



Pneumatic Conveying of Hydrate Lime to Dust Collector

Manufacturer – CMT

Product – Flue Gas Mitigation

Case History #117

Background

Covanta Energy approached CMT to provide a small system to meet their needs for Fluid Gas Mitigation. Based upon CMT's experience with such systems,

The Solution

As this system was a very low user of Hydrated Lime, CMT recommended the following:

- A Bag Dump Station, with integral fan, which allows the 50 lb. bags to be opened and discharged into the system while capturing all dust. The dust captured on the filters are cleaned via air pulsation, returning the product back into the hopper, thereby eliminating waste.
- A rotary airlock was provided to feed the pneumatic conveying line. We contemplated the use of a venturi eductor, which has valuable benefits, but knowing that hydrate lime will plate and buildup within 12 hours a rotary valve was specified.
- A critical issue was the proper venting of the airlock. Without this the 'return air', in the pocket of the rotary valve, will release back into the hopper, "holding up" the product with this "air bubble" and reducing the conveying rate significantly. Therefore a simple vent was added back to the dust collector to rectify this potential problem.
- Quick disconnect rubber hoses were provided to:
 - Connect the blower to the rotary valve.
 - Connect the rotary valve to the client's duct work.

This allowed for a quick and easy installation.

- A simple relay logic panel was provided to operate the system. This was located on the frame for ease of installation and use.

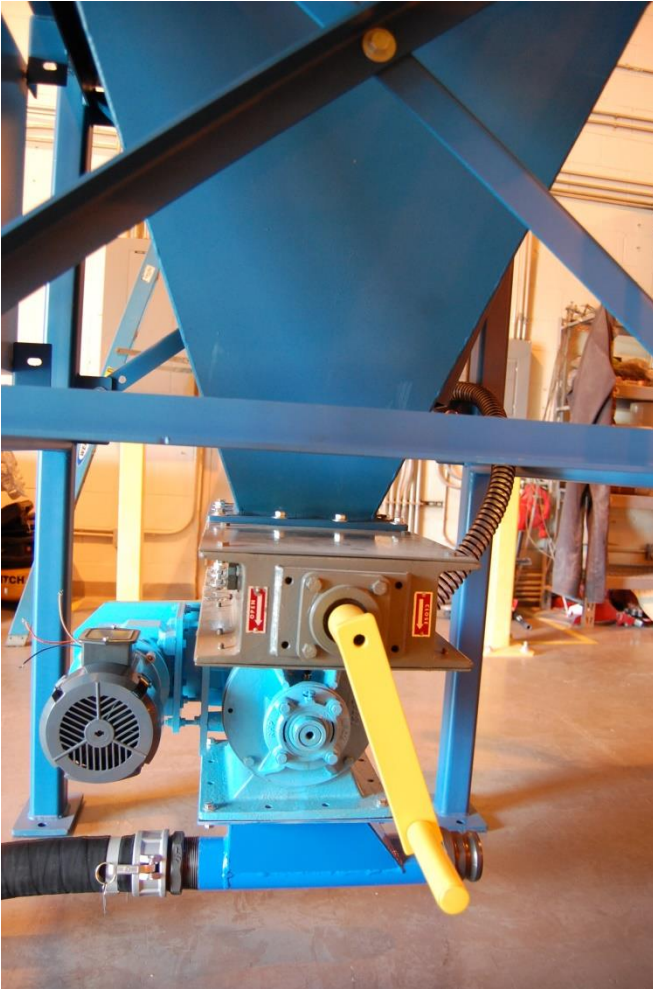
Bag Dump-Pneumatic Conveying System



Venting of Airlock



Steep Hopper to Rotary Airlock Valve



Results

- The system was installed in the 4th quarter of 2014.

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