

BEFORE THE NORTH CAROLINA OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION

COMPLAINTANT, DOCKET NO. OSHANC 2005-4502
 OSHA INSPECTION NO. 308655307
 v. CSHO ID NO. B5670
 CENTRAL TRANSPORT, INC., ORDER
 RESPONDENT.

THIS MATTER was heard by the undersigned in Charlotte, North Carolina on four hearing days: November 16, 2005, February 2 and 3 and March 1, 2006.

The complainant was represented by Ralf P. Haskell, Special Deputy Attorney General; respondent was represented by Peter J. McGrath, Jr. of Moore & Van Allen, PLLC.

There were no preliminary matters to determine prior to the taking of evidence. At the conclusion of the hearing the parties were allowed to submit post-hearing briefs, which were due by April 15, 2006. On May 25, 2006 the complainant filed a motion to amend Citation 1, Item 1, an alleged violation of the General Duty Clause (N.C. Gen. Stat. §95-129(1)). The proposed amendment alleges specific hazards in the use of powered industrial trucks (forklifts) which necessitate the use of available seat belts during the operation of such trucks. For reasons stated later in this Order, this motion to amend is allowed.

The respondent was issued a non serious violation of 29 CFR 1910.141 (d)(2)(iv) for its failure to provide hand towels or other drying devices in four employee restrooms. The respondent did not contest this citation item.

After hearing and receiving the evidence, and considering the arguments of counsel as contained in their briefs, the undersigned makes the following

FINDINGS OF FACT

- The complainant is charged by law with the responsibility for compliance with and enforcement of the provisions of the Occupational Safety and Health Act of North Carolina (the "Act").
- The respondent is a corporation which operates a less than truckload (LTTL) general commodities transportation service throughout North America, including North Carolina. The respondent has approximately 165 customer service centers (terminals).
- On February 9 and 10, 2005 complainant's compliance safety officer (CSO) Cohen Elgen conducted a complaint inspection of respondent's truck terminal located at 601 Johnston Road in Charlotte, North Carolina.
- The respondent's Charlotte terminal is approximately 130,000 square feet in size and consists, in pertinent part, of a large four (4) foot high loading dock with 182 open bay doors lining each side of the building; an interior warehouse or staging area for freight; a dock office; a battery charging station; an office area; and a separate shop building located across the parking lot from the terminal.
- The terminal floor is concrete and on one side has an old steel monorail which runs along the floor near the open large bays. Sections of the monorail were bent up, while other sections were missing. Also, pieces of the concrete had been reinforced.
- The Charlotte terminal is covered by a roof which overhangs the open-sided edges of the loading dock by approximately 10 feet. Despite this overhang, the dock floors occasionally get wet during rain storms. The floors will sweat; an amount of condensation or moisture would form on the cement surfaces during periods of inclement weather or high humidity. Dock sweating is a common place occurrence at respondent's facilities. Additionally, liquid spills occasionally occur on the docks.
- The Charlotte terminal has 45 forklifts. The terminal operates three 10-hour shifts per day, with four (4) employees working the day shift; up to fifteen (15) employees the afternoon shift; and thirty (30) employees the night shift. All of these employees are forklift operators.
- The Charlotte terminal is a less-than-truckload (LTTL) facility. Drivers leave in the morning and make deliveries to local customers. They then pick up freight or reload onto the terminal. The trucks are usually full of freight when they return. Some of this freight is to be distributed locally. Freight which is to be shipped long distance is reloaded onto other trucks and sent to the next closest terminal where it is consolidated with other freight or reloaded onto another trailer. This process continues until the freight is delivered to the final customer.
- When a truck returns to the terminal it is given a door assignment. The driver backs the truck's trailer up to the appropriate dock door. The driver then hands the paperwork to the dock office. The dock supervisor gets a load manifest and hands it to a dockworker and states where the trailer is located. The dockworker then drives a forklift to the door where the trailer is located and scans a bar code to see where within the terminal the shipment is to be handled. The dockworker is then supposed to check to see if the trailer's wheels are checked. He then lowers the dock plate and drives the forklift into the trailer to begin unloading its freight. If available, the dockworker may load the freight directly onto another trailer or trailer's located at one or more of the other dock doors. If part of the freight is to be loaded onto a trailer which is not currently at the terminal, the dockworker takes the load to a staging area to wait for the trailer to arrive. When the dockworker finishes one assignment, he or she will go to the dock office to get another manifest and begin the process over again.
- The dockworkers operate the forklifts throughout the facility. When unloading freight, the operator drives the forklift forward onto the back of the trailer places its forks under a pallet containing freight picks the pallet up by raising the forks and backs out of the trailer. The operator then usually turns the forklift in one direction or the other and drives in a forward or backward motion in order to proceed down the dock (parallel with the dock's edge) to another trailer along the dock for loading. A forklift may have to travel some distance when traveling from one trailer to another along the dock. The forklifts may also be driven across the interior of the terminal for delivery to either a trailer located on the dock on the other side of the terminal building, or to an interior staging area.
- During its busy time, thirty (30) of respondent's forklifts would be moving throughout the terminal at the same time. The dock is crowded when all thirty forklifts are moving. When going to and from the trailers, many of these forklifts would drive within the twenty (20) foot area between the dock's edge and the bay areas where freight is staged. In doing this, forklifts would often pass each other while traveling in opposite directions along the dock.
- There are no markings on the pavement to show the operators where they are to drive and no physical barriers to keep them from operating in each other's "lane" to keep them from getting close to the dock's edge or to keep them from driving off the docks edge. Additionally, at the same time, other forklifts travel perpendicular to the dock's edge when coming from the dock on the other side of the terminal building or from an internal location such as a freight staging area. There are also no lines or other markings delineating crossing aisles ways or acting as stop signs. As a result, the paths of moving forklifts often cross. There have been occasions when if a forklift were to collide and an operator had not been able to make an evasive action or movement to avoid a collision.
- Respondent's forklifts also operate off-dock. Several of respondent's larger facilities have ramps which allow its forklifts to have access from the terminal to other buildings, such as the shop. At Charlotte, respondent has a concrete ramp at Dock 141 leading from the terminal to the parking lot. The ramp, which is approximately 30 feet long and 12 feet wide, is located at the rear of the terminal and is not enclosed from the elements. The ramp does not have guardrails but has a 3" to 4" high curb with a rounded top.
- The ramp is used on a daily basis by respondent's forklift operators to travel across the parking lot to a separate shop building located approximately one hundred (100) to one hundred and fifty (150) feet away. The operators would use a forklift to take materials or freight to the shop, such as a forklift which would be used by the shop to repair trailers. The operators would also take freight or materials, such as used brake shoes, from the shop to the other dock doors. In traveling to the shop, the operators would descend the ramp with a load on the forklift ramps, travel across an uneven parking lot, which at times would have pot holes, and enter the shop. On the return trip the forklift might ascend the ramp with a load.
- The respondent has no rule, nor are there any limiting devices on the forklifts, to keep the operators from raising their loads to the maximum height when traveling on the ramp or across the parking lot.
- In addition to the delivery of freight or material to and from the shop, a mechanic would occasionally use a forklift off-dock when repairing dock boards. The forklift would be driven down the ramp located at Dock 141 onto the parking lot. It would then be driven along the parking lot until it reached a bay where dock board repair work was to be performed. At the time of the inspection at issue, a forklift was being used by one of respondent's mechanics to repair a dock board at Dock 182.
- The forklifts used by respondent at its Charlotte facility are counterbalanced, center control, high-lift trucks with a sit-down, non-elevating operator. Each forklift is equipped with a seat belt by the manufacturer. The respondent's forklifts have a maximum speed of 7 to 8 miles per hour. An operator may travel at maximum speed when not carrying any freight or material. An operator may travel at a slower speed when carrying a load. The respondent has no written safety rules or regulations which tell an operator that they cannot exceed certain speeds when traveling loaded/unloaded, or are making turns.
- The respondent does not have an enforced speed limit for forklifts. Its forklifts do not have governors or any other mechanical apparatus which will reduce the forklift's speed, especially when making a turn.
- When a person applies for a dockworker position at respondent's Charlotte terminal, such applicant fills out an application and is given a drug screen test. The applicant is then given a copy of respondent's forklift training manual to read on his or her own, and then is given a written test. None or a person is provided with the manual with the applicant to make sure that they understand what they are reading. If the applicant passes the written test, he or she is given a driving test which is supervised by another dockworker who has not been trained as a trainer. If that dockworker is satisfied that the applicant has passed the driving test, he observes the applicant for a short period of time to determine if the applicant properly picks up and moves freight. Applicants are given no other safety training. Further, they are not instructed or tested on respondent's General Safety Training Manual. Additionally, neither new nor experienced operators are provided, or have available to them for review a copy of the operator's manual for Charlotte's forklifts.
- Gary Burkholder is employed in the corporate training department of Barloworld Handling. Barloworld is a world wide distributor of lift trucks, primarily Hyster forklift trucks, and is the largest Hyster dealer in the United States. It does business in eleven states in the southeast, including North Carolina. Barloworld's corporate headquarters are located in Charlotte, North Carolina.
- Barloworld's corporate training department provides training to its employees on the safe operation of lift trucks. It also provides forklift operator training to its customer's lift truck operators, including training forklift operator trainers. This includes training on the stability of forklift trucks, the hazards associated with operating forklifts, including safety issues in terms of tip-over and driving off loading docks; the safety devices available to protect forklift operators from injury; and the required safety practices for the operation of a forklift.
- Mr. Burkholder is the senior trainer in Barloworld's corporate training department. Mr. Burkholder is the trainer who primarily conducts "train the trainer training." This includes training other forklift operators trainers on the operation and safety of sit-down, rider, counterbalanced, high-lift trucks. He has participated in numerous conferences and seminars as a presenter on forklift training, including operation and safety. He also participated in the public hearings which culminated in the 1999 amendment of "1910.178(l)", the OSHA forklift training standard.
- Mr. Burkholder has been a forklift operator and safety trainer with Barloworld for twenty-eight years. Prior to that he was a road service technician and branch trainer for Barloworld in Charleston, South Carolina. Prior to his employment with Barloworld, Mr. Burkholder worked for a little over four years with a Caterpillar lift truck dealership. As a result of his years of experience, Mr. Burkholder has become familiar with, and has provided training regarding, the operation and business of loading and unloading materials, such as palletized freight from tractor-trailer trucks by use of a forklift, to the practical and training experience, as part of his job responsibilities. Mr. Burkholder reviews applicable forklift standards, federal OSHA standards or other interpretations, forklift accident reports, lift operator manuals, and forklift accident cases. Following a voir dire, Gary Burkholder was admitted as an expert witness in the field of forklift operation, training and safety, and had testified as an expert in a civil case in the field of forklift stability and safety.
- According to federal OSHA statistics, a forklift tipping over and catching the operator between the overhead guard and the truck is the primary cause of forklift operator fatalities. Another leading cause of death occurs when a forklift goes off-dock and falls on an operator who attempted to jump or has fallen out of the forklift.
- Mr. Burkholder testified extensively regarding the stability of forklift trucks (especially when empty), including the hazard of possible tip-over and off-dock incident. He illustrated his testimony with a model demonstration showing how tip-overs may occur. He also used a power point demonstration, including slides of forklift turnovers, to demonstrate the possibility of a forklift tip-over even on a smooth, level, concrete surface such as is found on a loading dock. He also testified to the hazards of operating a forklift on a ramp or inclined surface. Mr. Burkholder also referred to sections of Barloworld's Instructor's Guide regarding forklift stability and possible tip-over. Mr. Burkholder uses this guide when providing forklift operation and safety training.
- Mr. Burkholder further testified that the overturn of a forklift is a recognized hazard. Approximately twenty-five percent (25%) of all forklift related fatalities and serious injuries resulted from lateral tip-overs. When a tip-over occurs, it is likely that the operator's head will be caught between the overhead guard and the ground if the operator does not remain within the forklift. Mr. Burkholder also testified that it is a recognized hazard that forklifts will go off-dock. It is a recognized hazard that tractor trailers may move away from the loading dock as a forklift is either entering or leaving the dock. There have been occasions when a forklift has been struck by the side of a tractor trailer, or another trailer's wheel has been properly checked. It is also a recognized hazard that a forklift may simply drive off-dock for any number of reasons, including slippery floors and operator error.

Based upon his understanding of respondent's operations at its Charlotte facility obtained from his conversations with the compliance officer, his review of the photographs of respondent's Charlotte facility and his general understanding of the industry, Mr. Burkholder testified that he is familiar with the conditions and hazards which exist at respondent's Charlotte facility as it relates to the operation of forklifts. In his expert opinion, there is a possibility that a forklift operating in the areas shown in the complainant's photographs could not need

Conditions at respondent's Charlotte terminal which could exacerbate the possibility of a tip-over include cracks in the floors; the monorail on the floor, which is bent up in one area; the ramp, the parking lot, and wet floors. These conditions, however, do not need to be present for a tip-over to occur. Based upon Mr. Burkholder's experience, a tip-over can occur on a smooth, flat floor such as found at a trucking terminal, warehouse, or parking lot.

There is also the possibility that a forklift could go off-dock at respondent's Charlotte facility, either as a result of the operator driving, or off the dock without a trailer present, or as a result of a trailer pulling or creeping away from the dock as a forklift was entering or leaving the trailer.

Mr. Burkholder testified that he served the American Society of Mechanical Engineers (ASME) amended B56.1, its safety standard for forklifts, to include requirements for the protection of forklift operators in case of tip-over or off-dock incident. Both the American Trucking Association and Industrial Truck Association served on the rules committee which adopted this amendment. This requirement provides, in pertinent part, as follows:

5 OPERATING SAFETY RULES AND PRACTICES

5.1 Operator Responsibility

5.1.4 Before operating any truck, truck operators shall have read and be familiar with the operator's manual for the particular truck being operated and they shall also abide by the safety rules and practices in paras. 5.2 through 5.5

ASME B56.1 also provides:

5.3.19 An active operator protection device or system, when provided, shall be used. Operator protection in the event of tip-over is intended to reduce the risk of entrapment of the head and torso between the truck and the ground. . . . However, steps indicated in paras. 5.3.18(d) and (e) should still be adhered to.

Paragraph 5.3.18 of ASME B56.1-1993 provides:

(d) The operator should stay with the truck if lateral or longitudinal tipover occurs. The operator should hold on firmly and lean away from the point of impact.

(e) The operator should stay with the truck if it falls off a loading dock or ramp. The operator should hold on firmly and lean away from the point of impact.

Paragraph 7.39 of ASME B56.1-1993, entitled Operator Restraint Systems, provides:

(a) Counterbalanced. . . lift trucks . . . shall have a restraint device, system, or enclosure that is intended to assist the operator in reducing the risk of entrapment of the operator's head and/or torso between the truck and ground in the event of a tipover. . . .

(b) Warnings and instructions on the purpose and use of the operator protection provided shall be displayed in clear view on the truck and included in the operator's manual.

Based upon this standard, both the American Trucking Association and the Industrial Truck Association recognize the hazard of possible tip-over or off-dock incident, and recommend that forklift operators use the provided operator restraint device. This further shows that both of these associations also recognize that an operator might be caught between the forklift and ground if he or she does not remain with the forklift, and that the use of an operator restraint device might prevent death or serious bodily injury, or would significantly reduce the seriousness on an injury, in case of tip-over or off-dock incident.

Mr. Burkholder explained that an operator protection device is required to be used any time that a counterbalanced, center control, high lift truck with overhead protection and a sit-down, nonelevating operator is being operated. The respondent's forklifts are of this type.

Further, the operator restraint device must have an "active" component, a seat belt. The operator protective device installed on respondent's forklifts by the manufacturer, Toyota, consists of a winged seat, a seat belt, and warning labels advising the operator to "buckle up" and, in case of tip-over, to hold onto the steering wheel, brace the feet, and lean away from the direction of tip-over. According to Mr. Burkholder, the provided seat belt is an integral part of the operator restraint device on respondent's forklifts and must be used.

34. Mr. Burkholder read, in pertinent part, from the Preamble to the 1999 amendment to §1910.178(l), the OSHA training standard, which concluded, as follows:

III. Powered Industrial Truck Hazard

. . .

Operators of sit-down rider trucks are often injured in tip-over accidents when they attempt to jump clear of the vehicle as it tips over. Because the operator's natural tendency is to jump downward, he or she lands on the floor or ground and is then crushed by the vehicle's overhead guard; therefore, operators of sit-down trucks need to be trained to remain in the operator's position in a tip-over accident and lean away from the direction of the fall to minimize the potential for injury.

Mr. Burkholder further read from the Preamble:

Driving a powered industrial truck at excessive speed can result in a loss of control causing the vehicle to skid and tip-over or fall off the loading dock or other elevated walking or working surfaces. This condition can be made more dangerous because the load being carried sometimes partially obscures the operator's vision.

Mr. Burkholder also referred to Section IV of the preamble containing a statistical analysis of forklift accidents and injuries, including injuries from tip-overs and off-dock incidents. According to one analysis of 170 powered industrial truck fatalities, twenty-four percent (24%) of the fatalities resulted from forklift tip-overs. This was the highest percentage of fatalities in the study. Eighty percent (8%) were the result of off-dock incidents. Therefore, thirty-two percent (32%) of the forklift related fatalities resulted from tip-overs and off-dock accidents. Another study conducted in the preamble showed that twelve point three percent (12.3%) of the forklift operator injuries involving lost workday claims which occurred in 1991-92 were in the trucking industry. These statistics clearly show that a leading cause of forklift operator fatalities and other serious injuries in the trucking industry is forklift overturns and off-dock incidents.

36. Mr. Burkholder testified that §1910.178(l) (1999) requires that operators be instructed on the following:

(3) Training Program Content. Powered industrial truck operators shall receive initial training in the following topics. . .

(A) Operating instructions, warnings, and precautions for the type of truck the operator will be authorized to operate;

. . .

(b) Vehicle stability;

(M) Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate;

37. According to Mr. Burkholder, "1910.178(l) specifically requires respondent to train its new operators on the operator instructions and warnings contained in its Toyota forklift operator's manual, including on the hazards of possible tip-over, as well as on the instructions and warnings relating to the use of the described operator protective device, including the seat belt.

38. Seat belts assist the operator in remaining in the forklift's seat in case of a lateral tip-over or off-dock incident. This allows the operator to use his or her upper body strength to maintain the rest of his or her torso and head inside the confines of the overhead guard. If not buckled up, the operator would not be able to keep himself in the forklift, attaching his seat belt and says, "Seatbelts help reduce tip-over injury if you follow these instructions". The next book shows a copy of the operator's manual, thereby advising the operator to read it. Next to that it says "DANGER". The next book shows an illustration of tipping forklift and says, "Don't jump" advising the operator not to jump out of the forklift in case of tip-over. The final three books say "hold on tight!" (to the steering wheel), "brace feet" and showing a tipping forklift, "lean away" (from the direction of the fall). The purpose of these labels is to be a continuing reminder to the operator of the hazards and dangers of driving a forklift and the steps to be taken to avoid injury.

39. An operator should not attempt to leave or jump clear of a tipping forklift. Tests conducted by Mr. Burkholder showed that it is very difficult for impossible for an operator to get far enough away from the truck to avoid being struck by the overhead guard. This is confirmed by the significant number of fatalities which have occurred as the result of operators who failed to accomplish such an ill-fated attempt, and if an operator were to feel that a forklift were beginning to tip-over or go off-dock, the natural tendency would be to attempt to exit on the low side - the side to which the forklift was falling. This would put the operator in harms way of the overhead guard. To exit from the high side, the operator would have to go up hill and, as a result of the cabin floor tilting away from the operator, it would be difficult for the operator to sufficiently plant his or her feet in order to successfully make such a move.

40. The operator might not correctly guess which way the forklift will fall, especially in an off-dock incident. Jumping clear presents other hazards, such as being struck by another forklift, falling off the dock, being struck by the freight, or, in case the forklift does not turn over, being struck by his or her own forklift.

41. It constitutes a greater hazard for a forklift operator to jump from an overturning forklift, or one going off-dock, than to remain with the truck. This is especially true when the operator is wearing a seat belt. It would constitute a greater hazard at respondent's Charlotte facility for its employees to jump off rather than to stay with a forklift in case of tip-over or an off-dock incident.

42. A study conducted by Hyster from 1983-86 keeping the use of seat belts as part of an operator restraint system would significantly lower injuries in forklift overturn accidents and off-dock incidents. The purpose of the study was to identify upon the types of operator restraint systems which would be most effective in reducing the risk of fatalities or serious injuries. The study further found that a properly installed seat belt is effective in controlling the force of the lower-body torso in the event of a tip-over. If seating can be maintained, most operators have adequate arm strength to control the initial inertia forces of the upper torso at the truck impact, so that the so-called "fly swatter" effect is manageable. The Hyster study concluded that the two most effective devices in preventing serious injuries in case of tip-over or an off-dock incident are a seat belt and hip restraint. "the seat belt is the primary means and most effective of the two."

The Hyster study further concluded:

The operator restraint system consists of seat belt with the belt retractor, hip restraint brackets with latches, hardware, and instruction warning decals. . . .

. . .

The results showed that the operator restraint system is effective. At impact, the velocity data indicated the low probability of serious injury. . . [and] there was no entrapment under the truck.

. . .

The Hyster study additionally determined:

Tests were done to evaluate the operator restraint system in tip-overs at loading docks. Off-dock tip-overs are severe. . . . The operator's area remained intact throughout the dock related tests. If the operator remains with the truck by wearing the seat belt, the potential for avoiding serious injury appears to be good relative to other choices. . . .

Hyster's 1983-86 study further determined that the time that it takes to jump to a standing position from an overturning forklift exceeds the time that it takes for the forklift to go from the balance point to impact. In other words, an operator cannot get out of the way quickly enough. This is true for forklifts that are turned over and going off-dock.

The study finally concluded:

Further tests show that the operator restraint system does not significantly affect either the exit time in non-tip-over conditions or visibility.

Hyster conducted a five year follow-up study from 1986 to 1991 of reported incidents involving Hyster forklifts which were involved in side tip-overs, nose overs, and over the dock incidents. Eighty-one (81) of these incidents involved forklifts that were not equipped with an operator protective device. Seventy-seven (77) involved forklifts which had operator protective devices. Of the eighty-one (81) incidents without an operator protective device, twenty-nine (29) were lateral tip-docks and fifty-two (52) were lateral tip-overs. Approximately fifty-three percent (53%) of the operators of these forklifts were killed or seriously injured as they jumped or were thrown from the trucks. Of the seventy-seven (77) instances involving forklifts equipped with an operator restraint device, twenty-seven (27) involved an off-dock incident and fifty (50) a lateral tip-over. Only seventeen percent (17%) of these incidents resulted in a serious injury. Hyster conducted a further five year follow-up study and noted that the results, after the ten year period, were still very favorable for the use of an operator restraint system. The study further concluded that no serious injury

occurred to a driver who was wearing the seat belt component of the system.

The respondent's Toyota forklifts were outfitted by the manufacturer with an operator protective device or system including a seat with wings, a seat belt, and warning labels. The Toyota operator's manual for respondent's forklifts repeatedly warns and instructs the operator with written text and illustrations that "restraints must be used to reduce the possibility of injury from overturns or other accidents". The Toyota operators manual shows that the provided seat belt is an integral part of the operator protective device. The manual contains numerous warnings and instructions to operators to fasten their seat belt. The manual additionally repeatedly discusses the hazards of tip-over, and of hazards around the dock, including off-dock incidents and how they may occur. For instance, the manual specifically advises:

WARNING: Buckle up. Your seat belt can reduce the risk of serious injury or death in the case of truck turnover. The chances of avoiding serious injury or death in a tip-over are better if you stay with the truck in the operator's compartment.

. . .

Always wear your seat belt when driving the truck. The truck can tip over if operated improperly. To protect the operator from the risk of serious injury or death in the event of a tip-over, it is best to be held securely to the seat. The seat and seat belt will help to keep you safe within the truck and operator's compartment in the event of a tip-over. Don't jump. Grip the steering wheel, brace your feet, and lean away from the direction of impact, and stay with the truck.

44. Pursuant to §1910.178(l)(3)(M), the respondent is required to instruct its operators on these instructions, warnings and precautions. These same type warnings and instructions are contained in other forklift manufacturer's operating manuals, such as Hyster's.

45. It is very easy for a forklift operator to use a seat belt. This is especially true where retractable belts are provided. Retractable belts are consistently available to be pulled out to the right length and retracted. It takes at most two (2) seconds to buckle up, and about a half (1/2) second to unbuckle a seat belt. A study showed that requiring operators to use seat belts does not adversely affect their production. For instance, the study shows that operators who were required to get on and off a forklift hundreds of times a day would spend only about five minutes of the day buckling and unbuckling their seat belt.

46. Other tests have shown that the use of a seat belt would not perceptively interfere with an operator's ability to quickly exit a forklift in an emergency situation, such as where a load of freight or materials falls into the side of the cab.

47. The use of a seat belt does not interfere with the operation of a forklift, including operating it in backwards mode.

48. There exist several federal OSHA letters of standards interpretation in its training manual relating to the required use of seat belts on forklifts and OSHA enforcement. For instance, on March 7, 1996, the Director of the Directorate of OSHA Compliance advised that, if seat belts are installed on lift trucks, it is required that the belts be worn. He further advised that OSHA would enforce this requirement under the provisions of section 5a(1) of the OSHA Act, the general duty clause. In a letter dated May 22, 1998, the Director further advised that, even though seat belts are not specifically mentioned, they must be used or supplied as a part of the operator protective device or system. He further advised that "OSHA has not made any exclusions regarding the use of operator restraint systems" Additionally, in a letter dated May 28, 1997, to the president of the ATA, the Director refers to an earlier October 9, 1996, Memorandum to Regional Administrators regarding the use of seat belts on powered industrial trucks. In that Memorandum, it is stated:

OSHA's enforcement policy relative to the use of seat belts on powered industrial trucks is that employees are obligated to require operators of forklifted industrial trucks which are equipped with operator restraints, devices, or seat belts to use the devices. OSHA would enforce the use of such devices under Section 5a(1)(i) of the OSH Act.

49. The respondent has published its own Forklift Truck Training Manual. The respondent includes in its manual the following warning:

The side aisle can be prevented. If your truck comes to tip sideways, whatever you do, stay in the truck, hold tight, brace your feet, lean away from the direction of the tip, never try to jump. There is not enough time for you to get clear of the lift truck.

50. Manual also shows an illustration of a decal on an overhead guard advising employees to hold tight, brace their feet, and lean away in case of tip-over. There are the same type warnings labels Toyota has placed on respondent's forklifts as part of its operator protective device, except that respondent's manual does not include the label advising operators to buckle up.

51. Mr. Burkholder testified that §1910.178(k)(1) provides that the rear wheels of trailers must be checked and brakes set to prevent rolling while they are being boarded by workers. A check is a device placed in front of the tires to prevent the trailer from rolling. Typically, they are rubber or aluminum, and are designed to fit the contour of the wheel. A 4" x 4" board would not constitute a wheel check. Checks are required to be in front of the rear wheels on both sides of the trailer. Mr. Burkholder's review of the photographs taken by the compliance officer show that the wheels of some of respondent's trailers were not checked. They further show that a restraint system was being used to secure the trailer to the dock. The wheels, therefore, were required to be checked. The respondent's failure to check the wheels presented a hazard to respondent's employees - the trailer could creep away from the dock as the forklifts were entering, leaving a gap which a forklift could fall into, resulting in an off-dock/tip-over incident. Both the forklift operator's manual and respondent's own safety manual require that the wheels of trailers be checked.

52. If two forklifts were to collide, it would be a greater hazard for the operators to jump off than to remain with the forklifts. ASME B56.1-1993 requires an operator to wear a seat belt if provided. Further, the standard makes no exception to this rule. The standard recognizes that it is safer to stay with the forklift than to leave the truck in the case of a tip-over or off-dock incident. This is further recognized by the forklift and trucking industries.

53. There are numerous articles and studies concerning forklift operation. This includes the hazards associated with operating forklifts, including the hazards of tip-over and off-dock/off-truck incidents. There is a consensus among these articles and studies that forklifts will tip over or fall off docks. Further, there is a consensus that, if such an incident were to occur, it is best to stay with the forklift and that, if provided, seat belts should be used.

54. The respondent has approximately thirty-two Toyota forklifts in use in its Charlotte terminal. Each of the forklifts has an operator protection device or system consisting of an overhead guard, winged seat, seat belt, and warning labels. The seat belt was an integral part of the operator safety device. The purpose of the seat belt is to keep the operator from falling or being thrown out in case of tip-over or an off-dock incident. It also keeps the operator from being thrown into the mast or uprights to the overhead guard in case of a frontal collision or off-dock incident.

55. The respondent's forklifts contain several labels, including warning labels, on the overhead guard. One label references the ASME B56.1 standard. Another label consists of a series of blocks or illustrations with different warnings. Starting from the left, the first block states "WARNING". The next block has a picture of a forklift attaching his seat belt and says, "Seatbelts help reduce tip-over injury if you follow these instructions". The next block shows a copy of the operator's manual, thereby advising the operator to read it. Next to that it says "DANGER". The next block shows an illustration of tipping forklift and says, "Don't jump" advising the operator not to jump out of the forklift in case of tip-over. The final three blocks say "hold on tight!" (to the steering wheel), "brace feet" and showing a tipping forklift, "lean away" (from the direction of the fall). The purpose of these labels is to be a continuing reminder to the operator of the hazards and dangers of driving a forklift and the steps to be taken to avoid injury.

56. None of respondent's employees wear seat belts while operating forklifts as it is not required by the respondent.

57. The edge of the loading dock where respondent's trailers are pulled up to is four feet (4') high and is open sided. There are no guards, guardrails or other barriers or devices to keep the forklifts from getting near or at the edge of the dock when a trailer is not at a dock door.

58. An operator could simply drive off the dock and receive an injury or operator injury could occur due to trailer drift. This can be caused by the force and weight of a forklift entering a trailer, causing the trailer to move forward and away from the dock, creating a space into which a forklift could fall. Another hazard with driving off-dock is if a driver pulls the trailer away from the dock while a forklift is either entering the trailer, or is inside backing out. Such an incident occurred on May 16, 2005 at respondent's facility in Duncan, South Carolina, resulting in the death of the forklift operator who was not wearing his seat belt.

59. There is a natural inclination for an operator to attempt to jump from a forklift which is tipping over or going off-dock. Additionally, an operator wearing a seat belt could be thrown from the forklift as it tips over. In either case, the likely scenario would be for the operator to be caught between the overhead guard and ground, resulting in a death or serious bodily injury. Additionally, without a seat belt, the operator could be thrown forward into the steering wheel or mast. A seat belt would help keep and stabilize the operator in the seat and prevent or substantially reduce the possibility of death or a serious injury. The use of a seat belt could also prevent or substantially reduce the possibility of death or serious bodily injury in an off-dock incident. If a forklift were to go off-dock while an operator was not wearing a seat belt he or she could fall out or jump to the ground below, only to have the forklift or its overhead guard fall on or off her head. A seat belt would assist the operator to remain within the confines of the cab and overhead guard, substantially increasing the likelihood of avoiding death or a serious bodily injury.

60. It is possible for an operator to receive an injury in a tip-over or off-dock incident even if wearing a seat belt. The use of a seat belt greatly reduces the severity of injury or likely death which would likely occur without its use. It would be a greater hazard for the operator to be unbuckled than buckled up as a forklift tips over. It would also be a greater hazard for the operator to be unbuckled than buckled up in an off-dock situation.

61. Effective November 30, 2000, federal OSHA issued Directive CPL 2-128A regarding the powered industrial truck operator training standard, "1910.178(l). This instruction provides compliance and assistance for ensuring a uniform enforcement of the standard. Within this Directive, OSHA states:

Seatbelts on forklift trucks are a component part of the operator restraint system that is designed to reduce the incidents and severity of injuries to the operator in the event of a tip-over accident. Forklift trucks are particularly susceptible to tip-overs. Failure to wear the seat belt that is provided on forklifts increases the risk of injury to the operator in the event of such an incident. Section 1910.178 does not currently contain requirements for the use of operator restraint systems. However, Section 5(a) (1) of the OSHA Act requires employers to protect employees from recognized hazards. Recognition of the hazard of forklift tip-over and the need for operators to use an operator restraint system is evidenced by certain requirements in the more current version of ANSI B56.1 consensus standard for powered industrial trucks and ASME B56.1-2000 safety standard for low-lift trucks. In addition, seatbelts have been supplied by many manufacturers of the counterbalanced, center control and high lift trucks that have a sit-down, non-elevating operator position. OSHA's enforcement policy on the use of 1910.178(k)(1) is to protect the operator from being struck by the overhead guard in case of tip-over or off-dock incident. She also admitted that, in case of a tip-over, it is best for the operator to remain in the forklift.

The OSHA Act in accordance with the October 9, 1996, seatbelt enforcement memorandum.

North Carolina OSHA has adopted this Directive. This Directive shows that both federal and North Carolina OSHA recognize that forklifts are particularly susceptible to tip-overs; that an operator restraint system can prevent death or serious bodily injury; that, when provided, seat belts are an integral part of an operator safety device; and, that employees are obligated to require operators of forklifts equipped with seat belts to wear them.

In June 2001, the National Institute for Occupational Safety and Health (NIOSH), an agency with the Center for Disease Control of the U.S. Department of Health and Human Services issued a NIOSH Alert regarding preventing injuries and deaths of workers who operate or go near forklifts. According to the alert, approximately 20,000 people are injured in forklift accidents each year. Approximately 100 of these are killed each year. Most of these fatalities occur when a worker that has overturned or fallen off a dock. Overturns is the leading cause of fatalities involving forklifts. Approximately twenty-five percent (25%) of all forklift related deaths that occurred from 1990 to 1994 resulted from forklift overturns. NIOSH warns and advises forklift operators to wear their seat belt if available, and not to jump from an overturning sit-down forklift. Further, it states that, when employees are operating forklifts, they should not cite any publication from the trucking industry dealing with a hazard analysis of the use of forklifts at terminals such as respondent's terminal in Charlotte. She also admitted that, in case of a tip-over, it is best for the operator to remain in the forklift.

64. Pursuant of NIOSH Fatality Assessment and Control Evaluation program (FACE), NIOSH investigates at-risk accidents in order to formulate preventive strategies to avoid such accidents. Six (6) NIOSH Alerts involve investigations into forklift tip-over fatality accidents were introduced. In each fatality, the operator, who was not wearing a seat belt, either jumped or was thrown from the forklift and was struck by the overhead guard or other part of the forklift. The conclusion reached by NIOSH in each case concerning how the deaths could have been avoided was to have required the use of seat belts.

65. The respondent could have abated the hazard presented to forklift operators at its Charlotte terminal by complying with the Toyota operator's manual and simply requiring the operators to wear the supplied seat belts.