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Complex analysis of modern state of jet fuels production in Ukraine

Mykola Seliverstov
National Technical University of Ukraine "Kiev Polytechnical Institute" Kiev, Ukraine

Abstract

Two types of jet fuels "RT" and "TS-1" are produced in Ukraine. The main producers of jet fuels are Odessa, Kremenchug and Lysychansk oil processing plants (OPP). Ukrainian OPPs are equipped with modern technological equipment that allows producing jet fuels and other fuels & lubricants of high quality. The major part of countries all over the world produces jet fuels for civil aviation of type Jet A-1, according to specifications ASTM D 1655 (USA) and DEF STAN 91-91 (Great Britain). This type of aviation fuel is also used in Ukraine, mainly at international flights. It is imported in Ukraine from Asia countries and Europe (Lithuania). Ukrainian fuels "TS-1" and "RT", despite some differences from Jet A-1 fuels, are not worse, and some of their quality indexes are even higher.

The most widely used in Ukraine jet fuel "TS-1" is produced by straight run distillation mostly. Thus, it's physicochemical and exploitation characteristic fully depend on the quality of crude oil. In case when it is impossible to obtain high quality jet fuel by this way, then it is produced with application of hydrotreatment or demercaptanization processes or mixing of straight run component with hydrotreated one.

Amounts of fuel "RT" production are significantly lower, comparing to "TS-1" fuel. It is produced with application of hydrotreatment process. Quality of this type of fuel is higher than "TS-1", especially its thermal stability.

Fuels of type Jet A-1 are usually produced using both straight run distillation technology and with application of demercaptanization and hydrogenation processes.

However, there is some in accordance between quality indexes of Ukrainian and foreign jet fuels. It is mainly caused by different approaches to estimation of fuels quality. In the world practice the main criteria for jet fuels quality estimation is fire safety. On the contrary Ukrainian jet fuels are qualified by the ability to provide durable and reliable work of the aircraft engine.

Biography

Mykola Seliverstov has received his MSc in Ecology at the National Technical University of Ukraine "Kiev Polytechnical Institute". Sphere of interests – environmental protection and energy efficient technologies