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Can Deliver Chassis Lighting Enhancements

hassis lighting improvements can be achieved through a combination of new approaches, attention to detail and cost-effective steps such as accelerating the use of LED lights, according to federal regulators, chassis providers and suppliers.

Accelerating the commitment to LED lamps and away from incandescent bulbs builds on recommendations of an IANA task force that investigated lighting issues. In addition to recommending that LED lights be used exclusively on chassis, IANA's LED Light Task Force identified steps to reduce theft and maintenance costs and boost productivity for drivers and mechanics, which also enhances compliance.

Growing attention to lighting is underscored by the fact that inoperable lamps continue to be the single most cited violation during roadside inspections and can lead to out-of-service orders, based on Federal Motor Carrier Safety Administration statistics. Five of the other top 20 violations relate to chassis lights. Lighting violations incur higher point penalties than many other infractions under the agency's Compliance, Safety, Accountability program.

"We instruct our vendors to use single diode LED lights that appear to look like an incandescent light, camouflaged so someone cannot tell the difference between the new-style LED and the old-style light," said Jim Reo, director of maintenance at Consolidated Chassis Management, helping to reduce theft. "CCM is making the change through attrition to reduce costs to our contributors. As an old-style light has to be replaced for any reason, it is replaced with an LED."

Brett Johnson, president of supplier Optronics International, outlined the advantages and consequences of lighting issues.

"A well-maintained lighting and electrical system are critical to the operation of a commercial vehicle, and are also a testament to the vehicle's overall mechanical integrity," he explained.

"Lighting issues start costing a fleet immediately," he said. "Couple a stop with a roadside service call, and the time and cost impact is even greater. In fact, the cost of service fees, lost vehicle and driver productivity, fines for violations, and big points against the driver's and the fleet's CSA scores, can all result from the failure of a low-cost lamp."

Theft resistance

"Theft resistance is also about stealth," Johnson said, adding that advancements in diode technology and reductions in LED pricing have enabled the company to design new technology to prevent theft.

Improved lighting also can deliver financial benefits, with some cost reductions estimated as high as 50% compared with incandescent bulbs, on a fully installed basis. The latest IANA M&R Committee reports show, for example, a decrease in costs for one company on an all-in basis of 38% when LED lights are used. Johnson noted that during the work conducted by IANA's task force, just four fleets identified \$13.5 million in lighting related costs.

> Federal Motor Carrier Safety Administration spokesman Duane DeBruyne told Intermodal Insights that because "lamps using LEDs last much longer than incandescent bulbs, the number of inoperable lights on intermodal chassis equipment should decrease, resulting in increased safety. For the same reason, the number of violations issued for inoperable lights on intermodal chassis equipment will be expected to decrease as implementation of LED lights become more widespread."

He also noted that the NHTSA's Federal Motor Vehicle Safety Standard 108 sets minimum safety performance levels, but does not specify what type of lighting system should be used to achieve those standards.

Experts expect more progress — over

Just one month after the IANA report, "Direct Chassis Link adopted the policy in June 2015 of using only LED lamps for replacement use on all chassis we maintain," said Dave Esposito, general manager of the technical department and a maintenance and repair executive at DCLI. "We also upgraded our new chassis specification to reflect LED lights."

Gradual Process

"Until the incandescent lamps used for years on intermodal chassis 'cycle through' their remaining life, the positive impact of LED lights will not be fully visible," said Esposito, noting the replacement process is expected to take between 1 ½ to 2 years for the benefit of LED lights to show clearly in maintenance records.

Reo said, "Time will tell how well they hold up and for how long, but we clearly see a decrease in replacing of lights

A particular concern is incandescent



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Intermodal Volumes Gain in December

Total intermodal volumes rose 2.8 percent in December relative to the same month last year. All segments showed increases: domestic container volumes at 2.2 percent, international containers at 3.4 percent, and trailers at 2.0 percent. Total year-to-date growth declined by 2.1 percent.

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lights that fail in situations where vibration is excessive, such as when there is no container mounted on the chassis.

Additional steps have been targeted to sustain the progress. Johnson said.

He indicated, for example, that a single receptacle to fit all plugs would be important, along with making LED lights look like incandescent lamps to reduce theft.

He also advocated that companies should create work processes to ensure that proper procedures are followed and that suppliers should focus on delivering higher functionality, but not at a higher price.

DeBruyne said FMCSA staff continues to work with IANA committees and task forces to stress the need for additional attention to maintenance and better pre-trip inspections to reduce violations.

"I'm sure as time goes on and technology changes that there will be improvements in the quality of the lights we use today," Reo said. "Perhaps cooler running, which will add life, better mating of the plug to the light itself, which will reduce

or prevent the light from becoming unplugged through normal road vibrations"

The IANA task force estimates that the conversion from incandescent lamps to LED will alone save intermodal equipment provider fleets up to 50% by reducing the cost of replacing missing, broken or burned-out lighting on vehicle chassis. Thus, the four fleets polled by IANA, with spending of \$13.5 million between them, would expect to save \$6.75 million collectively.

"In conversations with motor carriers at bi-annual IANA meetings, as well as during the normal course of business, the news of DCLI's adoption of 'LED lights only' for replacement use on our chassis is always met with enthusiasm," Esposito said. "Our customers appreciate our efforts to provide more reliable equipment, reduce roadability repairs and to minimize over-the-

Johnson confirmed that view, saying "Chassis owners tell us that the IANA task force confirmed what many of them believed already, that converting to LED lighting is smart."