

SAFETY IN THE TRUCKING INDUSTRY: NON-DRIVING INCIDENTS

By **STUART FLATOW**

Overtaken tractor-trailers and other highway incidents are often a focal point of discussions about safety in the trucking industry. The Dept. of Transportation (DOT) sets and enforces regulations pertaining to motor freight transportation; these regulations focus on transportation activities and highway safety. However, DOT also regulates activities that are “incidental” to transportation, such as loading and unloading freight. It is here that a potential conflict arises between DOT regulations and safety and health standards enforced by OSHA.

Motor carriers spend much time and resources on highway safety, focusing extensively on the driver and the general public. Many also seek ways to limit non-driving incidents. In a recent report, Cigna Property and Casualty Co. reported that only 16 percent of driver injuries involved motor vehicle accidents (Cigna). A 1994 Trucking Research Institute (TRI) study found that figure to be around six percent (Borba and Appel).

Safety and health programs that effectively address all tasks and activities associated with trucking will provide for greater injury reduction than those that focus solely on driving. Freight loading/unloading activities account for a large number of non-driving injuries within the

trucking industry. Such injuries may occur in yards, near loading docks and in maintenance shops. This article examines the costs and causes associated with non-driving injuries to both drivers and non-drivers, as well as some jurisdictional conflicts between DOT and OSHA.

ADA & OFF-SITE INJURIES

Safety professionals are responsible for safeguarding workers and the organization. They strive to ensure compliance with government regulations and limit employee exposure to injuries and illnesses. Complying with regulations and implementing effective safety programs is a challenge for professionals in any industry—even moreso in the trucking industry.

For example, DOT regulations on driver medical records may conflict with requirements of the Americans with Disabilities Act (ADA). In one case, a jury found that a motor carrier violated the ADA when it disqualified a driver who experienced epileptic seizures. The carrier was ordered to pay \$500,000 in punitive damages. In another ongoing case, a motor carrier was sued for disqualifying a driver who had vision in only one eye.

Despite these rulings, the U.S. Supreme Court has upheld the pre-eminence of DOT’s medical qualification requirements for “safety sensitive” jobs—in particular driving a truck—over those stipulated in

the ADA. On a case-by-case basis, DOT will consider waiving parts of its vision requirements for interstate drivers.

In many cases, driver injuries occur in a location not under the motor carrier’s control. According to the Cigna report, more than 40 percent of driver injuries occurred at a customer location (Cigna). As this finding reflects, truck driver safety is a shared responsibility. Shippers and other customers must make sure that their facilities provide a safe, healthy workplace for the visiting driver and that the driver is not required to handle unsafe loads. In addition, motor carriers cannot always prevent unsafe acts exhibited by some drivers.

WHY FOCUS ON NON-DRIVING ACTIVITIES?

Motor carriers must move freight efficiently every day. The industry is highly competitive—on average, it operates on a three-percent profit margin. Therefore, lower injury rates translate to higher profit margins and competitiveness.

Besides driving, moving freight is labor-intensive—it involves extensive materials handling. As a result, injuries due to lifting are common—not to mention expensive. Workers’ compensation (WC) costs in the trucking industry can exceed \$1,559 per employee (Beller 8A).

The amount of additional freight a motor carrier must haul to cover the costs of a compensable injury can impact its

TABLE 1
Revenue Required to Pay for Workers' Compensation Injury Costs

Accident Cost	If Your Company Profit Margin Is:				
	1%	2%	3%	4%	5%
\$1,000	\$100,000	\$50,000	\$33,333	\$25,000	\$10,000
\$5,000	\$500,000	\$166,666	\$125,000	\$100,000	\$50,000
\$10,000	\$1,000,000	\$500,000	\$333,333	\$250,000	\$200,000
\$25,000	\$2,500,000	\$1,250,000	\$833,333	\$625,000	\$500,000

Reprinted from the American Trucking Assns.' 1996 report. "Workers' Compensation Injury Reduction and Cost Control Strategies for the Trucking Industry."

bottom line and long-term future. Table 1 shows the amount of revenue that must be generated to offset WC costs based on a company's profit margin.

In addition to WC costs, injured drivers cannot move freight. According to 1998 Bureau of Labor Statistics' data, 25 percent of truck drivers who sustain lost-workday injuries are away from work an average of 31 days or more, with a median average of 10 days. That means a lot of freight simply may not move.

NON-DRIVING INJURIES
Injury Type & Incidence

According to the 1994 TRI study, slips, falls and lifting account for 40 percent of all injuries in trucking, which represents almost half of all WC claims. Slips and falls accounted for 22 percent of all driver injuries and 18 percent of all vehicle repair worker injuries (Borba and Appel).

The Falling Truck Driver

On or away from the employer's premises, truck drivers fall frequently and for many different reasons. Conventional or cab-over-truck cabs can be several feet off the ground, and a driver can sustain serious injuries if s/he falls while entering or exiting the truck.

Transitioning out of the cab and onto slippery, greasy or oily surfaces can cause slips and falls. In winter weather, snow and ice can accumulate on the truck decking that leads into/out of the cab. Oil and grease can accumulate on yard surfaces and be transferred to the driver's shoes. Another factor in falls that the driver's legs may "fall asleep" during long periods of driving.

Use of foot and handholds, as well as non-skid decking, can help prevent such falls. In addition, drivers should maintain a "three-point stance" during truck ingress and egress. That is, they should have two feet on the steps and one hand on the handhold. This stance should also be used when climbing up and down or between the cab and trailer to connect brake and light lines. Furthermore, the driver must be aware that jumping from cabs, trailer bodies or loading platforms is not a safe (or acceptable) practice.

Loading & Unloading Freight

The driver may be expected to load and unload freight using forklifts, dollies and other materials handling devices. Such manual lifting can stress the back and lead to injuries. Overexertion injuries are another concern, particularly when drivers who have been traveling for an extended time are expected to move freight. To prevent these injuries, a driver should be trained in proper lifting techniques to avoid injuries, and s/he should seek help when lifting heavy objects.

Another effective way to prevent injuries is to distribute loads evenly within the trailer. Uneven loads may cause "nose over," injuring anyone sitting in the cab or operating in the trailer. Proper tandem adjustment and use of landing gear or stabilizer bars are other ways to prevent this. However, their use can be strenuous, which increases the risk of injury.

Proper staging (placement) of freight can help reduce injuries associated with manual materials handling as well. For example, heavy objects should be placed in areas that are easily accessible. Proper palletization can help reduce the risk of back and shoulder injuries as well. Some carriers use portable adjustable platforms, which can be placed at different heights inside the trailer. This not only better stabilizes the load, it also provides for easier access.

Hand injuries are also common. Drivers and dock workers should avoid pinch-points of the latching mechanisms on trailer doors that either swing back or open overhead. Wearing gloves can help workers avoid cuts and scrapes from sharp edges and pinch points.

Falling & Leaking Freight

Falling and leaking freight expose drivers and dock workers to additional hazards. Therefore, swingback doors should be opened slowly and workers cautious of freight that may be leaning against the door. To avoid injury, workers should keep the door between themselves and the trailer's contents as a shield against falling freight.

Overhead doors should be raised slowly—until workers are sure that no freight

Motor Carrier Safety Programs

In addition to DOT-mandated commercial motor vehicle operator requirements, motor carrier safety programs often include many of the items found in general industry safety programs. Following is a non-exhaustive outline of key elements that may be included in the program.

I. Written safety and health policy.

a. Statement of management commitment to provide all employees with safe and healthful working conditions.

b. Lines of authority, responsibilities and expectations.

II. Key program components.

a. Facility information/purpose and scope.

b. Inspection schedules.

c. Training.

d. Communications.

e. Reporting and recordkeeping requirements.

f. Workers' compensation reporting procedures.

III. Hazard evaluation.

a. Dockworkers.

b. Drivers.

c. Office.

d. Shop.

e. Forklifts.

f. Hostlers.

g. Company cars.

h. Emergency action plans.

i. Tank washers.

IV. Other task-/job-specific training.

a. Coupling double/triple trailers.

b. Operating landing gear.

c. Opening trailer doors.

d. Entering and exiting cabs.

e. Load distribution.

f. Tarping trailers.

V. Required inspection.

a. Terminal safety inspections.

b. Shop safety inspections.

c. Line haul safety inspection.

d. P&D safety inspection.

VI. State-specific requirements.

a. OSHA.

b. DOT.

will fall. They must also pause for a moment to ensure that the door will stay up before entering the trailer. Workers should use the ropes or straps provided when closing an overhead door; these should be long enough to permit workers to pull the door down while on the

PROGRAM ADMINISTRATION

As with any safety program, implementation and monitoring for effectiveness are crucial. Training at fixed facilities may be coordinated in several traditional ways, including scheduled classroom and hands-on training and/or "tailgate" discussions. Monitoring for effectiveness may include establishing benchmarks for communicated expectations. This may include reducing accident rates and WC claims to designated levels within a specified timeframe. Other criteria may include employee turnover rates, OSHA compliance, and increased or decreased productivity and equipment usage.

Off-Site Activities

For drivers engaged in off-site operations—that is, conducting tasks at a host company facility—it becomes more challenging to provide training, as well as to monitor effectiveness and compliance. For example, if a driver is expected to operate a powered industrial truck (PIT) at a host employer's facility, the motor carrier must certify that the driver has been properly trained and evaluated under OSHA's PIT training standard (29 CFR 1920.178). In turn, the host employer must protect its employees by ensuring that the driver has been adequately trained and evaluated.

However, since the OSHA standard requires site-specific training and evaluation, a host employer may require that the driver be trained and evaluated at its facilities. Although this may seem like a good idea, a driver who makes several deliveries to various host facilities will likely spend as much time being trained and evaluated as s/he does delivering freight. This is especially true for a motor carrier whose drivers do not routinely deliver to the same site.

Therefore, the carrier may want to work with shippers and suppliers to identify what types of PITs the driver will be expected to use at each delivery site, as well as the working environment in which this equipment will be used in order to avoid duplicative training and evaluation. At this time, it is unclear whether this approach will suffice for OSHA compliance.

ground. If a door must be closed while standing on the vehicle, workers should pull it down far enough so it can be closed from the ground, then dismount the vehicle and finish the task. Workers must also be warned to never pull the rope and dismount at the same time.

RESPONSIBILITY

Although safety professionals are often charged with administering and monitoring safety programs, all personnel are responsible for ensuring that safety policies and programs are executed. This includes top- and mid-level managers, as well as employees and host employers. Managers who are aware of policy infractions yet do not intervene are as guilty as the worker who violates the policy. To eliminate this problem, many companies tie salary increases and bonuses to "safety performance." On multi-employer worksites, the motor carrier and host employer must agree on who is responsible for adhering to stated safety policies.

A driver who believes that unsafe conditions, equipment or practices (e.g., oily floors, poorly maintained forklifts, poor communications between forklift operators and dock managers) exist at a host employer's facility should have the right to refuse to conduct operations at that facility. The driver is the captain of his/her truck; as such, s/he should have the authority to assume control of certain tasks to ensure that accidents such as forklift falls off loading docks due to trailer creep do not occur.

In other words, the driver should go out on the loading dock, inspect the inside of the trailer, and close and lock the trailer doors before leaving the facility. This approach is much more effective than having the driver wait in the cab for the dock supervisor to give the okay to leave.

Furthermore, dock workers should be alert to signs of leaking freight, especially if it contains HazMats. If a HazMat release is suspected, workers should immediately exit the trailer and notify personnel who have been trained to respond to such incidents.



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Load Securement & Tie-Downs

According to federal regulations, all freight must be secured while in transit.

Achieving this can be physically taxing—in other words, it brings another injury risk into play. Training drivers how to safely use load-securement devices, such as chains and binders, will reduce their risk of injury. Systems that allow drivers to make adjustments from the ground further reduce the risk of injury. Making adjustments while standing on the vehicle or its load presents a fall hazard, especially if the load shifts or if the securement device fails. The best practice is to avoid standing on any part of the load when applying or releasing tie-downs.

Fifth Wheel, Sliding Tandems & Landing Gears

These parts of a vehicle present many hazards associated with heavy lifting and awkward positioning. Sometimes, special techniques must be used to release equipment that may be "frozen" into position.

When unhooking a trailer, workers

TABLE 2
Injuries Based on Type of Activity & Occupation Within the Trucking Industry

Occupation	Activity	% of Injuries
Drivers	Slips and Falls	22
	Lifting	21
	Vehicular Accidents	6
Cargo Handlers	Lifting	26
	Improper Use of Equipment	20
Vehicle Repair Workers	Improper Use of Equipment	31
	Slips and Falls	18
	Being Struck by Objects	13

must maintain a firm grip on the release lever of the fifth wheel. Also, it may be necessary to “rock” the unit to release the fifth wheel or locking mechanism on a sliding tandem. To avoid injury, care and cooperation must be exercised by the device operator and driver, who must be ready to stop when the mechanism comes free. Where possible, a “pin puller” should be used to release the fifth wheel.

Manually operated sliding tandems present many similar problems, especially if one person must be under the trailer to pull the pins while another is behind the wheel to “rock” the unit. In these situations, workers must always block the wheels nearest the releasing mechanism. Pulling the wheels over the blocks provides additional warning and allows the person operating the mechanism more time to get clear. In all cases, the driver must be ready to stop when the mechanism comes free.

The effort required to lower landing gear can lead to strain injuries as well. Proper maintenance and lubrication, along with two-person operation, can reduce these risks. Care must also be taken to ensure that the crank does not slip and injure the worker.

LOADING DOCKS & MAINTENANCE FACILITIES
Loading Dock

A loading dock is a busy area. Forklifts, dollies and carts, and workers usually intermingle continually with one another. As a result, the potential for injury is significant.

Forklift tipovers and falls off loading docks can produce severe injuries. In some cases, a driver may unknowingly pull his/her truck away from the dock while the forklift is moving in between. Such incidents can be eliminated with proper communication or the installation of swing gates.

In addition, trailers may inch forward during forklift operations. This “trailer creep” can create a gap large enough for the forklift to fall into. The use of properly maintained dock locks, spring-loaded braking systems and wheel chocks can help prevent this problem.

The driver and loading dock personnel must also secure dock boards and bridge plates between the loading dock and trailer, and verify that these devices are strong enough to support the anticipated load. Use of dock board levers and pry bars may also reduce the risk of back and shoulder strains.

Forklift operators must receive extensive training on how to safely operate the vehicle and be made aware of potential hazards that exist within the operating environment. Dock workers must also make sure that handtrucks, dollies and carts are in good condition prior to use, and ensure that forklifts are properly maintained and used only within their specification limits.

Maintenance Shop

Vehicular repair, tire inflation, lube pits, battery storage and charging, and chemical use and storage are activities associated with maintenance shops in trucking facilities. Maintenance personnel must be properly trained regarding the potential hazards associated with these activities. Common hazards include exposure to hazardous chemicals, unguarded machinery and poorly maintained equipment.

Falling forklifts or moving trucks can cause serious injury to vehicle repair workers. To prevent these injuries, forklifts should be secured while being repaired, and trucks should be chocked and immobile during similar activities. No equipment should be started unless the repair worker is clear of the area. Tires should be placed in cages for inflation while removed from the vehicle, and air pressure monitored. Hoses must be capable of releasing pressurized air away from the inflation point.

Lube or grease pits should have chains or barriers around them to prevent falling hazards. Workers must be warned to not jump across lube pits. In addition, these areas must be free of combustible residues, properly ventilated and equipped with explosion-proof lighting.

Employees must be trained on the safe use and handling of hazardous chemi-

icals. All chemicals, including compressed gas cylinders, must be properly and securely stored. All flammable or combustible waste must be removed daily. Batteries must be stored in well-ventilated areas, and a supply of neutralizing agents placed nearby in case of leakage. Precautions must be taken when charging batteries to avoid electrical hazards. Forklifts must be de-energized if batteries are to remain on them during recharging.

THE OSHA-DOT CONNECTION

Regulatory compliance is an essential function of all safety professionals. Compliance is a complicated process—one made even more challenging by overlapping jurisdiction between agencies. As noted, DOT regulates activities involved in transportation, including those deemed “incidental” to transportation. However, OSHA has cited trucking companies for activities that are considered to be within DOT’s jurisdiction.

Jurisdictional Conflicts

According to Section 4(b)(1) of the OSH Act, OSHA has no jurisdiction over the working conditions of employees who are regulated by other federal agencies. The key phrase here is “working conditions.” As a result, the regulatory language of another federal agency, such as DOT, need not be identical to OSHA’s for it to maintain jurisdiction over a specific or broad range of activities. Activities that involve interstate transportation, including loading and unloading, and truck and trailer specifications are under DOT jurisdiction. Following are some examples of jurisdictional conflicts between the two agencies.

Wheel Chocks

OSHA standards on powered industrial trucks—29 CFR 1910.178(k)(1) and (m)(7)—require that the brakes of highway trucks be set and wheel chocks placed to prevent movement during loading and unloading. However, a 1978 OSHA directive (STD 1-11.5) highlights a court decision that pre-empts OSHA from issuing citations for violating these standards. In this case, the court held that DOT regulation 49 CFR 392.20 covered essentially the same working conditions.

However, in 1998, DOT removed section 392.20 from its Federal Motor Carrier Safety Regulations. This action prompted OSHA to issue an October 1999 compliance directive reasserting its jurisdiction over the use of wheel chocks. Currently, American Trucking Assns. is working with OSHA to recognize the use of spring-loaded braking systems as an acceptable alternative means of providing worker safety while loading and unloading tractor trailers in lieu of wheel chocks or dock locks.

Confined Space

Given OSHA's definition of a confined space, one may incorrectly conclude that truck trailers meet the criteria; at least one motor carrier has been cited by Cal-OSHA for not conducting air monitoring inside a trailer that carried HazMats. However, federal OSHA holds that as long as the trailer's doors remain open, the truck is not considered a confined space. Nonetheless, motor carriers should consider providing the same protections to employees when HazMats spill inside of truck trailers (particularly in the nose) as they do to those who enter actual confined spaces.

Reporting Fatalities

A major conflict arises in this area between motor carriers and OSHA. Many in the trucking industry—as well as in the courts and at DOT—believe that a driver who is fatally injured during transportation operations (excluding loading and unloading, but including tasks such as load securement) should not trigger a requirement to report the death to OSHA. DOT already has rules governing the reporting of fatalities that occur during transportation-related activities; since OSHA has no jurisdiction over highway accidents, reporting highway fatalities to OSHA seems to serve no regulatory purpose.

In *Brenan v. Ruan*, the court held that the motor carrier had no obligation to make a direct report of a driver fatality to OSHA. In this case, the driver was killed while securing pallets on the back of a truck. The court concluded that DOT was exercising its statutory authority to regulate in this area.

State-Plan States

Currently, 23 states enforce their own occupational safety and health regulations. Often, these regulations are more stringent than those of federal OSHA. In addition, these states do not recognize federal OSHA pre-emption decisions or interpretations. According to Paula White, OSHA's director of federal state operations, "The restrictions placed on OSHA by Section 4(b)(1) of the federal OSH Act apply only to federal enforcement activities carried on 'under this Act' and are not binding on state plan enforcement authority."

The culmination of these different standards, rules and interpretations is a lack of uniformity, which makes compliance an even greater challenge, especially for a trucking organization that operates nationwide.

WHAT CAN THE EMPLOYER DO?

Risk Management

Clearly, motor carriers must respond to costly injuries. Developing written safety

programs is a step in the right direction. Such programs should contain the policies and procedures instituted by the company. All workers should be aware of these rules and must understand the consequences for violating them.

In addition, workers must receive continuous training and evaluation to ensure that tasks are performed safely and efficiently. Training should focus on injury-causing activities and must relate to the worker's actual job functions. Worker feedback should be one factor used to determine training effectiveness.

To better understand and prevent injuries, management must investigate and determine the causal factors of accidents and near hits. Injury and WC data can be used to benchmark the effectiveness of injury prevention programs. Management must also consider any industry-specific factors that may be involved. For example, many truck drivers wear cowboy boots, which often have leather soles that provide little slip resistance. Therefore, management should discourage drivers from wearing any type of footwear that has leather soles.

Furthermore, management should implement and monitor housekeeping programs. Such programs help ensure that debris and other unwanted materials do not accumulate and increase the chance of injury or fire hazard.

Enlist Shippers & Consignees

As noted, many injuries within the trucking industry occur away from the employer's facility. Contracts should detail who is responsible for loading/unloading freight as well as the amount of freight to be handled. It is the responsibility of the shipper to securely package cargo. Non-trucking employers must provide safe workplaces that are free of debris and other potential hazards as well.

Regulatory Compliance

Motor carriers must be aware of changing regulations and policies. Since jurisdictional differences between OSHA and DOT are likely to continue, motor carriers must be aware of court cases and interpretations on pre-emption issues and regulations. Carriers also need to know their rights and responsibilities under the OSH Act. However, they must recognize that compliance does not always equal safety. Going beyond compliance is a cost-effective, worthwhile effort.

CONCLUSION

Trade associations, safety organizations, regulatory agencies and third parties are resources from which motor carriers can seek assistance in their efforts to reduce injuries and comply with regulations. Trucking is a fast-paced, labor-intensive business. Truck drivers are on the

front lines every day. Although injuries will likely continue, perseverance and constant attention to the issues discussed will serve both the industry and its workers.

Motor carriers, shippers and consignees are responsible for the safety and well being of drivers—both morally and legally. All parties should communicate responsibilities, expectations and procedures *before* accidents occur. Doing so after the fact merely leads to litigation and finger pointing—a no-win situation for all involved. ■

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