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**Therma-Flite Bio-Scru Class A Compliance**

Therma-Flite Sludge Dryer Compliance with 503 Rules to Produce Class A Biosolids

The Therma-Flite Sludge Dryer is a unique continuous processor that can produce Class A biosolids reliably by complying with multiple options of the 40CFR 503 regulations. Compliance with the Class A pathogen reduction and vector attraction reduction requirements are met with differing operating regimen and compliance logging options.

By residence time and temperature the pathogen reduction requirement [503.32(a)(2)] is met using time and temperature regimen A Alternative 1 for “every particle” in the sludge mass. As determined by Equation 2 in the Alternative, this requirement is met when the temperature of every particle of the biosolids equals or exceeds 162F (72 C) for 20 minutes.

The Therma-Flite Sludge Dryer has an upward slope and only the screw moves the material forward preventing the bypass of any material. The residence time at greater than 162F is determined by the transport rate of the screw. The MINIMUM residence time is the speed of the screw multiplied by the number of pitches of the screw between the point where the temperature of the material is measured to be greater than 162F and the first edge of the discharge port. Test ports are provided on commercial machines for manual verification of the temperature at the initiation of the residence time. A PLC control system includes the capability to continuously monitor and data log time, temperature and equipment speed. When this temperature and the machine speed/residence time are recorded with a time stamp it is a compliance record. The machine speed indicates the MINIMUM residence time in the machine AFTER the required temperature is met.

For all processes that are intended to produce Class A Biosolids the pathogen reduction standards also require sampling and analysis of the final product for Fecal coliform or *Salmonella* density.

The vector attraction reduction requirement is met by Option 8 [503-33(b)(8)] for any sludge by drying to greater than 90% solids. A sludge that is fully digested and does not contain any undigested solids or comes from a plant that only produces secondary sludge may meet this requirement under Option 7 [503.33(b)(7)] by only being dried to greater than 75% solids.

The Therma-Flite Sludge Dryer also qualifies as a [PFRP] “Processes to Further Reduce Pathogens” [503.32(2)(7)] [Appendix B, Heat Drying] and can meet Class A pathogen reduction through this Alternative as well. Under the Heat Drying PFRP criteria the sludge is dried to less than 10% moisture and the temperature of the exiting material is greater than 176F (80 C). With this Alternative the residence time is not relevant and the vector attraction reduction requirement for all sludges would also be met. The compliance logging for this alternative records the temperature of the exiting material with a date stamp. For most operators this may be the most economical and preferred method of operation and compliance.