ENERGY RECOVERY FROM SLUDGE WASTE

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The authors should be thanked for making public the actual operating data from this new plant. Too often when a new plant comes on line, data is not available to others in the industry.

My criticism of the paper is that the claimed fuel savings of $100,000 per year is a comparison of the system with and without the waste heat boiler. No comparison is made of projections of operating costs with alternate systems that could have been installed. In addition, no debit is taken for the capital cost or maintenance costs.

I also have some questions on the design.

1. Why is there such a mismatch between the operating times of the heat treatment system and the incineration system? It seems more of the steam could be put to use if the operating cycles were more in tune.

2. Have the modifications for sludge feeding worked as necessary to avoid the problems of odor and unburned fly ash in the exhaust?

AUTHOR'S REPLY

1. As Mr. Zang noted, the waste heat boiler capital cost should have been included in the paper. This cost, including refractory flues and dampers, is estimated at $200,000. For a 20 year pay-back, at 10 percent interest, the annual cost is $23,500 which reduces annual savings from $100,000 to approximately $76,000.

2. The plant currently operates at an average flow of 30 MGD. The design flow is over 90 MGD which is anticipated at least 10 years in the future. The solids handling equipment, sized for the maximum future flow, cannot maintain continuous operation with the present sludge load. As the maximum plant flow is approached, the heat treat and incinerator systems will each be in operation for longer periods of time and steam generation will be more in phase with steam use.

3. Modifications to the furnace for burning “hot” sludge appear to have worked well. No odor has been detected from the incinerator exhaust and exhaust emissions have been in accordance with allowable limits. Ash burn out is also good.