Environmental Statement

Dynamis Energy's patented technology was designed using state of the art processes and equipment that allows the system to achieve low emissions and thus eliminate or reduce the need for auxiliary emission capture equipment. Smaller Dynamis systems can operate without using downstream emissions abatement systems and still meet EPA requirements, thus demonstrating the efficiency of the Dynamis Energy process. The system has several design features that make it more environmentally compliant than most other thermal treatment technologies:

- Once the waste is loaded into the primary gasification chamber, it is sealed, and the waste is not moved or agitated as in other thermal processes. This means that during the gasification process, the production of small particulates (fly-ash) is reduced dramatically and contained in the primary gasification chamber, thus reducing the emissions
- Prolonged exposure to temperature in the primary chamber ensures that almost 100% carbon burnout is achieved
- The ash residue is nonhazardous and virtually inert, making it suitable for recycling
- Accurate mass flow and temperature control in both the primary gasification chamber and secondary combustion chamber is achieved automatically through a Process Logic Controller (PLC). This allows the gasification process to be slow and stable, thus avoiding high temperature fluctuations that can result in incomplete combustion and NOx production. The use of the PLC provides efficient production of high heat for energy recovery
- The low temperatures in the gasification stage allow light metals and alloys to remain intact, although totally sanitized
- Turbulent mixing and retention of combustion gases in the secondary chamber with high temperature ensure that the combustion process is fully completed

All systems built by Dynamis Energy will meet or exceed the local environmental standards (or higher standards if requested by the client). If more stringent emission control standards are required, Dynamis can supply auxiliary emission control equipment, including flue gas coolers, wet or dry scrubbers for acid gas treatment, activated carbon filters/injection systems for dioxins and heavy metals, NOx abatement systems, and particulate filters. These systems will be designed and supplied according to meet the unique requirements of the local regulations and waste makeup.

Dynamis Energy will employ best available technology when required to consider flue gas cleanup. One of the benefits of the Dynamis technology is that the amount of capital cost and operational cost of emission cleanup equipment will be less than most conventional technologies due the Dynamis Energy technology as described above.

BOSS Alliance, LLC PO Box 648 Yarnell, AZ 85362
928-298-3330

About CO2

Reduced CO2 Emissions - The majority of MSW is comprised of biomass material; that is material

that originated from a biological life source including trees or plants. The U.S. EPA estimate that approximately 70% of typical MSW composition in the U.S. is biomass. Plant and trees consume carbon dioxide (CO2) during their growth and the principal emission from combustion of these materials in a WTE project is CO2. As a result, WTE projects are considered "net zero" CO2 sources to the environment from the combustion of the biomass portion of the fuel stream.

In addition, carbon and greenhouse gases are reduced because the Dynamis system prevents uncontrolled emission, reduces the need for long haul waste transfers, produces renewable clean energy, thereby reducing the reliance on fossil fuels, and reduces emissions for ferrous and nonferrous metals recapture.

Ash and Recycling

There are two groups of metals; ferrous and non-ferrous. Ferrous metals are metals or metal alloys that contain the element iron, for example carbon steel, stainless steel (both alloys; mixtures of metals) and wrought iron. All ferrous metals are magnetic and contain a small amount of other metals to provide the correct properties for their specific makeup.

Non-ferrous metals are metals that do not contain iron, for example aluminum, brass, copper and titanium. You can also get non-ferrous metals as alloys e.g., brass is an alloy of copper and zinc. Nonferrous metals are specified for structural applications requiring reduced weight, higher strength, nonmagnetic properties, higher melting points, or resistance to chemical and atmospheric corrosion.

Similarly, there are two basic types of ash; bottom ash which refers to part of the non-combustible residues of combustion. Fly ash is one of the residues generated in combustion and comprises the fine particles that rise with the flue gases. So, ash, which does not rise, is termed bottom ash and the portion of the ash that escapes up the chimney or stack is fly ash.

The Dynamis process, due to its state-of-the-art technology, does not create any fly ash, but does produce bottom ash. Most gasification systems use some type of technology to agitate the material in the gasification chamber, whereas the Dynamis process does not, resulting in very little, if any carryover of particulate matter referred to as fly ash. Dynamis will employ lime scrubbers as a standard measure to control any particulate that escapes the process, but in most cases the small amount of carryover will be almost nothing and in fact for the most part, will be undetectable.

The bottom ash produced by the Dynamis process meets and exceeds the regulatory limits set for leachate of ash. The trace amount of metals contained in the ash is inert and considered non-hazardous, thus the ash is acceptable for use in concrete (as an additive) or can be land filled safely. Because we intend to recycle the bottom ash created by our process, it will create significant benefits for our environment. Bottom ash use conserves natural resources and avoids landfill disposal of ash products. Furthermore, our ash use partially displaces production of other concrete ingredients, resulting in significant energy savings and reductions in greenhouse gas emissions.

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