Singapore Methyl Methacrylate

About Singapore Methyl Methacrylate

Singapore Methyl Methacrylate Pte. Ltd. ("SMM") is a subsidiary under Sumitomo Chemical Asia ("SCA"). It is one of the leading manufacturers of methyl methacrylate (MMA) and poly-methyl methacrylate (PMMA). SMM is committed to achieving the highest level of energy efficiency and a high performance portfolio that uses energy in the most cost-effective and environmentally responsible manner possible.

Incinerator Fuel Optimization

SMM uses two kerosene-fuelled incinerators to burn process wastewater. To improve energy efficiency and at the same time reduce fuel cost, SMM started the incinerator fuel optimization initiative in 2010. SMM managed to reduce the kerosene consumption by the incinerators by challenging the incinerators design conditions and adopting the following measures while complying to emissions requirements:

1) Reduce temperature setting of incinerators below design temperature.
2) Reduce kerosene burner gun takedown beyond design; and
3) Recycle wastewater in the upstream processes to reduce the amount of wastewater to be incinerated.

The key challenge was to break through design limitations without compromising operational stability. This requires technical evaluation with careful planning and scrutiny through vendor consultation, trials, monitoring and evaluation (PDCA cycle).

Achievements

These continual improvements, implemented since 2010, have resulted in annual energy savings of 123 TJ or 7% improvement in fuel efficiency (defined as ton-fuel/ton-wastewater treated). This also translates to 13% reduction in CO₂ emissions.