

Building a Safer Loading Dock

BY JEAN FEINGOLD

Raw materials, goods and finished products enter and exit manufacturing and warehouse facilities through loading docks. Since materials, transfer and transport vehicles and people are moving around regularly, making loading docks safer is important. The goal is to prevent injury to workers while avoiding damage to products and the building.

The Loading Dock Equipment Manufacturers (LODEM) is an MHI Industry Group. Its members are the leading suppliers of loading dock equipment. They have written the new 39-page *Dock Planning 101*, a guide to help facilities when installing loading docks. It is available free of charge at mhi.org/free/36748.

Loading dock standards

The guide indicates several standards to follow in planning docks. ANSI standards MH30.1-2015, MH30.2-2015 and MH30.3-2015 cover performance and testing requirements for dock leveling devices, portable dock leveling devices and vehicle restraining devices.

The Occupational Safety and Health Administration (OSHA) has recently issued 29 CFR 1910.26. This requires employers operating loading docks to equip dockboards with run-off guards or to demonstrate there is no risk of transfer vehicles running off the dockboard edge. Facility operators should install necessary safeguards on loading

dock equipment and train all dock personnel.

Loading dock area design

In designing loading docks, these variables must be evaluated:

- 1) Truck types and sizes and trailer configurations
- 2) Dock approach (driveway)
- 3) Apron space
- 4) Dock positioning
- 5) Dock height and building structure
- 6) Door size
- 7) Nature of cargo

The size of transport trucks most likely to use the dock may be the most important consideration. If multiple vehicle types will visit, the dock must accommodate them all. Refer to *Dock Planning 101* for more information.

Safety considerations

Preventing people from falling from the loading dock is a key safety issue, noted Bob Hensel of MHI and LODEM member Nova Technology. This can happen when a truck leaves unexpectedly during loading and unloading. Installing a "vehicle restraint is the most effective means of preventing an unplanned departure of a truck from the dock because it ensures the vehicle stays in close proximity to the dock," he said. Safety gates across dock edges prevent falls from open docks.

Using air or hydraulic push-button systems allows employees to

operate dock levelers, doors and vehicle restraints without bending, which improves ergonomics, Mike Pilgrim of MHI and LODEM member Systems LLC explained. These systems typically have interior and exterior light communication packages so dock workers know when it's safe to go inside truck trailers or for drivers to pull away.

With modern technology, integrated control panels can be set up with sequenced operations. "Each step can be digitized on the control panel display, prompting the operator on the next step," Pilgrim said. "The sequence can be programmed to prevent leveler operation until the truck is properly restrained and the door fully open. This also helps prevent damage to the building and equipment. Today's controllers can accommodate data retention and notification to workers at remote locations. Companies can analyze the stored information to make operational changes that save money while enhancing safety and increasing productivity."

Some dock and door equipment makers offer subscription services using facilities' data to improve productivity, safety and maintenance. This is available for buildings equipped with modern controllers.

"Good lighting is imperative at a loading dock," said Sarah Fiola of MHI and LODEM Tri Lite. "This is especially true when it comes to communicating directions, or when there's an issue on



Raised bumpers between the lanes help keep trailers lined up with the door when trucks are being backed up to the loading docks.



When unloading/loading at a refrigerated facility, keeping only the active door open helps with the loss of cold air during this process.



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a dock that needs resolution, say where a temporary warning light can be put in place to gain attention." For safety, lights must work reliably and have a low risk of breakage. This can be accomplished by using LEDs instead of glass bulbs.

Short of an accident, potential safety issues are often identified by near misses and damage to the building, trucks, equipment or product at loading docks, Pilgrim said. Facility operators should have professionals audit their docks and develop plans for safety upgrades.

Loading dock equipment manufacturers can help

Many facilities build or upgrade docks infrequently. "Most business owners are experts in their businesses but don't necessarily know the details of creating a safe loading dock environment," Hensel said. "That's where loading dock equipment manufacturers can help, providing guidance on how to maximize safety and efficiency."

Loading dock equipment manufacturers all prepare dock plans. By



CREDIT: SYSTEMS LLC

enlisting their aid, building owners get the benefit of what they've learned designing other docks. "They get the value of our expertise at no extra charge," Pilgrim pointed out. "While the new guide offers a fundamental look at dock planning, it is not comprehensive because every dock application is different and the trucks serving them vary."

Safer loading docks save money

Investments in loading dock safety are reflected on the bottom line. Pilgrim cited a case in which sensors found temperatures inside a refrigerated truck and warehouse rising at the same time every day. This increased energy costs and left condensation on the floor, creating slip-and-fall accident risks. Off-site data analysis determined the doors were left open during long inactivity periods. Enabling door notifications to management let them monitor when doors were open and take action to close them. This reduced energy loss, avoided damage to the chilled food and prevented potential accidents.

"When workers can see what they're doing, there is less damage to goods being transferred to or from the building," Fiola said. "People transporting those goods are less likely to get hurt." Fewer accidents can reduce workers' comp premiums and prevent lawsuits.

"If there is an accident or injury, there is a significant monetary penalty in addition to regulatory and legal issues," added Hensel. "For every dollar of immediate, visible cost associated with an accident there are another fifty dollars of hidden costs. But the most important benefits of having a safe loading dock are accident prevention and worker safety." Visit mhi.org/lodem to learn more. ●

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