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THE STATE OF TEMPERATURE-CONTROLLED TRUCKING

*Food safety regulatory compliance
top-of-mind for carriers.*

The refrigerated trucking industry hauled 520.1 million tons of freight in 2015, equaling 5 percent of all truck freight (10.35 billion tons), according to the American Truck Association's first Refrigerated Truck Freight Market Analysis.

The recently released report, supported in part by GCCA, cited that refrigerated freight generated \$14.3 billion in revenue, equaling 1.9 percent of all truck revenue (\$748.9 billion). The research highlights the critical importance of the refrigerated trucking industry to both the U.S. trucking industry and the broader economy.

The contribution of refrigerated carriers, however, is doing little to allay their anxieties as carriers are facing a host of new food safety rules that went into effect in March 2016, as part of the Food Safety Modernization Act (FSMA).

Regulatory Scene

"It should be called the 'Food Safety Documentation Act' because there is nothing really new in it in terms of modernization," observes Don Durm, Director of Strategic Customer Solutions for PLM Trailer Leasing. "What it does do is involve the FDA (U.S. Food and Drug Administration) in the food supply chain as an enforcement agency."

Durm notes that while the rules are primarily intended to address the actions of shippers and receivers, refrigerated fleets are affected because the new rules require detailed written agreements that will be governed by the shippers' operational requirements for the carriers to execute, while imposing equipment and driving requirements as well.

"The final rules do give some flexibility over the proposed rules but refrigerated fleets will feel the impact on their operations because the rules will affect trailer designs, depending on shipper requirements, and tighten sanitary cleaning requirements of the trailers," Durm points out. "Shippers by written agreement will be the one entity that will determine pre-cool requirement, temperature tracking if needed as well as data exchange between the shipper and carrier, and finally, driver food safety training will be required with documentation of that training accessible upon request."

Refrigerated carriers should expect approximately a one-year compliance window with the rules. "Carriers should begin talking to shippers now about all the requirements that will be involved with the new rules," he advises.

Durm notes that the FDA will not require mandatory data tracking and storage for compliance, but shippers may require carriers to capture temperature data and provide proof



Computerized refrigeration units that can sense and record short cycling of improperly loaded trailers can identify stowage problems and corresponding high temperatures. (Photo courtesy of MTC Logistics.)

of sanitary food condition rules to meet their requirements for Preventative Controls. He notes that the FDA will not require real-time data; instead just mandating that carriers capture the data and provide it to the shipper. However, telematics will be the most reliable and cost-effective options currently available.

Another major hurdle for carriers, according to Durm, is that while the FDA mandates driver training regarding food safety and envisions a one-hour online course, no training guidelines have yet been released.

Bud Rodowick, Strategic Relations – Food Safety and OEMs, Thermo King, recently completed the Preventive Controls Qualified Individual (PCQI) prerequisite course required for completing a registered food

facility's preventive controls Food Safety Plan.

By September 19, 2016, the majority of food processors need to have a Food Safety Plan that has been prepared by a PCQI. This means that companies need to have a PCQI in place quickly so they can prepare and implement the Food Safety Plan before the compliance date.

"From the production floor to the threshold of the warehouse door, this course curriculum addresses all of the compliance requirements of the Preventive Controls Rule for a preventive Food Safety Plan – in fact they do a thorough job with plenty of exercises and examples provided," says Rodowick. "What is totally absent from this course, however, is the critical part of transportation. From the staging area of a loading dock to the

receiver's dock, you are clueless as to what to do for your plan."

Rodowick goes on to note that the entire manual only mentions "good transportation practices" a few times and as the course proceeds through a list of topics specific to the standard for PCQI qualification compliance. Nothing is mentioned as to how those topics apply to the transportation of food, refrigerated or otherwise.

"The total disregard and absence of transportation guidance should concern the refrigerated transportation industry," Rodowick warns.

Rodowick and other members of the International Refrigerated Transportation Association (IRTA), along with GCCA staff, are currently working to develop a resource that will help members better understand how the Preventive Controls Rule applies to carriers and give examples illustrating how different types of operations might comply with the rule.

Another regulatory concern keeping Rodowick up nights is the FMCSA (Federal Motor Carrier Safety Administration) mandated adoption of electronic logging devices (ELDS) in 2017. The ELD rule is intended to help create a safer work environment for drivers, and make it easier and faster to accurately track, manage, and share records of duty status (RODS) data. An ELD synchronizes with a vehicle engine to automatically record driving time for more accurate hours of service (HOS) recording.

"There are consequences of drivers no longer keeping manual records," Rodowick notes. "With an electronic system in the truck recording when the engine comes on or off, when the truck is idling, how long the driver is behind the wheel and how long the unit is running, drivers will be bound by truth now with no possibility of fudging or misrepresenting the truth.

"What's great about electronic logging is that all the facts are there – what's bad about electronic logging is that all the facts are there. The fallout will be utilization with carriers penalized for waiting to unload or stranded somewhere with a full or empty trailer."

John Larkin, Managing Director and Head of Transportation Capital Markets Research at Stifel Financial Corp., is on record as saying the trucking industry is expected to lose between 3 and 5 percent of its overall productivity when ELDs go into full effect – losses that may rise to between 6 and 10 percent among small carriers.

Larkin indicated that roughly half of the trucking industry has moved to ELDs at

this point, and the other has not, and that's especially pronounced among small carriers, many of which have not optimized their networks in the first place.

Telematics Solutions for Compliance

"How many reefer units are we going to buy is always the question, but I think a better question is, how do we establish a food safety program utilizing existing technology. There are tremendous opportunities available for integrating advanced truck trailer refrigeration technologies and telematics with food safety programs, and the computerized reefer

system today is not being fully utilized," asserts Dr. Patrick Brecht, Founder and President of PEB Commodities, Inc. and a member of the WFLO Scientific Advisory Council (SAC) with expertise in reefer technology.

"Computerized reefer units offer significant benefits to transportation companies, shippers and receivers who intend to implement HACCP (Hazard Analysis Critical Control Point) and HARPC (Hazard Analysis and Risk-based Preventive Control Solutions) for the sanitary transportation of food," Brecht says. "I envision utilizing and expanding on this existing technology, with new algorithms

or new iPhone apps, to come up with expert systems to limit human decision-making and intervene in food handling."

Brecht explains that the reefer's computerized temperature management system computer includes various levels of guarded access thereby protecting selected food safety related critical control limits from tampering and unwelcome changes. The computerized system also permits the operator to set up pre-determined temperature management and food safety conditions for various foods. The advanced microprocessors and air distribution systems available for refrigerated trucks and railcars offer transportation companies valuable "off-the-shelf" food safety, HACCP and HARPC plans.

Brecht offers examples of features from computerized truck trailer reefer units to demonstrate the benefits of these technologies for compliance to sanitary food transportation rules.

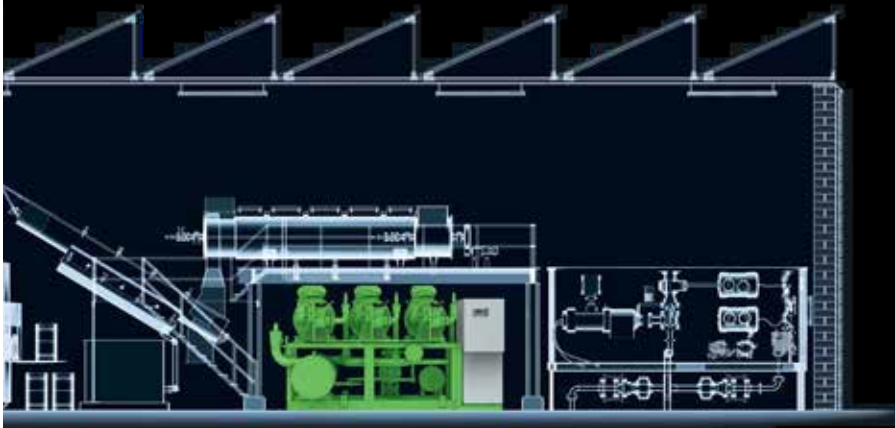
"Our investigations and studies have found that human error accounts for up to 80 percent of cargo losses during transportation," Brecht explains. "But microprocessor driven reefer units offer technological advances that can reduce human errors, driver decision making and driver intervention. Tasks like thermostat setting, upper and lower temperature limits, rate of temperature reduction, operating modes and defrost initiation can be pre-programmed and, as a result, made easier and simpler than ever for drivers and others."

Brecht also points to expert systems. "Trucks currently have expert systems, but a number of carriers just don't know how to fully use them. The computerized reefer units can be utilized to take complex commodity and food safety related decision making out of the hands of the driver and others by utilizing the expertise of engineers, scientists and food safety experts," he notes. "These experts assist the carrier in setting up custom tailored computerized expert systems in response to shipper and FDA specified requirements for the safe and sanitary transport of food."

When it comes to proper stowage, Brecht says computerized refrigeration units that can sense and record short cycling of improperly loaded trailers have immediate practical applications. They can identify likely stowage problems and corresponding high temperature-induced food safety compliance issues – but the technology is not routinely being utilized.

The start of trip feature is currently available on modern truck, rail and container refrigeration units and helps ensure that the time and date of a trip is properly entered and documented for future reference. "This is the

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beginning of a sanitary food transportation road map that can help memorialize when the accountability shifts from the shipper to the carrier to the receiver," Brecht explains.

Again available on modern reefer units, the computerized pre-trip can be incorporated directly into a sanitary food transportation plan and hazard analysis risk-based preventive controls. "It is a critical control point and significantly, pre-trips reportedly can identify in excess of 95 percent of the issues with a reefer unit," Brecht emphasizes. "Pre-tripping the reefer and documenting the time and date of a pre-trip is a key ingredient to a transportation food safety plan and to preventing losses and mitigating claims."

The refrigeration system's principal controlling and recording device is a computer or microprocessor that is sometimes referred to as a data management system or a data logger. Brecht points out that the data logger provides the required record keeping and verification that carriers can utilize for their HACCP and HARPC plans.

"In our industry, we're very reactive," Durm admits. "With lost product we fill out the paperwork and refuse the load. But with telematics, you manage the load in real time

versus being reactive – it's eyes in the sky."

Durm explains that telematics allow carriers to manage by exception based on a personal profile set up within the system.

"You can see the asset anywhere through GPS and through cellular and you can monitor local conditions all along the route," Durm adds. "You can also set critical alarms for door openings, temperature status, driver behavior, and over the road haulers can measure dwell times – excellent for new recordkeeping rules. All these alerts are in real-time and codes can be cleared from a laptop allowing you to act on things that are important, and dismiss if not so important."

"In today's busy world we all have a need for real-time information – whether you are a business executive or a mom trying to manage the family activities – we all have smart phones on hand that we consider invaluable to navigate and manage our personal and professional lives in real time," Durm says. "Today's operators must adapt to the approach of building a 'SMART Trailer' with advanced monitoring systems that can substantially enhance their financial and operating performance. No longer is it a luxury to do a post-trip analysis of failures in

order to remain competitive and in compliance of pending regulatory requirements. It is necessary to understand in real-time the load management to maximize your position in the marketplace."

"The writing is on the wall," Brecht says. "Government imposed food safety regulations and implementation of sanitary food transportation programs in some form, in addition to commercial, litigation and consumer pressures, will continue to drive the adoption of food safety plans by food transporters."

"As the food safety bar continues to be raised, food carriers will eventually need to include in their food safety program most, if not all, of the features now available in modern computerized refrigerated truck trailers, railcars and containers. Now is the time for carriers to explore their options and work in concert with shippers to develop, as appropriate, HACCP and HARPC programs for the sanitary transportation of food." ☞

ALEXANDRA WALSH is Vice President of Association Vision and a contributor to COLD FACTS.

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