THERMAL CODISPOSAL FOR SLUDGE AND MUNICIPAL REFUSE

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Discussion by

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The author has made a valuable contribution by describing the considerable effort which was required to carry an innovative concept to working reality. Mechanical problems have to be identified, and various solutions tried before a fix is found. Optimum operating conditions can only be developed as the plant is running.

The drying system was plagued with fires resulting from upsets of the incinerator and accumulations of dried sludge.

Papers like this, describing problems and solutions, have great value, often saving others from having to go through the same learning curve.

A similar experience was experienced at the East Bridgewater, Massachusetts facility where powdered RDE (Eco-Fuel) was developed (went commercial). This process, similar to drying sludge, initially had problems with fires, especially during startup and shutdown, until suitable procedures were developed, keeping the oxygen level down by operation in a closed-loop at low oxygen levels. In addition, pockets where dust settled were prone to smolder, capable of lighting off when fans were started if air could enter the system.

The Stamford drying system could benefit from this experience, by installing the bypass shown in Fig. 4. By recirculating the hot gasses:

1. The oxygen level is minimized, being stack gasses plus steam.
2. The efficiency would be increased by eliminating the load of heating cold air — more drying would be done.

Using water (fog) sprays, temperatures can be controlled in spite of variable sludge load, and overheat and fires are automatically cooled off.

A good automatic control system would assure most efficient and safe operation, and make a uniform dried sludge product.

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Fig. 4 GAS FLOW THROUGH CODISPOSAL SYSTEM*

*Figure modified by discusser.