Municipal Applications

Case study *.65 MGD WWTP aerobically digested*

The Plant generates 10,000 GPD@ 1-3% solids and was using a drying bed system to achieve Class B. They were removing material to landfills three times a year. With DryVac, the material is now ***Class A***, the beds are not used, and the local FFA students and City Parks and Recreation Department are using it for fertilizer, at no cost to the plant. This city has seen a major reduction in labor costs, and completely eliminated the cost of trucking to the landfill and disposal.

Case study *30 MGD WWTP anaerobic material*

Originally producing 50% solids and then disposing of this material in a landfill, this facility now uses four 17 CM DryVac units to produce 43 metric tons a day @ 80% solids. The maximum capacity of the system is 68 metric tons. Before DryVac, centrifuges and other labor-intensive processes were used to achieve Class B. Currently, the material is disposed of via land application until the construction of the on site gasifier is complete. At that point, all processed material will be turned to energy with the DryVac operating on waste heat. No bio-solids will leave the facility.

Case study *4 MGD WWTP aerobically digested*

Before DryVac, this plant took their 35,000-40,000 GPD @ 2% solids and ran it through a centrifuge system or belt press. The material was then taken to another location for further drying to Class B.
Because the DryVac produces a ***Class A*** product in a small footprint, the material did not need to be handled twice. It could now be simply disposed of at the dump site.

We make "CLASS A" BioSolids

www.desllc.biz ***1-800-992-9113***

DryVac in Wastewater Treatment

There are DryVac installations worldwide with several municipal wastewater treatment plants in the USA. Other units worldwide are processing industrial bio-solids as well. In most of these applications, plants are fed with sludge ranging from 0.5% to 7% solids. The dewatering process typically requires chemical treatment.

During the first stage of the DryVac process, the sludge is dewatered over 45 minutes to one-hour, which usually achieves a dryness of between 20-40% solids, depending on materials and chemical pre-treatment. Low-pressure steam (less than 1 Bar) is then applied to the DEEM's{DryVac Elastic Envelope Module-patent pending} as a vacuum is applied to the filtrate ports, and the drying phase proceeds.

The remaining moisture is vaporized in a process that can be halted at any time to achieve the desired moisture level. At the conclusion of the drying phase, the DryVac press is opened up and the dried sludge drops to a conveyor or auger below.

Activated Sludges

The processing of activated sludge and the sludge produced in SBR's/MBR's is a common problem in wastewater treatment, as the material is difficult to dewater and has a negative impact on the digestion processes. Often, it is mixed with other sludges prior to processing in an effort to improve its digestion and dewatering characteristics, but this can result in an overall drop in sludge handling efficiencies.

By treating activated sludges in the DryVac process separately from other sludges, it is possible to dry it to a level that makes economic sense. If required, the activated sludge can then be blended back with other sludges for the disposal route of choice. This could include gasification, incineration or land application.

Summary of DryVac Advantages

- **Produces Class A materials**
- **Overcomes many of the negatives associated with the liming of sewage sludges; the process is virtually odorless**
- **Relatively simple process with minimal health and safety risks**
- **Drier solids means less transport and disposal costs**
- **Enhanced treatment (pasteurization) is achieved**
- **A wide range of disposal options**
- **Excellent fit with waste to energy projects**
- **DryVac provides an excellent heat sink for combined Heat and Power applications**
- ***Dramatically reduces labor and equipment handling expenses***

4 - 17 cubic meter units under construction- Coventry, UK January 2006

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