

WASTEWATER TREATMENT VIA DRY FILTER AID/FLOCCULANT ADDITION TO AN
AUTOMATIC PRESSURE FILTER (APF)

Paper to be presented at
Annual AFSS/AIChE Colocated Conference
San Antonio, TX
March 22-25, 2010

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ABSTRACT

Conventional wastewater treatment (WWT) generally uses a three-step process of clarification (i.e., gravity settling), overflow polishing by sand filters (and in some cases, bag or cartridge filters), and underflow sludge dewatering by either conventional filter presses or automatic pressure filters (APFs). However, when flows are low (i.e., about 200 gpm or less, depending on solids loading) direct APF filtration in one-step is far more practical. In-line injection of filter aids and polymer flocculants have been proven successful, but polymer dosage control has been problematic, (i.e., control by Streaming Current has been quite useful but troublesome because of probe fouling and operator inattention to cleaning). As a result, direct batch treatment/flocculation with a dry mixture has been successful because dry weight feeders can accurately control the dosage. This paper will discuss this dry feeding approach and where it has been successfully applied. Some case histories will be highlighted where toxic constituents are removed and stabilized in the resultant dry cakes for secure landfilling or incineration. One application even dealt with Hg removal.