Stewarts & Lloyds Plastics

Our ref: JF/jk

1st September 1994

Mr J Allan
Huntingdonshire District Council
Pathfinder House
St Mary's Street
Huntingdon
Cambs
PE19 6TN

Dear Mr Allen

Re: Fluidised Bath

Following receipt of an authorisation to operate a prescribed metal decontamination process a programme has been implemented to conform, as far as is reasonably practical, to the controls and conditions set out by Huntingdonshire District Council.

A log book was commenced in March. This log contains details of plant hours run, date, materials being burnt and a report on visual and olfactory assessments. Provision has been made in the log to report on any malfunction of the system and to detail any modifications or upgrades that may take place.

Also in March quotations were obtained for systems to provide continuous monitoring of particulate emissions. After evaluation of the quotations a system was ordered from P.C.M.E. of Huntingdon. This system is a continuous particle emission monitoring system capable of monitoring and recording in both Ringlemann and mg/m^3. It is also capable of providing continuous trending of arrestment plant performance. The system includes optical sensors mounted in the emission duct and a microprocessor controlled combined monitor and data-logger. There is also a display of dust level, stored data and trend analysis. An alarm is present in the system and will be set to enable when the density of smoke reaches Ringlemann Shade 1.

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St. Peters Road, Huntingdon
Cambridgeshire, PE18 7DJ
Telephone: (0480) 52121
Telex: 32221 VIC SLP G
Fax: (0480) 450430

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All data from the system will be downloaded at the end of each month on to a personal computer. It will then be kept for a period of at least four years for inspection and/or analysis. This system has now been installed and commissioned, isokentic sampling and thus calibration of the equipment is now taking place in order that the monitor is completely certified and operational no later than October 1st.

Measurements of temperature have been taken at the outlet of the after burner. It was found that during burning of the outflowing gases the temperature reached levels of 900°C, however, before and after this stage of the process the temperature recorded was equal to the overall bed temperature of 420°C. Also due to hostile conditions on the surface of the fluid bed it was found that the temperature sensors (thermocouples) had a very short life span. To continuously monitor the temperature of this section would entail expensive modification to the fabric of the chamber and installation of infra-red detectors. It is hoped that the facilities offered by the particle monitoring system would negate the need for continuous temperature monitoring.

In order to reduce the cycle time of the process, and to ensure that the amount of plastic residue on the tooling prior to entering the bath is minimised, new systems of work have been introduced. These systems also include improvements to housekeeping, and ensure that the already high standards of maintenance are upheld. All critical spares are held on site and are readily available together with service instructions.

I hope the above measures meet with your approval, however, if you do have any questions or require more detail please do not hesitate to contact me.

Yours sincerely

John Finlayson
Engineering Manager