date and time.** (1) The date and time must be recorded on the EOBR output record as specified under paragraph (i) of this section at each change of duty status, and at intervals of no greater than 60 minutes when the CMV is in motion. The date and time must be displayed on the EOBR's visual output device.

(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 the absolute deviation 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, and for intervening intervals while the CMV is in motion, must be sufficiently precise to enable Federal, State, and local enforcement personnel to quickly determine the vehicle's geographic location on a standard map or road atlas. The term “sufficiently precise,” for purposes of this paragraph means the nearest city, town or village.

 (3) When the CMV is in motion, location and time must be recorded at intervals no greater than 60 minutes. This recorded information must be capable of being made available in an output file format as specified in appendix A to this part, but does not need to be displayed on the EOBR's visual output device. Location data to be recorded includes event latitude, event longitude, place name, and place distance miles and direction, as specified in Appendix A, Table 2.

*MCSAC Recommendation: Revise (f)(3) as indicated above. Requirement does not specifically define location data to be recorded.*

(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. Identify city, town, or village as the location or relative proximity of distance and direction to an identifiable location. Location data to be recorded includes event latitude, event longitude, place name, and place distance miles and direction, as specified in Appendix A, Table 2.

*MCSAC Recommendation: Revise (f)(4) as indicated above. The requirement does not specifically define location data to be recorded. The requirement to identify “nearest” city, town, or village implies an algorithm that may not be consistent among systems.*

(5) The EOBR must record location names using codes derived from satellite or terrestrial sources, or a combination of these. The location codes must correspond, at a minimum, to ANSI INCITS 446–2008, “American National Standard for Information Technology—Identifying Attributes for Named Physical and Cultural Geographic Features (Except Roads and Highways) of the United States, Its Territories, Outlying Areas, and Freely Associated Areas and the Waters of the Same to the Limit of the Twelve-Mile Statutory Zone (10/28/2008),” where “GNIS Feature Class” = “Populated Place” (incorporated by reference, see §395.18). (For further information, see also the Geographic Names Information System (GNIS) at http://geonames.usgs.gov/domestic/index.html ).

(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) Distance traveled information obtained from a source internal to the CMV must be accurate to the distance traveled as measured by the CMV's odometer or other electronic device for recording mileage.

*MCSAC Recommendation: Revise (g)(3) as indicated above.*

(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 the use of a CMV as a personal conveyance as described in paragraph (d)(1) of this section. The driver must electronically confirm his or her intention to make any annotations. The annotation must not overwrite the original record.

 (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 record in either electronic or printed form. It must also produce a digital file in the format described in appendix A to this part. The record must show the time and sequence of duty status changes including the driver's starting time at the beginning of each day. As an alternative, the EOBR must be able to provide a driver's hours-of-service record as described in paragraph (i)(6) of this section.

 (3) This information may be used in conjunction with handwritten or printed records of duty status for the previous 7 days.

(4) Hours-of-service information 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 to 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, records available from motor carriers' support systems, other printed records, or any combination of these. Electronic records must be capable of one-way transfer through wired and wireless methods to portable computers used by roadside Federal, State, or local officials and must provide files in the format specified in Appendix A to this part. Wired communication information interchange methods must comply with the “Universal Serial Bus Specification (Revision 2.0) incorporated by reference, see §395.18) and additional specifications in appendix A, paragraph 2.2 to this part. Wireless communication information interchange methods must comply with the requirements of the 802.11g–2003 standard as defined in the 802.11–2007 base standard “IEEE Standard for Information Technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements: Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications” (IEEE Std. 802.11–2007) (incorporated by reference, see §395.18), or CMRS.

*MCSAC Recommendations:*

1. *Revise “safety assurance officials” language as indicated above.*
2. *FMCSA should develop or identify security protocols, with consideration of appropriate standards including but not limited to NIST, for telematics and peer to peer data exchange involving EOBRs. Expeditiously resolve whether the security concerns with a peer to peer transmission of the data via USB download, wireless data transmission, infrared technologies, and/or barcode scanner, telematics application solutions, or other data transmission solutions, are surmountable. [Concerns have been raised regarding the security of wireless transmission of hours-of-service data.]*
3. *Enforcement resources need to be defined, quantified, funded and incentivized through MCSAP funding so that enforcement’s deployment and adoption of the necessary technology parallels the industries deployment of EOBRs.*

(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 to this part. The system must also be able to produce a copy of files for electronic file transfer via the methods described in Appendix A, Section 2 or via portable storage media (e.g., CD–RW, USB external storage device) upon request of authorized Federal, State, or local officials. The support system may be maintained by a third-party service provider on behalf of the motor carrier.

*MCSAC Recommendation:*

1. *Revise (i)(6) as indicated above. Reference is made to data transfer via portable storage media such as CD-ROM or USB. The Committee would suggest that other forms of electronic data transfer be considered as support systems may apply a computing model with other data transfer capabilities.*

(j) **Driver identification**. For the driver to log into the EOBR, the EOBR must require the driver to enter information (such as a user ID and password) 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 motor carrier support system records, or any combination of these.

*MCSAC Recommendation: Add subsection (k)(2):*

(2) During a roadside inspection, when a driver is unable to produce an electronic record upon demand of an authorized officer, or when the enforcement officer is not able to receive an electronic file, view the electronic display or system printout, or receive an e-mail or fax, a driver must produce a printed or handwritten record of duty status that completely and accurately reflects the original electronic record.

*MCSAC Recommendation: Revise (k)(3) as indicated below.*

(3)

*MCSAC Recommendation: This section deals with sensor failures but needs more specificity including definition of failures and corresponding actions and information recording requirements. The sensor failure matrix identified as a recommendation in Appendix A Table 3 should be referenced. Delete (k)(3)(iv) and revise (k)(3)(i), (ii), and (iii) to:*

(3) If there is a failure with an EOBR system, component, or vehicle sensor (to which the driver would be alerted as specified in Appendix A, Table 3), there are actions required for the driver, carrier, and EOBR system. Specific failures and action requirements are specified in Appendix A, Table 3.

(i) For failures that result in the inoperability of the EOBR, the driver is required to prepare paper logs for the current day and continue to do so until the EOBR is returned to normal service. A driver may need to prepare paper logs for previous days subject to records availability as specified in (i)(5).

(ii) For failures that result in limited system or sensor input, the driver is required to enter additional data at each change of duty status. The additional data requirements per sensor failure are specified in Appendix A, Table 3.

(iii) Drivers are required to report any EOBR system, component, or vehicle sensor failure to the carrier as early as is practicable but not longer than 2 days following the failure’s occurrence.

(iv) Carriers are required to repair the failure and return the EOBR to normal service as early as is practicable but not longer than 14 days following the failure’s’ occurrence.

(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 J 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 J 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:

*MCSAC Recommendation: Require a standard display screen format, working with all key stakeholders.*

(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 prior 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. Remarks may include description or reason for an annotation.

*MCSAC Recommendation: Revise (n)(9) as indicated above. The “Remarks” data field is a useful place to describe record annotations. Expand requirement for remarks.*

 (10) Driver's override of an automated duty status change to driving if using the vehicle for personal conveyance.

*MCSAC Recommendation: Revise (n)(10) and delete (n)(11) as noted above.*

(o) **Performance of recorders**. A motor carrier that uses an EOBR for recording a driver's records of duty status instead of the handwritten record must ensure the EOBR meets the following requirements:

*MCSAC Recommendation: Insert reference to sensor failure matrix in Appendix A.*

(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 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 Federal, State, or local 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 to this part. If any EOBR component or sensor is determined to in a failed or below acceptable performance status, the self-test will trigger recording of such failures consistent with the requirements of Appendix A, Table 3.

*MCSAC Recommendation: Revise (o)(3) as indicated above. The requirement records only that a self-test was done with pass-fail indicator to be recorded. The self-test, if failures are found, should trigger sensor failure actions. Expand self-test recording requirement to reference Appendix A, Table 3 sensor failure actions.*

(4) The EOBR must provide a brief, audible, and continuous 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.

*MCSAC Recommendation: Revise (o)(4) as indicated above.*

(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.

*MCSAC Recommendation: Delete (o)(6) as indicated above.*

(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 display or printout must provide the remarks that describe an annotation made to records to the extent that such information is available. The EOBR support system must identify annotations made to all records, the date and time the annotations were made, the remarks that describe the reason for the annotation, and the identity of the person making them.

*MCSAC Recommendation: The requirement suggests that the details of all annotations are provided on the EOBR display. This is problematic due to the amount of detail possible as well as due to many annotations being made on the EOBR support system. The phrase “to the extent that such information is available” is still under discussion by the MCSAC.*

(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.

(13) EOBR service providers and carriers in managing EOBR systems use must apply security measures consistent with those promulgated by recognized international standards bodies. EOBR systems and EOBR devices must provide technical features to enable applicable minimum security requirements and security controls.

*MCSAC Recommendation: Add a subparagraph (o)(13) to require EOBR devices to meet security requirements. The Committee suggests the language in tracked changes above.*

(p) **Motor carrier requirements**. (1) The motor carrier must not alter or erase, or permit or require alteration or erasure of, the original information collected concerning the driver's hours of service, the source data streams used to provide that information, or information contained in its EOBR support systems that use the original information and source data streams.

 (2) The motor carrier must ensure the EOBR is calibrated and maintained in accordance with the manufacturer's specifications and/or support plan; the motor carrier must retain records of these activities.

*MCSAC Recommendation: Revise (p)(2) as indicated above.*

 (3) 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.

(4) 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.

(5) The motor carrier must review the EOBR records of its drivers for compliance with part 395.

(6) If the motor carrier receives or discovers information concerning the failures that require the driver to complete a paper log of an EOBR, the carrier must obtain and retain a copy of that paper log in accordance with the hours-of-service regulations.

*MCSAC Recommendation: Revise (p)(6) as indicated above.*

 (q) **Manufacturer's certification**. (1) The EOBR and EOBR support systems must be certified to an established standard as evidence that they have been sufficiently tested to meet the requirements of §395.16 and appendix A to this part under the conditions in which they would be used.

(2) The EOBR must display the text “USDOT-EOBR” on the inspection display or printed record as evidence that the device has been tested and certified as meeting the performance requirements of §395.16 and appendix A to this part.

*MCSAC Recommendations:*

1. *Revise paragraph (q) as indicated above.*
2. *There must be a pre-sale product certification process prior to mandating EOBR devices in all vehicles so that carriers know that the device upon which they are relying to track hours of service does conform to 395.16 requirements.*
3. *This is necessary because, under a self-certification system, FMCSA would not be able to enforce the EOBR regulations against an EOBR manufacturer for providing a non-conforming product that resulted in a carrier violation of hours of service.*
4. *When and if EOBRs become mandatory, the original equipment manufacturer (OEM) will likely build the engine control module (ECM) into the new vehicle. An OEM needs to be certain that electronic equipment being built into the new vehicle will not cause problems with the other equipment.*
5. *FMCSA should immediately seek out a third party consultant to prepare detailed certification criteria, describing specific standards and a proposed process. To be determined based on the third-party review.*

**Hours of service of drivers**

Pt. 395, App. A

Appendix A to Part 395—Electronic On-Board Recorder Performance Specifications

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). |
| Data Storage Diagnostic | INTFUL | internal memory full | Internal storage memory full (requires download or transfer to external storage). |
| Data Storage Diagnostic | DATACC | 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 | 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). |

*MCSAC Recommendation: The information defined in current Table 3 is not generally related to the requirements of 395.16.* *Delete Table 3 as it exists currently and replace it with the following table:*

| **Event Code** | **Failure Event** | **Event Trigger** | **Driver Alert** | **Driver Requirements** |
| --- | --- | --- | --- | --- |
| AE | EOBR central processor or memory failure | EOBR is inoperable | Blank screen following power on or EOBR is unresponsive to any driver entry | Driver is required to prepare paper logs for the current day and continuing to do so until the EOBR is returned to normal service. A driver may also need to prepare paper logs for prior days subject to records availability as specified in 395.16(i)(5). |
| AB | EOBR display unit fails | EOBR is inoperable | Blank screen following power on | Driver is required to prepare paper logs for the current day and continuing to do so until the EOBR is returned to normal service. A driver may also need to prepare paper logs for prior days subject to records availability as specified in 395.16(i)(5). |
| DC | EOBR printer unit fails | EOBR failure of print operation | Audio and visual alert when vehicle at rest | Display unit may be used in lieu of printer. If printer is alternative to not having a display unit, then driver is required to prepare paper logs for the current day and continuing to do so until the EOBR is returned to normal service. A driver may also need to prepare paper logs for prior days subject to records availability as specified in 395.16(i)(5). |
| AH | EOBR clock fails | EOBR self test and failure in EOBR time recording function | Audio and visual alert when vehicle at rest | Driver is required to prepare paper logs for the current day and continuing to do so until the EOBR is returned to normal service. A driver may also need to prepare paper logs for prior days subject to records availability as specified in 395.16(i)(5). |
| AE | EOBR clock out of calibration threshold. This assumes means and constant to calibrate against – GPS time. | EOBR self test | Audio and visual alert when vehicle at rest | Driver is required to prepare paper logs for the current day and continuing to do so until the EOBR is returned to normal service. A driver may also need to prepare paper logs for prior days subject to records availability as specified in 395.16(i)(5). |
| AC | EOBR software error | EOBR self test and failure of a program operation | Audio and visual alert when vehicle at rest or EOBR is unresponsive to any driver entry | Driver to restart EOBR system with power off/on to clear error. If cleared, then driver enters annotation for prior duty status. If error persists, driver is required to prepare paper logs for the current day and continuing to do so until the EOBR is returned to normal service. A driver may also need to prepare paper logs for prior days subject to records availability as specified in 395.16(i)(5). |
| AG | EOBR keyboard failure | Keyboard inoperable for driver log-on or when manual entry is needed at change of duty status | EOBR does not respond to driver’s attempt to make an entry | Driver is required to prepare paper logs for the current day and continuing to do so until the EOBR is returned to normal service. A driver may also need to prepare paper logs for prior days subject to records availability as specified in 395.16(i)(5). |
| AH | EOBR GPS unavailable for stopped vehicle | No GPS signal at stop/record last valid position within 2 minutes prior to CMV stopping | Audio and visual alert when vehicle at rest | Driver prompted to verify location name after vehicle stops if automatically applied with prior position, or prompted to enter an acceptable location description if GPS signal lost more than 2 minutes prior to stopping. |
| AJ | EOBR GPS unavailable for start of driving | No GPS signal at start of driving/record location based on prior stop | Audio and visual alert when vehicle at rest | Driver prompted to verify an acceptable location description after vehicle comes to next stop. |
| AK | EOBR GPS failure | No GPS signal for 60 or more minutes for a CMV in motion | Audio and visual alert when vehicle stops | Driver prompted to verify location name at vehicle stop or prompted to enter an acceptable location description if GPS signal lost more than 2 minutes prior to stopping. |
| ED | ECM odometer sensor failure | Loss of ECM odometer signal for more than 5 minutes | Audio and visual alert when vehicle at rest | Driver prompted to enter mileage at each change in duty status. |
| GP | System Self-Test Pass | System startup and driver initiated self test | Audio and visual alert when vehicle at rest | No action required. |
| GF | System Self-Test Fail | System startup and driver initiated self test | Audio and visual alert when vehicle is at rest | Driver to respond to sensor failure alerts. |

**Appendix 1: Record of Items Considered by the MCSAC, But Not Agreed Upon**

1. **Proposed Definitions for “Personal Conveyance”:**
	1. *Personal conveyance should be defined as allowing 25 miles during the 10 hour break and 50 miles during the 34-hour restart. (Motion Failed: 9 – 6)*
	2. *Define the limit of personal conveyance to 50 actual miles. Change the definition of personal conveyance to allow for operation of laden or unladen vehicles. (Motion Passed: 9 – 4, with 2 abstentions)*
2. **Relating to 49 CFR § 395.16(d)(2):**

(d) **Duty status defaults.** (1) An EOBR must automatically record driving time. If the CMV is being used as a personal conveyance, the driver must affirmatively enter an annotation before the CMV begins to move.

 (2) When the CMV is stationary for 5 minutes or more, the EOBR must default to on-duty not driving, and the driver must enter the proper duty status.

*Subcommittee Recommendations (Motion Passed: 12 – 1, with 2 abstentions):*

1. *Allow yard movement mileage tolerance.*
	1. *Use 2 miles based upon prior precedent and coverage for most yards.*
	2. *Remain in current duty status (typically on-duty not driving) when the movement begins for time accrued during yard moves.*
	3. *Miles do not count towards drive miles; must have 5 minute stop time without the interruption before eligible for another 2 mile exception.*
	4. *If you go beyond the 2 miles or the 5 minutes, the movement period starts at the very beginning of the two miles or the 5 minutes, not the end. You do not get 2 free miles.*
2. *Apply same rule for other incidental movement.*
3. *FMCSA should clarify guidance.*
4. **Relating to 49 CFR § 395.16(f)(2):**

(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, and for intervening intervals while the CMV is in motion, must be sufficiently precise to enable Federal, State, and local enforcement personnel to quickly determine the vehicle's geographic location on a standard map or road atlas. The term “sufficiently precise,” for purposes of this paragraph means the nearest city, town or village.

*Subcommittee Recommendations (Motion Passed: 11 – 0, with 4 abstentions):*

* 1. *Location position should be derived from GPS or other location determination method with similar accuracy.*
		1. *Requirement to identify “nearest” city, town, or village implies an algorithm based on a map straight line, truck routing distance, any route distance, nearest along planned route, or other method, i.e., this may not be consistent unless a standard algorithm is defined. Revise to “identify city, town, or village as the location or relative proximity of distance and direction to an identifiable location.”*
	2. *Location should be noted with each duty status change and on an hourly basis when the vehicle is moving in accordance with FMCSA 395.16.*
	3. *EOBR should display location to driver on driver display or print-out format in text description format. Location should be derived from a database that contains all cities, towns and villages with a population of 5,000 or greater based on combined GNIS database with census data added.*
		1. *Census data overlaid onto GNIS database.*
		2. *Should further clarify location description to driver on display (distance, direction to nearest 5,000 pop. city).*
	4. *EOBR should pass Lat/Long coordinate location to roadside enforcement via export methods defined.*
	5. *GNIS database version/year should be noted, and timeframe for update/refresh of GNIS database version.*
	6. *Regulation should require periodic GNIS database update, either via wireless connection or locally.*
1. **Relating to 49 CFR § 395.16(i)(4):**

(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 record in either electronic or printed form. It must also produce a digital file in the format described in appendix A to this part. The record must show the time and sequence of duty status changes including the driver's starting time at the beginning of each day. As an alternative, the EOBR must be able to provide a driver's hours-of-service record as described in paragraph (i)(6) of this section.

 (3) This information may be used in conjunction with handwritten or printed records of duty status for the previous 7 days.

(4) Hours-of-service information must be made accessible to authorized Federal, State, or local officials for their review without requiring the official to enter the CMV. The output record must conform to the file format specified in appendix A to this part. If the inspector feels that further investigation is warranted, upon the inspector’s request, a driver shall provide the inspector with a hard copy (hand-written or printed) of the hours-of-service information from the EOBR. The driver must certify that the information in the hard copy accurately reflects the requested EOBR hours-of-service record.

*Subcommittee Recommendation:*

1. *Revise (i)(4) as indicated above. (Motion Passed: 9 – 4, with 1 abstention)*
2. **Relating to 49 CFR § 395.16(i)(5):**

(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, records available from motor carriers' support systems, other printed records, or any combination of these. Electronic records must be capable of one-way transfer through wired and wireless methods to portable computers used by roadside safety assurance officials and must provide files in the format specified in Appendix A to this part. Wired communication information interchange methods must comply with the “Universal Serial Bus Specification (Revision 2.0) incorporated by reference, see §395.18) and additional specifications in appendix A, paragraph 2.2 to this part. Wireless communication information interchange methods must comply with the requirements of the 802.11g–2003 standard as defined in the 802.11–2007 base standard “IEEE Standard for Information Technology—Telecommunications and information exchange between systems—Local and metropolitan area networks—Specific requirements: Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications” (IEEE Std. 802.11–2007) (incorporated by reference, see §395.18), or CMRS.

*Subcommittee Recommendation:*

1. *Separate the requirements for how information is stored, what is acceptable for roadside, and the allowable methods for data transfer. Revise (i)(5) to replace all current text with the following (Motion Passed: 10 – 1, with 2 abstentions):*

*“Drivers must have in their possession a record of duty status for the current day and immediate access to records of duty status for the prior 7 days.*

*(i) Information for roadside inspection of current day and previous 7 days provided may include EOBR display or printouts, printed records from the EOBR support system or other driver logging system, paper logs, report of driver’s current and prior work days via fax or email from the EOBR support system, electronic file transfer of the driver’s current and prior work days from the EOBR support system, or any combination thereof to provide a complete accounting of current day and previous 7 days.*

*(ii) The EOBR support system may include records from sources other than the EOBR such as AOBRD records and entries of paper logs and log corrections into the support system. Such records must reflect the data accurately as recorded by the other source. Additionally, those records from non-EOBR sources must be identified by record type as defined in Appendix A.*

*(iii) Drivers may initiate a facsimile or e-mail of a report from the EOBR support system to the inspection site or to a remote inspection support site for current and previous days’ records of duty service to the extent that such information is available on the support system. The fax report must provide the information as identified in paragraph (n). If the driver is found to be in violation, the driver is required to reproduce paper records for the entire work period if the fax report or other displays or printouts are not available at the inspection site.*

*(iv) Drivers may initiate an electronic file transfer of current and prior 7 days records of duty status to the extent that such information is available on the support system. Such a file transfer will be accomplished by the methods described in paragraph (r) and technical requirements as specified in Appendix A, Section 2. If the inspection site is not able to process an electronic file transfer, then the driver will provide information as defined above.”*

1. **Additional recommended paragraph for 49 CFR § 395.16:**

*Subcommittee Recommendation: Some MCSAC members recommend adding the following paragraph “(r)” to 49 CFR § 395.16 (Motion Failed: 7 – 4):*

*“(r) Retention of EOBR Hours of Service(HOS) data / records by Enforcement*

*(1) If no violations are detected during a roadside inspection, all HOS data/records will be deleted no later than 36 hours after completion of the roadside inspection, or subsequent investigation.*

*(2) If HOS violations are detected as the result of a roadside inspection, the data/records will be deleted no later than 36 hours after final disposition of any enforcement action taken or within 2 years of completion of the roadside inspection; whichever occurs last.”*