

## Pioneer Plus™ - The Next Generation of Mass Burn Combustors

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### ABSTRACT

Two of Energy Answers Corporation's (EnergyAnswers) waste-to-energy (WTE) facilities utilize mass burn stepped hearth refractory combustors. Three 120 ton per day (TPD) units are located at the Pittsfield (MA) Resource Recovery Facility and three 136 TPD units are at the Pioneer Valley Resource Recovery Facility in Agawam, MA. EnergyAnswers has over 20 years operating experience with these mass burn units which are known for their rugged construction and dependable operation. Over the past several years, EnergyAnswers operating personnel have developed and installed numerous improvements which have reduced residual carbon in the ash, lowered operating and maintenance (O&M) costs, and increased steam generation and throughput. The following highlights the numerous improvements that have resulted in a new generation of mass burn combustor called Pioneer Plus™:

- Improved tracking and alignment of the ash transfer ram carriages for reduced air infiltration and jamming,
- Utilization of poured and sprayed refractories for lower O&M costs,
- Improved control of under-fire air to improve burn out and steam rate while maintaining throughput,
- Better sealing to reduce air in-leakage and ash accumulation.

The above improvements have been implemented on several of the combustors at the EnergyAnswers facilities. Additional improvements have been identified and will be incorporated into the design of new Pioneer Plus™ plants in the coming years.