Alternative Petroleum Technologies' Sulfex™ Desulfurization - New Research Leads To Even Lower Cost

APT has further refined its Sulfex™ desulfurization processes, leading to additional savings in capital & operational expenditure and a lower required footprint

RENO, NV, USA, July 25, 2019 /EINPresswire.com/ -- Alternative Petroleum Technologies, Inc. ("APT") announced that it has further refined its patent-pending and cost-saving Sulfex™ desulfurization processes for distillate fuels, leading to additional reduction in capital and operational expenditure, as well as lower required footprint.

As APT has continued to work on Heavy Fuel Oil ("HFO") desulfurization methods, new research and development findings have been applied to its distillate desulfurization methods. The newest development utilizes a reaction control fluid to control the stepwise oxidation required to obtain low oxidant consumption levels in the desulfurization of distillate fuels. Initially developed for HFO desulfurization, in distillate fuel desulfurization the reaction control fluid allows for the almost complete recirculation of the acid catalysts and other modifying reagents, thus further reducing reagent costs.

The CAPEX for a standard 1,000 BPD Sulfex™ plant is US$2.5 million with an OPEX rate of 0.04 USD per gallon for reducing 2,000 PPM material to under 10 PPM. The footprint for this size plant has also now been further reduced to less than 5,000 square feet.

Since the initial announcement of the Sulfex™ process in 2018, APT has received samples from clients across Asia, Europe and North America. These samples have been successfully processed through APT's Sulfex™ pilot plant. The testing activities have led to active negotiations for the installation of commercial units in those regions. APT is also concluding its development work on the Sulfex™ process for HFO and is seeking partner(s) to build a land based pilot plant for demonstration purposes. APT is also contemplating the building of a shipboard or offshore platform based pilot plant.

The Sulfex™ process produces a finished fuel that is ready for use and that meets the IMO 2020 sulfur requirements. Additionally, the Sulfex™ process has already been independently validated by the U.S. Department of Energy's Argonne National Labs (www.anl.gov) and has been optimized to produce ultra-low sulfur fuels at low cost.

The Sulfex™ process provides a substantial cost-saving advantage over current systems. Unlike the HDS system currently used at refineries to desulfurize distillate fuels, the Sulfex™ process does not process fuel under high temperatures and pressure and thus does not need large amounts of ancillary equipment -- items that are both capital and operationally expensive. In addition to lower pressure and temperature environments, the Sulfex™ process is operationally straightforward which makes it substantially less expensive and simultaneously much safer to use than the HDS process currently in use around the world. The Sulfex™ desulfurization process does not generate the highly toxic, flammable and explosive hydrogen sulfide by-product gas which is generated by the HDS process, thus improving process safety.

Given its impact and utility in helping end users meet sulfur content targets, APT's Sulfex™ process was a finalist for the S&P Global Platts Global Energy Awards, Emerging Technology of the Year in 2018.

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