

FlareBuster® - Modular 500 BPD Gas To Liquids (GTL) Plant

Emerging Fuels Technology (EFT) has developed a new approach to gas to liquids targeted at methane mitigation or flaring worldwide. The design, covered by several new patents, results in a significant reduction in capex per barrel of daily capacity. The first fully costed version of this design makes 500 BPD of products (85% diesel/ 15% naphtha) from 5 to 5.5 million SCFD of gas (depends on btu content). The plant consists of several already available pre-packaged systems together with several proprietary modules. Recent firm pricing from a qualified EPC for the shop-built modules as well as estimated cost of installation for the entire system in a gulf coast location indicate this plant and can be built and installed (US gulf coast) for under \$30 million or \$60,000 per barrel of daily capacity.

Summary of features:

- Plot area required – approximately 150 ft x 300 ft (tank storage not included)
- Generates its own power (It does not require an outside power source for startup or operation)
- Requires no water source (except an initial charge for start-up)
- Will run unattended with remote (satellite) monitoring equipment included.
- Built entirely from truckable modules
- Can be disassembled and moved relatively easily.
- Product storage is not included
- Makes 500 BPD of products (85% diesel, 15% naphtha) from 5-5.5 million SCFD (141,500-155,700 M³/day) of conditioned flared gas (contaminants removed) or pipeline quality natural gas.

The plant design is based on unique integration with a gas turbine. The gas turbine functions as a hub for the process, providing hot turbine exhaust which functions as a fired heater to preheat process streams, compressed air, and power generation. The turbine thus provides much of the plant utilities and significant process support and comes as a highly packaged system with a very low installed cost. This innovation greatly contributes to the low capital cost of the plant.

The plant uses standard packaged equipment for oxygen, process air compression, gas compression, H₂ enrichment and H₂ compression which, in some cases are incorporated into shop built truckable skids for the balance of plant. The large packages including the gas turbine and process compression are to be installed separately on their own foundations.

The standard configuration of the upgrading system is 85% Diesel, 15% Naphtha. Recent improvements in EFT upgrading technology let us offer a jet fuel option (Synthetic Paraffinic Kerosene (SPK) per ASTM D7566) option that will yield 80% jet, 20% Naphtha. Naphtha can be recycled to extinction to yield 100% Diesel or SAF. However, total plant yield will be reduced to approximately 470 BPD.

Operations & Maintenance

The plant is designed to be fully autonomous, and continuously monitored remotely. Each Plant will be equipped with a satellite link and multiple cameras with the ability to control, as well as monitor the facility. Maintenance personnel would be dispatched on an as needed basis and for scheduled maintenance. The amortized catalyst life assumed is 1 year for the sulfur removal (zinc oxide), 2 year for ATR catalyst, 3 years for Fischer Tropsch catalyst and 10 years for product upgrading catalysts.

Summary

We believe that EFT's 500 BPD "FlareBuster" standardized design is the lowest cost path available today for flare applications. It is very low risk to implement and requires no outside utilities making it possible to install it virtually anywhere. Further plant cost reductions are possible with deployment of multiple plants.

At locations with larger volumes of flared gas, the deployment of multiple plants at one location may be more advantageous than the custom design of a larger plant for the same location. This is largely due to the much shorter timeframe to complete a project and begin generating revenue.

EFT is currently investigating the possibility of developing a standard design for 250 BPD applications. The system can also be designed without oxygen enrichment for offshore applications.

Call us anytime to discuss...

Mark A. Agee
Vice President, Business Development
magee@emergingfuels.com
Cell: (918) 605-5456
Email: magee@emergingfuels.com

About Us:

Emerging Fuels Technology (EFT) is a technology company focused on methods for producing synthetic fuels and specialty products from a variety of feedstocks such as natural gas, biogas, biomass, municipal solid waste (MSW), sources of CO₂ and bio-derived oils. EFT is one of the world's foremost authorities on Fischer-Tropsch (FT) and related synthesis, licensing the core technologies and upgrade packages for projects from 50 to 10,000 barrels per day. www.emergingfuels.com

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