TOP 5 TIPS FOR TRUCK UNLOADING PERFORMANCE

The article *Take a Load Off* released on www.oanewton.com and print publications told you how to better design a railcar unload system to maximize rate and minimize problems. For those of you receiving larger size organic fibers and flours, grains, etc., here are 5 tips for the best unloading off of a truck:

1. **Under Cover.** Keep the weather off of the unloading operation by making sure the truck unload bay is under cover. Rain or snow makes these materials a bear to handle, especially if you need to handle them in a pneumatic system to get them inside the plant or to bulk storage silos. If they need to be dried for processing, why make matters worse and drive up energy and time resources necessary to do so.

2. **Seal It.** Most truck unload systems that use a walking floor truck back up to a hopper or large opening shaped to match the back of a truck. The best kinds have a rubber bladder or stop that serves to seal the truck back against the hopper while material is being moved off of it. This minimizes the fire hazard, slips, and lost material issues associated with dust blowing out from behind the truck into the atmosphere. It also allows you to keep a slight negative pressure situation within the hopper where material is being dumped.

3. **Dust Control.** A logical extension to number 2 above. These fibrous materials when dumped via gravity create dust, which means that you need to deal with it to minimize fire hazard and, if you're smart, to reclaim lost material. A dust collector with a Point-of-Use dust recycling system (see *Dollars from Dust* article, January 2007) will keep a slight negative on the resident air in the hopper, contain the dust, and re-introduce it into storage for use in process.

4. **Moisture.** You may elect to have dehumidification on the collection hopper, but since it is open to the environment this becomes a losing battle that I can't recommend. This is more of an issue of specification on incoming materials. Depending on your process and its ability to reduce the moisture to acceptable levels, your best bet on controlling this is with how you specify it and inspect incoming raw material deliveries. If your decision is to reduce costs on incoming materials by allowing wetter stuff in the door, understand that you may have to incorporate energy consuming drying processes to get the material ready to mix, palletize, extrude, etc.

5. **Rate vs.** Cost. There are abundant ways to design a truck unload system that deviate from more standardized models in order to increase unload rate: redundant bays to accommodate multiple trucks, high-capacity pits emptied with multiple screws or other mechanical means that allow the truck to dump and run are a few. In the long run you need to do a calculation on what demurrage costs you over time versus slower unloading rates. Remember as well that you can have a high-speed truck unload hopper built to do 40,000 – 60,000 lbs/hr, but you'd better have enough empty storage to put it into, or ultimately it sits in demurrage anyway.

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