Federal Motor Carrier Safety Administration (FMCSA)
Electronic Logging Devices (ELD) Technical Specifications Public Meeting Minutes
May 9, 2017

The Federal Motor Carrier Safety Administration (FMCSA) held a public meeting on May 9, 2017 at the U.S. Department of Transportation. The meeting was open to additional attendees via webinar. Julianne Schwarzer, of the U.S. DOT Volpe Center, opened the meeting at 9:30 a.m.

Panelists and Presenters

- Daphne Jefferson, Deputy Administrator, FMCSA
- Joe DeLorenzo, Director of the Office of Enforcement and Compliance
- La Tonya Mimms, Transportation Specialist, Enforcement Division
- Danielle Smith, Transportation Specialist, Passenger Carrier Division
- Brian Routhier, Transportation Specialist, Technology Division
- Ray Henley, IT Specialist, IT Development Division
- ELD Technical Team: Brian Baker, Andrew Nagel, Walt Zak
- Julianne Schwarzer, Facilitator

1. Welcome and Introduction; Daphne Jefferson and Joe DeLorenzo

Daphne Jefferson welcomed participants both in the room and joining via webinar. Jefferson shared that FMCSA wants to ensure this is a rich, full discussion based on questions received so far. Safety is FMCSA's top priority and the final ELD rule is a key effort in advancing highway safety. As FMCSA moves forward, the Agency wants to bring people together to answer technical questions and share information, with the goal of having an open dialogue that allows motor carriers to work toward integrating ELDs into operation.

Jefferson reviewed that it is essential for ELDs self-certified by manufacturers and registered with FMCSA to be in compliance with technical requirements as this will save time and money and benefit both industry and law enforcement.

Joe DeLorenzo remarked that the origin of this meeting began as FMCSA began receiving questions and started understanding the intersection between the technical and operational aspects of ELDs. FMCSA wanted to proactively get the conversation started with manufacturers and other stakeholders to address concerns now.

2. Overview of ELD Rule; La Tonya Mimms

La Tonya Mimms stated that FMCSA has set specific standard and design performance standards for devices to be compliant. Manufacturers must self-certify and register devices with FMCSA, and the rule goes into effect December 18, 2017. At that time, Automatic On-board Recording Devices (AOBRD) and ELDs will be the only two devices that can be used by carriers. AOBRDs installed prior to the December 18 deadline can be used until December 16, 2019, at which point they must be converted to ELDs.

3. Roles and Responsibilities; Danielle Smith

Danielle Smith reviewed that FMCSA has published the rule, and it is the Agency's responsibility to make sure all stakeholders are on a level playing field. The technical specifications are exactly what a motor carrier needs to know to make sure they are in compliance. Smith noted that the ELD rule does not change HOS regulations, only the way HOS are recorded.

Responsibilities:

- FMCSA is informing carriers, drivers, and manufacturers about the requirements of ELD final rule.
    - FMCSA will maintain Web Services to facilitate data transfer.
    - FMCSA will train enforcement personnel on how to use ELDs.
    - FMCSA will remove ELDs known to not meet requirements from list of self-certified ELDs.
- Manufacturers are registering devices now.
    - It is the manufacturer's responsibility to ensure their devise are registered with FMCSA, self-certify that they meet the technical requirements, ensure the security of devices, and respond to carriers quickly to resolve malfunctions.
    - Manufacturers must keep ELD self-certification up-to-date with FMCSA.
    - The most important functions are powering on, recording data, and certifying records.
    - ELDs must automatically sense motion status, vehicle miles, engine hours, CMV position, and CMV VIN.
- Motor carriers will select the ELD that best suits their needs.
    - If ELD malfunctions, carriers must correct, repair, replace or service the malfunctioning ELD within 8 days.
    - Carriers will train drivers on how to use ELDs.
    - Carriers will ensure that all non-exempt vehicles and drivers have functioning ELDs.
- Drivers will be trained on how to use the ELD their motor carrier selects.
    - Drivers must make sure the ELD is fully functional within one minute of the engine receiving power.

ELDs will pull data on duty status and supporting events from the vehicle, retain the data, and generate a standard output file. When DOT receives that data, they are looking for date, time, and vehicle position. The only automatic duty statuses are Driving and On-Duty Not Driving, and drivers will be required to manually enter other statuses. There are two special categories that do not affect the time the driver had vehicle in motion and they are Authorized Personal Use and Yard Moves. It is not mandatory that the carrier allow drivers to use these two options but they are required to be in the system so the carrier can assign the capability if they see fit.

Annotations will be added to statuses for factors like adverse driving conditions.

The ELD needs to be able to review its internal integrity, power compliance, engine synchronization compliance, timing compliance, positioning compliance, data recording compliance. Brief losses of GPS will not trigger a malfunction.

Driver Manual Entry:

- Driver can enter power unit number, trailer number, and shipping document number.
- Co-Driver must be able to make entries over records while vehicle is in motion, but must not be able to switch driving roles while vehicle is in motion.

Driver Certification:

- Driver must certify that the data entries and record of duty status are true and correct.
- Time zone offset from UTC must be included in certification data.

Data Availability:

- Device must be able to display data from current day and previous seven days,
- Driver must be able to provide either display or printout to an authorized safety official upon request.

Data Integrity

- Event data check will not be validated by FMCSA.
- Line data check and file data check will be validated by FMCSA.

Question and Answer Period

*Below are highlights from this Q&A period. To hear all questions and complete answers, listen to the audio recording.

- For logging of engine power status, does ELD device need to be in an "always on" mode to detect the engine power up status or will powering on device from engine's J1939 connector suffice for power on status?
    - Either way of retrieving power is acceptable as long as it is powering within one minute. If it's an application on a separate device, then the driver needs to understand manual power has to be on prior to the starting of the vehicle.
- What should yard move default to?
    - For yard move, the driver selects the beginning and end of the period. Once ELD goes through power cycle, it defaults to zero and the driver will enter status manually whether they're on duty, sleeper birth, off duty. It would be the same for personal conveyance and when the vehicle goes through power off it would default to zero and when it goes through power cycle driver would select status.
- Is the generation of a PDF in email to inspector adequate for printing requirement?
    - No. The rule did not address a PDF version, so the driver has to print records.
- How should deletion of status events be handled if a driver makes a mistake?
    - There will be no deletions. The ELD rule does not support edits and all original information must be retained. Annotations must be made to address errors.
- Can a single driver account be both subject and exempt?
    - Yes, so their account would need to be programmed so that the driver can remain in exempt status until they leave 100-mile radius for an extended time and are required to use the ELD. There is no need to fit all scenarios into the driver status because annotations allow to clarify different situations
- Please review yard moves in detail.
    - ELD providers need to take yard moves into account. When road drivers enter a carrier facility or a yard, other personnel may get into CMV within facility to facilitate next

movement. When the road driver arrives at the facility, they must log out. There is a process to note unidentified driving with edits. FMCSA has discussed other options and may include in FAQs. There's nothing that would prohibit unidentified driving from being annotated in the back office system. A supervisor would be able to sort those movements in a particular area, know the CMV didn't leave the yard, annotate that movement has been reviewed and definitely occurred on lot.

- Previous guidance stated that a roadside inspector can provide an email address in addition to sending data files to FMCSA, is that true?
    - During Phase 1, for any ELDs self-certified and registered, it is at the inspector's discretion to provide their email and have data sent to them electronically. During Phase 2, it will be required to send the data electronically.
    - Once Phase 2 goes live, the data sent via email will be encrypted, thus sending directly to an inspector will not be useful. The only feasible way would be to use the FMCSA-provided email address.
- Can a phone or tablet and the vehicle engine communicate over cellular?
    - Yes, it can be a Bluetooth plug-in and does not have to be hard wired. As long as it is collecting data elements it can be wireless.

4. Technical Requirements for Data Transfer; Ray Henley

Ray Henley reviewed the options for data transfer, which include FMCSA Web Services, Email, USB 2.0, and Bluetooth. A compliant ELD must meet either the Telematics data transfer option allowing for transfer via Web Services and Email or Local Transfer, allowing for USB 2.0 and Bluetooth.

- FMCSA Web Services
    - Remote data transfer method
    - Device connects via Internet, submits data, and receives a response either indicating success or providing a list of errors
    - Device submits the certificate, file, and the output file comment
    - FMCSA will set up a way for manufacturers to test data transfer methods before final rule is implemented.
- Email
    - Remote data transfer method
    - Email will be encrypted using S/MME format using FMCSA public key
    - Signed with vendor's private key
- USB 2.0 to inspector's laptop
    - File validated locally
    - Only method with no return code given, however, if data file is in the correct format it should be successfully validated
- Bluetooth
    - File shared via Bluetooth-enabled connection to FMCSA Email Server

ELD Data File Validation:

- Every time a file is transferred to FMCSA, the Agency is performing validation to make sure required fields are there, registration values match, date and time validity.
- FMCSA will either respond with a list of issues found in the data file or provide an "Okay" message so device knows data transfer was successful.

Question and Answer Period

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- After annotations, will total hours change and violations not be shown?
  - The system will not be able to identify the driver's annotations and take into account potential violations picked up by the system. While annotations will not clear violations, they will explain them.
- The rule states that the minimum graph size is 1.5x6 inches. Does this apply to smart phones?
  - No, as that specification is for print and refers to the part of the rule that states the graph must be visible to an officer from outside the truck. During Phase 2, data will be received electronically so display and printout methods won't be used as often but must be available as a backup.
- If a driver rejects unidentified driving time, should that be displayed on the ELD for roadside inspection and output file or be removed?
  - Unidentified driving cannot be removed from the ELD until it is accepted or signed out.
- What is the resolution process if FMCSA incorrectly rejects a file during data transfer?
  - If the data file has passed validation, it should not fail during the actual transfer. If there's an issue with the data, that's a time we could fall back to print or display or try an alternate transfer method. If validation fails and provides an error code, the manufacturer should have a process with customers for it to be reported. FMCSA will be diagnosing issues and communicating if it's an error on the Agency's side.
- What do you do if there is no service to use Web Services or Bluetooth?
  - Fall back to display or printout.
- Is there a date for the release of ELD public key, FMCSA email address, and email system?
  - There isn't a date yet but they will be available soon. If you have an account through the FMCSA manufacturer registration site already, you'll be notified via company contact. This information will also be posted on the ELD website.
- Will we be able to provide an updated public key in the event of a security breach?
  - This is one of the pieces that manufacturers are required to keep updated as part of the self-certification process. If you are making an update to your keys or IDs, build enough some time for FMCSA to make the update.
- Once Web Services, etc. are available, will there be a new deadline for vendors to meet the specs?
  - No, there is no new deadline. Even without these being currently available from FMCSA, manufacturers can still use the rule to self-certify.
- When will FMCSA's ELD Web Services handbook be available to providers?
  - It will be posted to the manufacturers' page on the ELD website when available.
- Since the data transfer should be a single step, is it still necessary for drivers to enter credentials before starting the transfer process?
  - Drivers should be logging in when they start recording of their driving records and should not need to log back in to transfer the data. The driver should not have to tell the device which data to send, the single step should compile the necessary data.
- Will FMCSA standards be applicable in the United States and Canada, or are there differences?
  - Canada has its own rule and FMCSA has discussed differences and similarities. When in the U.S., drivers should be compliant with this rule and when in Canada, their technical specifications will need to be met.

- Define "reasonable distance" records must be viewed from.
    - FMCSA didn't want to specify a specific distance because of the different sized screens the records could be viewed on. The roadside officer should not have to physically enter the cab of the truck to read it.
- Clarify the requirements to have roadside printing, display, or an electronic file. If a driver sends an electronic file, are the first two not required?
    - The ELD must meet technical requirements at all times. The data transfer is the first option, while print and display are backup options.

5. Registration Process; Brian Routhier

Brian Routhier reviewed the process for manufacturer registration.

Manufacturer Registration:

1. Visit FMCSA ELD website
2. Create an account
3. Provide company and contact information
4. Add users

Registering Your Device:

1. Visit ELD home page and log in
2. Click on "Register device"
3. Provide details about devices (name, software, picture of product, user manual, etc.)
4. Self-certify device compliance

Due to the fact that data transfer cannot be trialed with an actual authorized safety official and that the Web Services portal at FMCSA is not yet operation, certain test steps are not currently available.

Keeping Your Device Current:

- When vendors modify their products, they must return to the registration site and update their product information.
- Depending on the significance of the changes, this may result in new configuration files.

There is a complete list of self-certified ELDs on the FMCSA ELD website. If FMCSA comes across a device that is suspect, there is an outline for notification, corrective action, and removal, if necessary. Manufactures will have the opportunity to appeal, but the goal is to make sure carriers are using compliant ELDs at all times.

An enhanced registration will be coming soon so that FMCSA can collect supplemental company information and the ELD's public key. This will also provide FMCSA's public key, FMCSA's email address for email submissions, WSDL/WSD for Web Services submission, Interface Control Document & Development Guide, file validator, and data transfer test.

Question and Answer Period

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- When will FMCSA start testing ELDs that have been self-certified and remove them from list if they are non-compliant?
    - FMCSA is not currently removing any ELDs. In Phase 2, FMCSA will start pursuing enforcement of the ELD rule and confirm that devices are up to specification. FMCSA does not intend to test all devices because they are self-certified. If an issue is brought to FMCSA's attention, they would institute a test process to confirm there is a mistake in the event the provider does not identify a glitch themselves.
- Some carriers have drivers that operate within multiple organizations. Will they need separate log-in credentials for different organizations and carry hours and print outs?
    - FMCSA did not require interoperability, so one device doesn't need to have the capability speak to a different device. Each driver can only have one account per motor carrier. The minimal requirement in this case would be that the driver would have printed ELD status with them to reflect their previous seven days. Every motor carrier that utilizes that driver is responsible for keeping up with their HOS status.
- Will it be possible for providers to pass sample data through EROD systems to check for violations and debugging of our systems?
    - Yes, FMCSA has discussed this and will have a file validator for sample files.
- Is self-certification a one-time effort is do devices need to be certified every year?
    - The self-certification will only be required once unless there are major changes to device, but there is no annual or periodic requirement.
- There are sometimes issues with batteries dying due to temperature or when the driver runs out of charge power. Are there any options in these situations?
    - This would be considered a malfunctioning and the driver would need to have record of duty status on them. If it's a common occurrence, there may be other issues where ELD meets technical specifications but doesn't function correctly. That would require the driver to constantly reconstruct their record of duty status.
- What constitutes a major change to an ELD?
    - FMCSA did not define the magnitude of change requiring a manufacturer to self-certify because they did not want to set parameters. One example of a major change is if the certificate has changed.
- How do you suggest owner/operators supervise themselves in terms of operating as a supervisory account and a driver account?
    - The support personnel account is not allowed to record ELD data and the driver account doesn't have administration rights, so within ELD system the true owner/operator will be managing own accounts. FMCSA created both types of accounts so administrative changes and the actual ELD record are both visible. There is no overriding of ELD data so there are checks and balances within the rule.
- How does FMCSA handle security with regards to ELDs?
    - FMCSA is aware that like with any device, there are hacking issues. FMCSA does not regulate cyber security and does not have guidelines, but the team is involved with cyber security teams within the Agency and with outside partners to raise awareness.
- Many drivers use a synthesized odometer. Is this acceptable?
    - Yes, there's a section in the rule that outlines tolerances for data retrieved in ways other than the preferred method.
- Miles and hours of life of a vehicle are propriety to OEMs. Is using miles and hours since connecting to ELD sufficient?

    - If you cannot retrieve it, then you can use an alternate source if it meets accuracy levels. FMCSA has talked to ELD providers that have made agreements with OEMs so they can get that proprietary information.
- If you are creating an application to be used on a phone or tablet, do you have to list all devices the application works on?
    - If it's an operating system that works on all devices made by a certain brand, that's sufficient for registration. If it only works on certain models created by a certain brand, please specify.
- If motor carrier chooses BYOD and you hit a dead coverage zone, the device keeps recording but the driver can't see it. Does it update once you get back into coverage?
    - Yes, there should be some source to record and retain original data.
- Will FMCSA notify industry when ELDs are in the corrections stage of decertification?
    - No, FMCSA will not be notifying public. There will be a revocation list. FMCSA is not actively reviewing ELDs and the Agency cannot talk about open investigations.
- Why is it non-compliant to mark a mistaken event as inactive?
    - Only the original event receives an inactive status. There should not be an inactive event without a follow-up event that becomes the new event.
- Why did the agency decide to require that even when a carrier is grandfathered through 2019, if they add new vehicles they must use ELDs on those CMVs?
    - After the compliance date ELDs are supposed to be used across the board. FMCSA rethought to state that if a carrier is replacing vehicles within their fleet, they can continue to install AOBRDs. However, if a carrier is experiencing growth and adding new vehicles, those need ELDs. FMCSA is here to try to make things work smoothly. The provision was an added based on comments that FMCSA received, and FMCSA will work with carriers to figure out how to make this work.

Closing Remarks

La Tonya Mimms shared that a recording of the webinar and notes will be available online. Some questions asked during today's meeting will be featured in future FAQs.

Joe DeLorenzo thanked everyone for their attendance and shared a reminder that the FMCSA ELD website hosts helpful information for manufacturers and updates will be posted there as they become available.