ELD BUYERS' GUIDE

Many choices, some at low cost, for meeting mandate

Since we published previous versions of this guide in 2017, electronic logging device options have continued to proliferate. That's evident wherever you look, from the Federal Motor Carrier Safety Administration's 300-plus-device registry or *Overdrive*'s online quick-comparison chart. There are now dozens more options from vendors offering a variety of hardware and software to owner-operators and fleets. Many of them are new to trucking.

Weighing options for complying with the FMCSA's ELD mandate hasn't been an easy pill for anti-mandate partisans. But swallowing may go more smoothly when seeing that whatever your needs, there's a vendor offering it, many of them at a surprisingly reasonable price point.

Since the mandate saw its first compliance deadline date, new players have emerged that sell hardware, and offer ELD software for existing devices, some with no monthly fee. Most devices, however, take the opposite approach to pricing. They lock users into monthly subscription fees, typically assessed on a per-power-unit basis.

As new players in the ELD market continue to emerge, we'll be updating

> **There are now dozens more options from vendors offering a variety of hardware and software to owner-operators and fleets.**

the aforementioned quick comparison chart online at **OverdriveOnline.com/2015ELDChart**, but keep in mind when using the chart that with so many new players in this market, flameouts are bound to occur.

Exemptions from the mandate are few. The most significant exemption, for trucks running pre-2000 engines, is explored with others at various points throughout this guide. Otherwise, you're exempt if you don't run beyond the short-haul air-mile radius for more than eight days in any rolling 30-day period. If you're hauling in a livestock or ag operation, a 90-day waiver extension was granted as of mid-March. For most everyone else but drive-away/tow-away operators (also exempted), April 1 marked the beginning of out-of-service orders for not utilizing an ELD.

Choosing a unit for your operation

I f you're an independent owner-operator with only one truck, you're likely to gravitate to a baseline-compliance electronic logging device without a lot of the bells and whistles that are available in fleet-management-focused systems.

Still, you can benefit from some additional functions such as IFTA data collection, making mileage tracking more automated and easily reportable. If you manage more than one truck or are poised for growth, simplified dispatch tools in some programs might help you scale your operation.

As you're making your decision, query any vendor about these issues:

SUPPORT. The final rule specifies an eight-day timeframe for repairing/replacing a malfunctioning ELD. Does the provider stock the kind of hardware inventory to meet such a quick turnaround? How are replacements/repairs handled? Who's responsible for shipping charges?

For carriers needing more than eight days to replace any ELD, the rule also

Among ELD-capable systems with unique extra utility for small fleet owners is iGlobal's Edge MDT module with a built-in scanning device and a cellular mic that functions like a CB in a private network among a fleet's users equipped with the device.

Todd Dills

spelled out a process for requesting more time. It involves contacting your state's Federal Motor Carrier Safety Administration division office and making your case.

FMCSA REGISTRY. The ELD rule requires using an ELD self-certified by the manufacturer as meeting the rule's specs and listed on FMCSA's ELD regis-

try. Since our 2017 guides, most makers old and new to the market have certified. For any that haven't at this point, if they have no quick plan for certification, be skeptical of the ability to use the device beyond the end of 2019 without violation risk.

To postpone full ELD compliance for two years, if you were using prior-generation Automatic Onboard Recording Devices (AOBRDs) before Dec. 18, you can still use that software in your operation through Dec. 16, 2019. AOBRDs meet the fairly minimal requirements (compared to the ELD specs) of CFR 395.15 and grandfathered through that time.

Some providers, KeepTruckin and BigRoad among them, offer the option to run a device in AOBRD mode, which grants company back-office staff the ability to edit logs without driver approval. Also, that mode doesn't support the electronic data transfer options required of ELDs, among other differences.

To use an AOBRD through 2019, you must have installed it prior to the ELD enforcement deadline of Dec. 18, 2017. *O*

EXEMPTIONS: FEW BEYOND OLDER TRUCKS

For owner-operators, perhaps the biggest exemption to FMCSA's ELD requirement is the exclusion of trucks with 1999 and older engines from complying. Narrower exemptions exist for the following:

• Drivers in drive-away/tow-away operations, where the vehicle being driven is the commodity being delivered.

• Drivers operating under the timecard exception to the hours recording rules – the 100- and 150-air-mile radius short-haul exceptions – exclusively.

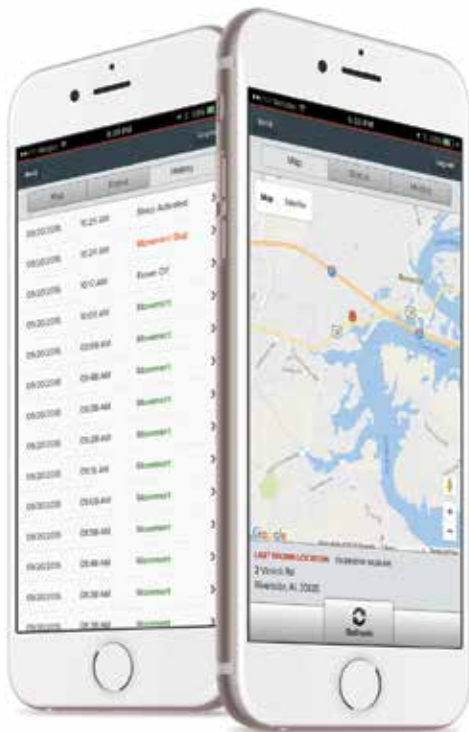• Drivers who occasionally keep a log book but do not do so for more than eight days in any 30-day period.

• FMCSA extended its 90-day ELD mandate waiver for agricultural and livestock haulers another 90 days, through mid-June. To take advantage of the waiver, operators must carry a copy of it with them in their trucks. Visit OverdriveOnline.com, search "ag and livestock waiver," to find a link to it. Further, a bill that passed Congress in March extends an exemption to livestock and insect haulers (excluding agricultural haulers otherwise) through October.

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How the two basic types of ELDs operate

BY TODD DILLS

All compliant electronic logging devices will share a common bond: They can record data coming in from the system that controls the truck's engine and component parts. The final rule from the Federal Motor Carrier Safety Administration was specific in requiring synchronization with the electronic control module. That's one of the reasons the agency didn't require ELDs in trucks of model-year 1999 or older.

The rule requires ELDs to automatically record date, time, location information, engine hours, vehicle miles and identification information for the driver, carrier and vehicle itself. Unless the driver is enabled for use of the vehicle in a "personal conveyance" mode outside of work hours, ELDs are required to record all of those elements "when the driver indicates a change of duty status or a change to a special driving category" such as a yard move, the rule states.

When in motion, ELDs are required to record all of the information on an hourly basis at a minimum. Many ELDs are offered as part of systems built for detailed tracking purposes, useful to fleets and owner-operators for purposes such as automatic notification of arrival times and IFTA reporting.

Those systems are capable of recording in a much more refined manner, and some may default to that. Providers may or may not have the ability to adjust the refinement.

Though there are plenty of variations, two types of ELDs have emerged:

• In dedicated unit configurations, the device is supplied by the provider and is likely to remain in the truck.

• BYOD ("bring your own device") systems allow buyers to purchase their own hardware for the driver interface, such as an owner-operator using an app on a personal Android- or iOS-powered smartphone. A carrier may seek out a deal on tablets to dedicate to its power units and drivers, something many have been doing to avoid some common issues.

Dedicated units

Most older forms of electronic logging devices, known as electronic onboard recorders (EOBRs) or automatic onboard recording devices (AOBRDs), have been the dedicated-unit type. Two examples that have been available for years are Omnitracs' MCP series and PeopleNet's current products used by many drivers employed by or leased to larger carriers.

Many of these units provide ELD functionality in a single device package tied directly to the ECM by a cable and plug.

Like mobile phones, such units use connections to the cellular network and GPS functionality to deliver on the ELD rule's requirements for recording location, mileage and engine hours. Data storage occurs using a combination of the internet cloud, back-office servers and the device itself.

ISE Fleet Services' eFleetSuite baseline compliance device is a dedicated unit with its own cellular data connection but without a lot of extra functionality beyond logs.

A notable exception among devices available for years now exists in the base model of the Continental VDO RoadLog, which is limited to hours of service recording and inspection-report functionality. With no connection to the cellular network with the device, fleets and owner-operators manage data storage via a USB-connected drive to transfer records to a laptop or other computer.

Other dedicated devices may pair two pieces of hardware, bridging the gap between the traditional single-unit EOBR and the two-piece BYOD systems readily available today.

In most cases, those devices come from manufacturers with BYOD and dedicated versions of the same software. While the J.J. Keller Encompass and Rand McNally HD100 systems both are BYOD-capable, they also are offered with company-branded Android tablets that come preloaded with software: the Compliance Tablet from Keller and the TND from Rand McNally.

Any fleet or owner-operator willing to make the investment in dedicated tablets can turn a BYOD system into a dedicated one. For years, Bill Frerichs of St. Louis-based Frerichs Freight Lines ran the BigRoad logging app on Android tablets dedicated to his 10 trucks. Though Frerichs didn't ultimately take this route toward mandate compliance, moving all 10 of his trucks' tablets to ELD functionality with BigRoad would have been as simple as signing on with BigRoad's program for leasing engine-connection hardware to pair to the tablets.

Jack Schwalbach, who manages the private fleet of Reinders, a Wisconsin-based turf and irrigation products company, did just that with Geotab. "We have dedicated tablets," Schwalbach says. "The tablets are used just for logging – the data plan we have locked down. Everybody's got their smartphone on their own, so they use that" for anything else.

The KeepTruckin BYOD-style ELD "black box" connects to the ECM via cable and plugin. KeepTruckin recommends users mount the device in the dash to maintain a clear GPS connection. The device pairs with the KT app on a smartphone or tablet via Bluetooth connection, optionally via USB.

Bring your own device

The "bring your own device" phrase and its BYOD acronym came into use with the profusion of smartphones over the past decade. In trucking, it's a common term to describe a major part of today's ELD market.

Dozens of providers are offering their own versions of BYOD systems. A BYOD-configured ELD consists of a "dongle" that connects to the ECM via the cab's onboard diagnostics port. The dongle typically pairs via a Bluetooth connection with a smartphone or tablet to transmit data.

Software from the ELD vendor on your smartphone or tablet enables you to change duty status manually when you stop. When your vehicle goes into motion, the ELD automatically will shift to the drive line in the log book.

Variations exist. The engine-connection dongle may or may not have a cellular connection. In the case of the KeepTruckin ELD, the ECM-connected device maintains a GPS connection but no cellular connectivity itself. For that, the system relies on the connected smartphone or tablet and its data plan.

Meanwhile, Geotab's Go — also a BYOD solution (and marketed as the Transflo ELD T7 by Pegasus TransTech) — maintains its own cellular connection and is capable of being updated and troubleshot over the air if software/firmware updates are needed.

Logging duty status and making edits

While electronic logs generally automate parts of log keeping and in some ways simplify the rest, they still require direct driver involvement in most duty status changes.

As with paper logs, drivers using electronic logs are in control of all duty status inputs. The exception is the drive line, which can function automatically. It's also the only status the driver will be unable to edit directly through his driver login.

To minimize the need for annotations required with any edit, the long-in-practice habit of "catching up the log book" by drivers will fall by the wayside. With no pencil to be pushed across paper, as long as the device is operational and open, duty status changes happen with the simple push of a button in real time.

The drive line can be edited only from the administrator's account to classify an unassigned driving event or drive time as personal conveyance or a yard move, or to reassign time to the correct driver. Drive time cannot be reduced. Any edits made from the administrator account – the back-office login – must be certified as accurate by the driver, which occurs through the driver's user interface of the ELD when the edit is made.

An independent owner-operator will have two separate logins for the system: one as a driver, the other as the administrator. An independent lacking two email addresses may need to get a second one. Many systems require unique addresses to associate with the logins as administrator and driver-user.

When it comes to the look and feel of the user interface that e-log provider companies are required to produce, the ELD final rule leaves plenty of room for variation. It did, however, make the requirement that devices display a graph grid like that in paper logs.

Some ELD makers, for instance, offer support for the variety of intrastate rules that exist, though there is no requirement in the ELD mandate final rule for them to offer such support and truckers can utilize any federally registered and self-certified device for intrastate-hours logging. Most, though not all, states have adopted the ELD mandate for their intrastate haulers.

In the states where intrastate markets are comparably large, notably
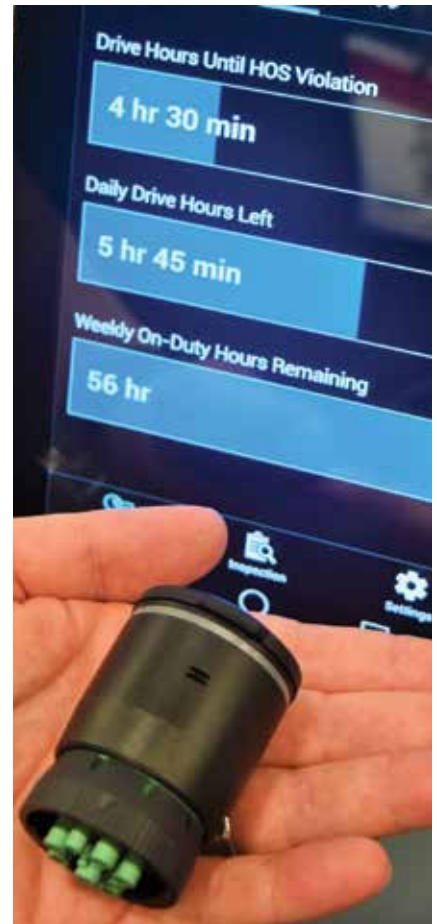
The Garmin company's baseline ELD pairs the ECM plug-in dongle shown with software on a tablet or smartphone. It's one of the few ELDs that is available without an ongoing monthly fee. Duty status changes, as in other devices, are made with quick interactions with the touch screen display on a tablet or smartphone.

Florida, Texas and California, deadline delays were on offer, however. In-state Florida haulers have until the end of 2018 to adopt an ELD if covered under the rule. Texas intrastate haulers can continue to use paper logs until December of 2019. California was still mulling its final deadline as of press time, with a proposed date of late 2020 looking likely.

SPECIAL DRIVING CATEGORIES

Yard moves functionality was specified in the ELD final rule as a way for carriers to move vehicles around company terminals without automatically triggering an on-duty driving status. Yard-moves mode for particular drivers will be enabled from the administrator account and then selected by the driver when making a yard move – the default status for a yard move is Line 4, on-duty not-driving.

Personal conveyance uses of the truck while off-duty also are enabled from the administrator account for drivers. The personal conveyance mode then can be selected by the driver using the truck for personal reasons during off-duty periods. Once selected, the default duty status is off-duty for the ELD for as long as it's selected, including when in motion. GPS refinement is reduced from a one-mile radius to 10 miles.

Various hours exemptions and special rule variants such as those pertaining to the 30-minute break and rules for oilfield operations can be handled as they have been, FMCSA's rule states, via notes sections to the logs. However, numerous ELD providers support special oilfield rule sets, including Apollo, E-Log Plus, Hutch, Omnitracs' XRS device and others.

Nick and Kim Holley have experienced no small amount of frustration with the quirks of their leasing fleet's custom ELD solution.

ELD headaches

Much has been made about the operational challenges of running under more rigid hours with an electronic log. Now, three months into the mandate, some truckers new to e-logs are experiencing technical malfunctions that jeopardize compliance. BY TODD DILLS

Entertainment-niche team owner-operators Nick and Kim Holley had some use of electronic logging devices in their past when their current leasing carrier dropped Omnitracs' XRS ELD setup on them late last year in advance of the ELD mandate's Dec. 18 deadline. Their XRS unit is of the BYOD ("bring your own device") type, paired with a dedicated tablet that is the user interface.

The device is normally "pretty flawless," Kim says, "but set up as a team, there is a plethora of problems." In her 42 years of marriage to her husband, "I've never heard him swear, but since

we put this system in, I can't tell you how many times I've heard him."

Nick Holley, no doubt, is far from alone in frustration over misbehaving ELDs. Though plenty of new ELD users report no significant issues, others have experienced problems running the gamut from software glitches to dropped Bluetooth connections in other BYOD-type systems to unresponsive customer service departments.

KeepTruckin experienced a service outage on day one of the mandate that made news, along with a brief problem with Omnitracs users' access to its back-office portal to logs data. The surge

of new users of both platforms appears to have played a role.

J.J. Keller's Encompass ELD users were granted a temporary mandate exemption through the end of February by the Federal Motor Carrier Safety Administration after the company requested it. The issue at hand was a flaw in wireless data-transfer functionality at roadside that rendered that aspect of their ELDs unworkable. J.J. Keller reported in February that the problem had been resolved.

An unnamed reader tipped *Overdrive* to a server issue that impacted functionality for some Teletrac Navman users and resulted in two units being replaced. The reader noted unresponsive in-cab units in his 14-truck fleet, no recorded mileage from several units for the better part of a week and more.

The server problems were resolved in about a week, Teletrac Navman spokesperson Stephanie Kacoyanis said.

In the wake of some of these and similar issues, FMCSA updated its Frequently Asked Questions at its ELD website that appeared to be a tacit acknowledgement that some ELD software just wasn't up to snuff. FMCSA previously had said prior-generation automatic onboard record-

SOLVING THE BLUETOOTH CONNECTION ISSUE

Based on *Overdrive* polling, drivers' most common problem with ELDs is dropped connections between a BYOD ("bring your own device," typically a phone or tablet) and the device's ECM plugin portion.

Given wide pre-mandate use of smartphone-based logging programs by owner-operators, many have migrated to ELDs with BYOD systems that often connect an ECM plug-in device to the user interface on a phone or tablet program via Bluetooth, but occasionally the connection could be made through the cloud via a cellular connection or locally over Wi-Fi.

A year ago, *Overdrive* reported on the experience of small fleet DC Transport's owner-operators during their beginning run with the J.J. Keller Encompass system ELD, where dropped Bluetooth connections were an issue from time to time.

In some systems, dropped connections can cause unassigned-driving events to mount for system operators responsible for reconciling multiple driver accounts, not to mention presenting issues of log currency for drivers during roadside inspections.

Katie Cullen, who oversees the ELD transition at Chicago-area DC Transport, wrote in later with her dropped-connection solution: Dedicating tablets to each owner-operator's truck for logging.
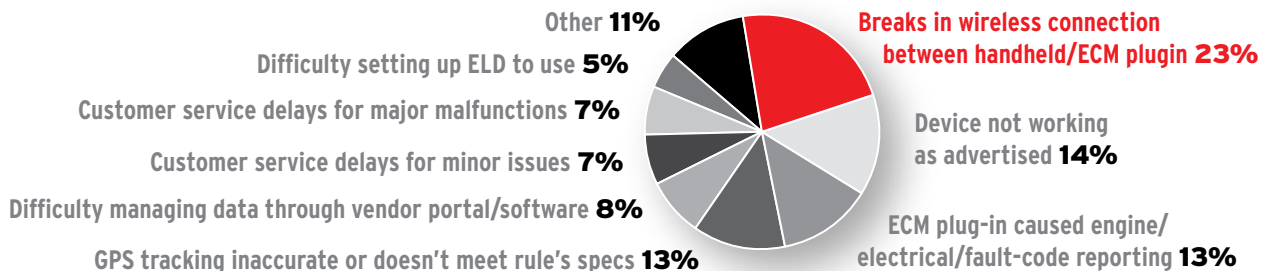
Previously, drivers had been using their phones exclusively to log, keeping paper log backups as the company worked into the system. Cullen now attributes the dropped-connection issue to use of the phones, she says. Drops occurred when drivers "were making

phone calls or running other apps at the same time, such as playing music via Bluetooth."

Today, she says, "We have switched all our drivers over to dedicated tablets." Without interfering applications in use, "we have had no Bluetooth connectivity issues."

Another solution to dropped local connections is to run a device wired to the ECM directly. The KeepTruckin BYOD ELD provider last year introduced a USB-connection alternative to its otherwise Bluetooth-paired system. The USB option, the company says, allows for speedier data transfer and a hardwired solution that also delivers continuous battery charging to the phone/tablet in the ELD pair.

The most prevalent issues owner-operators are experiencing with ELDs

Other **11%**
Difficulty setting up ELD to use **5%**
Customer service delays for major malfunctions **7%**
Customer service delays for minor issues **7%**
Difficulty managing data through vendor portal/software **8%**
GPS tracking inaccurate or doesn't meet rule's specs **13%**

Breaks in wireless connection between handheld/ECM plugin **23%**
Device not working as advertised **14%**
ECM plug-in caused engine/electrical/fault-code reporting **13%**

Among haulers experiencing ELD equipment issues, no single problem was clearly dominant in an OverdriveOnline.com survey. Search "biggest issue with ELD equipment" at the site to join the conversation.

ing device (AOBRD) e-logs were off-limits to carriers not using them prior to Dec. 18, 2017. Now it says that AOBRD software running on newly adopted ELD-capable hardware is admissable through Dec. 16, 2019, at least for fleets that put AOBRDs in use before the 2017 mandate deadline.

On March 19, an email went out to ELD makers warning them that state field inspectors were "encountering some devices that are malfunctioning or not compliant with the ELD rule. These devices are being reported to FMCSA for investigation, which starts FMCSA's formal process for notifying vendors. This process could result in the removal

of a device from FMCSA's list of registered, self-certified devices if the reported issues are not satisfactorily resolved."

While FMCSA did not respond in time for this report to questions from *Overdrive* about the depth and breadth of the agency's device investigations, it's clear at least they're aware of some of the issues truckers are experiencing.

Among team-related problems experienced by the Holleys was an apparent inability to switch drivers in their system when the current driver is logged off-duty. It was an annoyance when the team stopped, say, to eat together, then make a driver change.

But more importantly, the Holleys say,

is a glitch that stems from the system's design. If you go off-duty and turn over control of the vehicle to another driver, Nick says, "and you're off-duty for more than two hours as the truck is running down the road, the system automatically puts you back on-duty," driving.

Safety personnel at the company referenced guidance that limits time "off-duty in the jump seat" to two hours as explanation. The automatic switch to the drive line is the system's way of attempting to automatically account for that regulatory limitation as the vehicle moves, says Tom Cuthbertson, Omnitracs' vice president of regulatory compliance.

It's clearly a major annoyance for

teams, and one that Omnitracs customer support has acknowledged as an issue from time to time, Nick Holley adds.

Cuthbertson says preventing this from happening could be simply a matter of the off-duty driver moving to the sleeper berth line before the two hours are up, or going sleeper to begin when he or she goes off-duty, depending on the circumstances. Cuthbertson adds that it sounds like the Holleys are using the grandfathered AOBRD version of the XRS system. To avoid the necessity of making edits on the back end, it's programmed to make automatic changes of this kind.

In the ELD version, as per the functionality specified in the mandate rule, drivers have more control of duty status changes. With the ELD, rather than automatically move the off-duty driver back to on-duty, instead the driver gets a warning ahead of the end of the two-hour period, Cuthbertson says.

Paul Bazyldo, posting in the *Overdrive*'s Trucking Pro Facebook group, noted his ELD's required GPS functionality simply never worked. The "manufacturer finally had me send the unit back," he wrote, during all of which he petitioned FMCSA for more time on paper logs as the manufacturer addressed the issues. The ELD mandate allows eight days to replace a malfunctioning unit. If delays beyond that time period are expected, additional time must be requested through a division office.

Bazyldo says the ELD has done nothing to "make the task of documenting [hours of service] easier by any means. ... In fact, due to the amount of time I've spent trying to get the unit to work, it actually removes value from my single-truck operation on just about a daily basis."

The Owner-Operator Independent Drivers Association requested a congressional hearing last month on ELDs. OOIDA Acting President Todd Spencer wrote that members have experienced "several vendor-wide systems failures, faulty GPS tracking, inaccurate recording of duty statuses, engine disablements, speed irregularities, abysmal customer

FOR SMALL FLEETS, ELDs COULD HELP PACIFY BROKERS

Eagle Express owner Leander Richmond's Omnitracs onboard dedicated-type ELDs have delivered his eight-truck operation a capability that could solve a particular problem – increasingly "ridiculous" proof-of-delivery expectations among brokerages. Some brokers have attempted to make it a contract stipulation that the carrier will be required to send proof of delivery within an hour of offload, he says, or lose all claim to payment for that load.

Sound outrageous? Let's just say he doesn't sign those contracts. Nonetheless, managing incoming requests for POD paperwork from brokers has gotten out of hand, though Eagle Express typically invoices within a week.

What Richmond has begun doing is geofencing customer locations. The Omnitracs system is "able to send an email to the broker when the load comes in and breaks the plane going in and going out," Richmond says.

"My thinking is they can't argue about the time we got there and the time we left" – and it could tamp down on some of the POD expectations. "If I have to take three calls a day" looking for PODs, that "does take time." A more automated invoicing process with POD could well be the result one day.

Hear more from Eagle Express small fleet owner Leander Richmond about how he attempts to manage "ridiculous expectation from brokers" by searching that phrase on OverdriveOnline.com. In the *Overdrive* Radio installment, Richmond talks about new capabilities his fleet's acquired via its Omnitracs ELDs.

service from manufacturers, a worsening truck parking crisis" and more.

Owner-operators and small-fleet owners who've not experienced such equipment issues often disagree with Bazyldo's take on ELDs. They point to improved rates in the wake of the mandate, among other things, as clear positives.

Leander Richmond of Michigan was among small fleet owners who waited until the Dec. 18 deadline to put ELDs into operation, "hoping and praying that somewhere things would break" against it. He also expected rates improvements, "and that has been realized."

With well-functioning Omnitracs units in his eight Freightliner Cascadias, Eagle Express owner Richmond also references a generally positive experience working with Wired Truck, an Omnitracs reseller. "They had a bumpy rollout, but they were on top of every issue," he says. "They worked around the clock to make sure we got everything up and rolling."

For Henry Albert, *Overdrive*'s 2007 Trucker of the Year, the Continental

VDO RoadLog unit he's adopted has been trouble-free. RoadLog is alone among ELDs in not relying at least in part on an internet connection.

Owner-op Dean Carnahan, commenting on the same post as Bazyldo, said he'd experienced no problems with his KeepTruckin ELD setup.

Bennett Motor Express leased operator Jerry Boyd was among those "horrified" about the prospect of switching to e-logs, he says. Now, "I wish there'd been e-logs the day I started driving a truck." Part of his reasoning is that he experiences much more leverage over shippers and receivers who otherwise might waste his time.

He's been running e-logs about a year, with plenty of time to work out the kinks before Dec. 18. He's using Rand McNally's BYOD-style HD100 ECM plug-in, paired with a tablet mostly dedicated to the logging task. "It costs you a little money," he says, but he generally enjoys the convenience and simplicity of the device, which has had few problems.

There are times when the device is out of range of cell towers that "it's a little aggravating."

Boyd, like other operators, however, wants hours of service changes to help lessen the pain of the new technology by freeing operators to run with greater flexibility and fewer limitations. Boyd sees the cumulative 70 hours in eight days limit as onerous. "If you don't work but 11 hours a day," he says, "I don't see where the 70" should be a limitation.

Landstar-leased operator Rick Ash says he was told by the safety department that he violated his 70 at the tail end of a week in which two Omnitracs service outages put his ELD down. During each event, he was robbed of any effective window into his cumulative limits.

His problems began on a Monday. He'd been on duty six hours as he finished unloading in Montgomery, Alabama, and had driven two hours. As he rolled out, however, his ELD told him he had just two hours of driving left.

Conversations with the logs department told him the Omnitracs system had crashed and showed no update from his unit since Sunday. He says he was told not to worry about violations because "you won't be seeing accurate numbers" on the in-cab unit.

Later in the week, a similar thing happened. The logs department reassured him he had plenty time. Just before he was planning to shut down, however, safety called to say he was running beyond his cumulative limits.

"That could have been true," he says, but by that point he'd lost confidence in the entire record. Now he's got a violation in the company's system that the safety department will not remove, he says. He's unsure how that will bear on his lease status, if at all.

A Landstar spokesperson noted "the company does identify log violations and, depending on the violation, may require remediation training or take other steps to address the violation."

Kim and Nick Holley, too, have experienced intra-fleet conflict since moving to ELDs, when an outage basically rendered the log nonfunctional, according to an email from the office. The message, essentially: "Try not to do anything until we get this taken care of," Kim says. "On one side, dispatch is saying get there. Safety is saying wait."

So Nick "whipped out his laptop" logging program, Kim says, and delivered. "When we got to the location, we were able to get hold of the Omnitracs people," whose tech acknowledged the XRS "has a problem with teams."

Landstar says its owner-operators' ELDs "include functionality in the event of a service outage or disruption that provides that, as soon as the ELD resumes service, it is supposed to 'catch up' or track from where it left off in order to accurately reflect the hours of service for that operator."

But Ash says that the next time he has an ELD technical problem, he's going to do what Nick did and "reach for my paper logs" to keep as accurate a record as possible, which FMCSA itself has advised. In the event of a totally malfunctioning unit, a data download from the unit or a cloud storage account – or an email from dispatch – could fulfill carrying the previous seven days' records.

Cuthbertson emphasizes that Omnitracs' onboard units enable an "offline login" mode that should be available during outages so that a driver can retrieve the prior seven days' records and minimize use of paper logs.

On issues of customer support, Cuthbertson recognizes the change that going "from paper to electronic" represents. "That's why we put the help button on all the screens" in their devices and invested in training with local-support companies such as Wired Truck.

But no small amount of frustration with the change continues, nonetheless. Kim Holley says she sees tension mounting among her fellow drivers: "We understand the time crunch they're feeling." She witnessed a shouting match over a tight through-lane in a Flying J parking lot as operators headed in opposite directions hit an impasse.

"I think that the tension that drivers are under right now is insane," she says. "It's very intrusive into our lives." The tension is pushing good people out of the business, she believes.

In spite of his generally positive experience with ELDs, small-fleet owner Richmond also says he still has "drivers I have to talk off the ledge" of quitting. What he tells them: "You just have to change your mindset and your expectations, and you'll be fine. You can't drive these trucks like you're on paper logs anymore."

Courtesy of the Holleys

Nick and Kim Holley haul in a 2010 Freightliner Coronado. Their "furniture lives in Texas," says Kim, while their home is mostly on the road.

Dealing with violations beyond your control

What will happen in situations where your electronic logging device documents an unavoidable violation? This could be driving beyond limits while looking for a parking spot in a congested area or moving from a parking place during an off-duty period when forced to by local law enforcement.

State and federal law enforcement officials urge drivers to practice blunt honesty, using annotations on duty statuses and status changes to explain the situation in detail. In many cases, officer leniency is likely to prevail.

Before e-logs, "getting the load there on time was the first priority," said driver Bob Stanton, part of a panel convened by the Federal Motor Carrier Safety Administration during the Great American Trucking Show in August 2017. Before, "you made your log look legal" only after that first priority was met, he said. Now, if there's any chance you can't get deliver within legal hours, you need to make the appropriate calculations well beforehand.

That seemingly simple change, however, is one that brings with it a raft of complications, from new administrative and operational burdens placed on drivers and carrier dispatch to the pressing need for shipper/receiver customers' appreciation of the new dynamics.

Others at the GATS panel presented cases, including delays at shippers and receivers that exhaust on-duty hours. FMCSA enforcement specialist LaTonya Mimms noted officers will retain the discretion on whether to write a violation.

If the overage is "no more than 15 minutes," Mimms said, the "trooper may or may not cite a nominal hours violation," with little consequence for safety scores. In excess of 15 minutes, however, a normal violation would be the typical response.

Two-truck independent Rico Muhammad has encountered such a situation, parked overnight outside a receiver's closed facility, staged to unload in the morning. Run off by local law enforcement during his off-duty period, he used personal conveyance mode in his e-log (which continues the off-duty status when selected) to move five miles up the road to a spot.

Joe DeLorenzo, director of FMCSA's Office of Enforcement and Compliance, hears about special cases all the time, many having to do with just where personal conveyance is warranted or not. He emphasizes that it's properly understood as truly personal use of the vehicle. Traveling to and from shipping/receiving locations isn't the place to use it, though compliance consultants have argued otherwise, particularly for self-dispatched or independent owner-operators such as Muhammad (if empty).

When an exceedingly lengthy delay at the shipper or receiver causes the driver's 14-hour clock to run out, DeLorenzo says proceeding to a safe haven/parking location/truck stop would not be considered personal conveyance. Rather, he urges drivers to make the trip and annotate the circumstances "in case somebody asks for it," thus avoiding charges of a "false log" for incorrect personal conveyance use. If the shipper forces you to leave and violate the regulation, you can also utilize the stipulations of the anti-driver coercion rule, published in tandem with the ELD mandate, to report the shipper to the DOT and encourage enforcement action, part of new authority the agency has over the shipping community. Find how to file a complaint via nccdb.fmcsa.dot.gov.

In December, FMCSA proposed to remove the requirement to be "unladen" from the definition of personal conveyance. A final adoption of such or similar guidance could come as early as June.

DeLorenzo also clarifies the other special short-term driving category specified in the ELD rule: yard move. Using this category will move a driver to the on-duty not-driving status, even though the vehicle is in motion. Just where it can be used hasn't been fully understood to date throughout the industry.

DeLorenzo says fleet terminals aren't the only places where it's OK to use; it's also good within facilities away from public roads such as ports, railyards, customer locations and the like. At distances of no more than three to five miles, DeLorenzo says, "it's OK. If it starts to accumulate more than that, people are going to start asking questions."

Yard moves, after being categorized by the driver or registered automatically in a geofenced area, must be approved by the administrator. In the case of an independent, that makes use of the yard move a two-step process for the owner.

Self-incrimination by ELD will rise to the level of a violation only if someone decides that it does. Picky violations in special circumstances, says Capt. Brian Preston of the Arizona Department of Public Safety, are not going to get many in much trouble if they're logged honestly. What his officers are looking for, he says, is more the intent to deceive. *0*

Driver Bob Stanton (second from right) and Landstar-leased owner-operator Charles Alexander (right) were among participants in the ELD-issues panel of drivers convened by FMCSA at the Great American Trucking Show.

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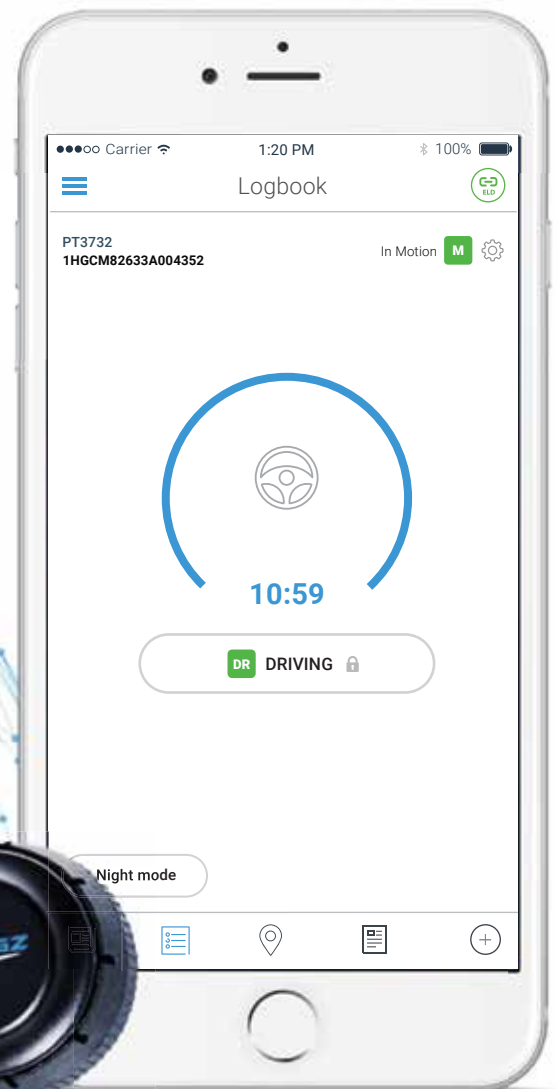
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DR DRIVING

Night mode

Bells and whistles

BY TODD DILLS
AND AARON HUFF

DriverTech in 2017 launched the DT4000 Rev 7, a communications platform that comes with ELD capabilities and a front-facing dash camera to capture critical event video. Other ancillary features include truck-specific navigation and the ability to link with Cummins Connected Diagnostics and the Meritor Tire Inflation System. M2M in Motion is another ELD provider offering dashcam capabilities for critical-event video capture.

From built-in dashcams to scanners and transportation management software (TMS) system integration capabilities, electronic logging devices do more, often a lot more, than merely provide hours of service functionality.

ISE Fleet Services' eFleetSuite ELD, for example, can be scaled to add features on the Android system that underlies the dedicated unit. Owner-operators and fleets "can invest on it upfront and spend more money down the road if that's what's necessary," says Chris Nelson, ISE vice president.

Although ISE calls the eFleetSuite e-logger a "baseline compliance" device designed originally to satisfy the needs of a particular set of leased owner-operators, logs aren't the only thing it can do. As with many competing devices, the GPS-enabled connections to the truck's electronic control module open up the possibility to automate fuel-tax data collection that can be output to multiple IFTA providers, Nelson says.

For Jack Schwalbach of the Reinders private fleet, similar functions within the Geotab e-log service are among the biggest benefits he's seen. "Fuel tax is a huge problem," Schwalbach says – or *was*, before moving to Geotab's system paired with dedicated Android tablets for logs. Previously, Reinders often was at the mercy of its drivers' record-keeping abilities or best guesses for state mileages. "Now, at the end of the month and end of the quarter, I gather the info for fuel tax and don't waste eight hours at the end of the month, minimum, trying to get the records."

ERoad and its ELD also take tax-management functionality to another level. The product is built on top of a system originally designed for debiting weight-mile user fees in New Zealand and then piloted in Oregon to track use in that state's weight-mile system. After that, says company representative Gail Levario, the product will have "an end-to-end solution on the IFTA side."

Other administrative-type functionality involves electronic driver vehicle inspection reports (DVIRs) for pre- and post-trip inspections. Many devices provide drivers with an electronic checklist for areas that need work. Maintenance personnel or the driver himself then can sign off on repairs as they happen, creating an electronic maintainence record.

iGlobal's Edge MDT ELD and communications platform features a push-to-talk cellular option with a familiar

CB-style microphone and is used by Paramount Freight Systems to accelerate payments to its owner-operators. With the Edge's built-in high-speed scanner, owner-operators use the module "like a cash machine," says iGlobal's Chris Phibbs. "They'll pay the owner-operator as soon as they get their paperwork."

The Drivewyze weigh-station bypassing service is integrated as an option in the BYOD ELD of Transflo and dedicated units of Rand McNally, Omnitracs, PeopleNet and Zonar.

Many systems also present the back office with dispatching tools, from map views of drivers' locations and available hours to historical views of routes and more. Bill Frerichs of Frerichs Freight Lines says that even without full ELD functionality, his fleet has been able to improve dispatch by using Android tablets running BigRoad's software.

"We're using their map feature so you can see the drivers and using it to tell them where to fuel in some cases," says Frerichs, who participates in the National Association of Small Trucking Companies' fuel-discount network. "My key people [in the office] all have that BigRoad app on their desktop."

Such functionality could help more carriers track detention time. "ELDs are going to come full circle and get your time at the docks under control," Frerichs believes.

A variety of business tools also are emerging from some new players in the ELD landscape. Both the Simple Truck ELD and Konexial's My20 are marketing load board-like services to owner-operators. Konexial says the app associated with his company's BYOD ELD service "will alert a driver of [available loads] within a geographic location."

Larger fleets also are finding ways to make the most of the e-log transition by using their hours of service data for more than just compliance. The data can be integrated with TMS systems and routing applications that optimally match drivers

The ELD by the EzLogz company, recently introduced, features social and other functions that include a walkie-talkie/CB-like capability, allowing group and one-on-one conversation and archiving the audio in a text-message-app-type display. It's operable on iOS-powered smartphones or tablets (Android coming soon).

to loads and make adjustments to the pickup-and-delivery schedule as the day progresses.

Omnitracs' relatively new Route, Dispatch, Compliance (RDC) system is designed for fleets with last-mile delivery operations that operate under HOS regulations. The web-based system uses data from the Omnitracs XRS mobile and ELD application to plan routes and make real-time dynamic changes as the day progresses.

P&S Transportation, a 1,100-truck carrier based in Birmingham, Ala., uses a planning tool called Driver Feasibility in its LoadMaster TMS system from McLeod Software. The tool provides an automated checklist for driver-load assignments by evaluating driv-

ers' current hours, location, load status and future availability.

P&S requires all personnel in operations and dispatch to use the tool when assigning loads to drivers that run e-logs, says Tiffany Giekes, director of business process. The company implemented e-logs three years ago in its flatbed and refrigerated operations. "We are making good business decisions before we talk to a driver about a load," Giekes says. "It is a huge benefit to know if a driver is going to make it on time."

P&S driver managers also use Driver Feasibility to coach drivers who are relatively new to e-logs. Managers can show them how to plan trips, including where to take breaks and fuel, to make deliveries safely and on time.

Factory-fit telematics work with ELD partners

BY AARON HUFF

Bill Frerichs created a deadline in 2017 of July 1 to have electronic logging devices operational for his nine-truck fleet. The president and owner of St. Louis-based Frerichs Freight Lines was mulling his options.

"The almighty bottom dollar is not the deciding factor, but it is part of it," Frerichs said. "I am hoping I can get into this for under $35 per truck per month."

One option was to upgrade the logging app Frerichs currently is using for his late-model Volvo fleet. The BigRoad app runs on Android-powered tablets secured to dash-mounted docking and charging stations.

Frerichs also was considering ELD applications from Omnitracs or Telogis, both of which have connectivity agreements with Volvo Trucks to leverage the telematics data that the truck maker already captures for its Remote Diagnostics service. Volvo installs a telematics device in all new vehicles at the factory. The XRS platform from Omnitracs could run on Frerichs' existing Android tablets, and so could Telogis' suite of applications.

Frerichs was looking beyond compliance for systems that also report driver and vehicle performance, which Omnitracs, Telogis and others could provide. "I want to create a driver incentive program to pay a fuel bonus and things like that," he said.

In a perfect world, any ELD software developer could leverage the mileage and engine data from telematics devices that truck makers install at the factory. The data could be accessed by a mobile app through a local Bluetooth connection or be fed to apps installed on a truck's touchscreen infotainment system.

Absent a printer as a backup, the

Courtesy of Mack Trucks

Mack Trucks and Telogis are offering a free 30-day trial of Mack Fleet Management Services with Telogis Fleet. As with Volvo, Telogis has a connectivity agreement with Mack, allowing the telematics service provider to use data from Mack's factory-installed telematics device to deliver on a variety of management applications, including electronic logs.

ELD rule requires that logs be viewable by law enforcement officers in a display. For this reason, it might not make sense for truck makers to install a computing device with a non-mobile display, says Omnitracs Director of OEM Solutions Wes Mays.

While most truck makers are not in the ELD business, their investments in remote diagnostics and telematics can pay dividends for third-party ELD providers.

Paccar installs a PeopleNet telematics unit in Kenworth and Peterbilt trucks with Paccar MX-13 engines at the factory. To run PeopleNet's eDriver Logs application, truck owners would need to purchase or lease one of the vendor's driver displays, but they would gain additional value beyond compliance.

"The customer gets access to Paccar's detailed and advanced maintenance services preloaded on the device, along with PeopleNet's fleet management capabilities," says Eric Witty, vice president of product for PeopleNet.

Daimler Trucks North America installs Zonar's telematics unit, the V3, in Freightliner and Western Star trucks at the factory. DTNA uses V3 to power its Virtual Technician remote diagnostics service, allowing Zonar's Connect and 2020 tablets to run the ELD application.

The 2018 Cascadia has the ability to integrate other ELD applications.

The latest version of Navistar's OnCommand Connect remote diagnostics service includes asset tracking, an ELD and other fleet management applications that run on BYOD mobile devices.

In coming months, Navistar will install OnCommand Connect at the factory and expand its capabilities in driver and vehicle safety functions. Volkswagen, a major shareholder of Navistar, has a telematics company, RIO, that will help in developing a common hardware and software platform for all Navistar trucks.

ELD PRODUCTS

CONTINENTAL VDO ROADLOG

VDO RoadLog has a built-in thermal printer that provides an instant hard copy that resembles a traditional paper logbook grid for an inspection officer to review. A paper printout eliminates technical issues involving transferring log data that otherwise might lead to drivers handing over their personal cell phones to an officer or having the officer climb into the cab to review an electronic logging device screen. VDO RoadLog ELDs work with VDO RoadLog Office, an online fleet management tool for automated compliance reporting designed for fast, secure data transfers and automatic online record backup. The product also helps automate IRP and IFTA reporting, as well as pre-and post-trip inspections.

VDO RoadLog is designed for easy installation and use and is available without monthly fees or contracts. Optional features include Driver/Vehicle Track & Trace, Load & Trip Management, VDO RoadLog Office Advanced and VDO RoadLog Office Premium.
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