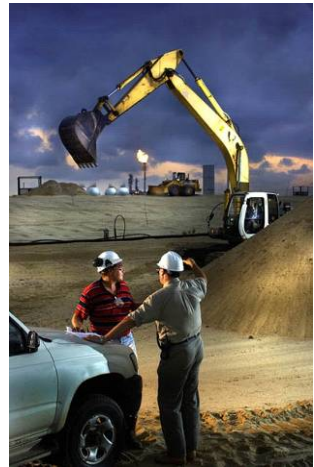


SASOL
reaching new frontiers



Production and distribution of Sasol semi synthetic Jet A-1

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Fuels***

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introduction of alternative fuels***



Overview

- Production and certification of Synthetic Paraffinic Kerosine (SPK)
- Blending of SPK with petroleum Kerosene
- Certification of blend as Jet A-1
- Batch control at refinery and dispatch to market
- Usage experience



Production and certification of SPK

- Oligomerization of C3 and C4 olefins produced by FT
- Hydrogenation of olefinic stream (C6 – C20)
- Fractionation of product into gasoline and kerosene fractions
- Certification of SPK as jet fuel blending component





Blending of SPK with petroleum Kerosene

- The certified SPK is dispatched from the CTL refinery tank farm to Natref using a multi product pipeline
- SPK is received into a dedicated receiving tank where the quality of the product is checked before it is used as a jet fuel blending component
- Jet A1 is blended using SPK and petroleum kerosene to meet the requirements of the Check-list





Certification of blend as Jet A-1

Joint Inspection Group *Product Specifications*

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AVIATION FUEL QUALITY REQUIREMENTS FOR JOINTLY OPERATED SYSTEMS (AFQRJOS)

It defines the fuel quality requirements for supply into Jointly Operated Fuelling Systems. The Aviation Fuel Quality Requirements for Jointly Operated Systems (AFQRJOS) for Jet A-1 embodies the most stringent requirements of the following two specifications:

- (a)** British Ministry of Defence Standard DEF STAN 91-91/Issue 6, Amendment 1 of 25 August, 2008 for Turbine Fuel, Aviation Kerosene Type, Jet A-1, NATO Code F-35, Joint Service Designation AVTUR.
- (b)** ASTM Standard Specification D 1655-08a for Aviation Turbine Fuels "Jet A-1".

Jet fuel that meets the AFQRJOS is usually referred to as "Jet A-1 to Check List", or "Check List Jet A-1" and, by definition, generally, meets the requirements of both of the above specifications.



Batch control at refinery and dispatch to market

- Batch certificates are issued for each batch of Semi synthetic jet fuel blended.
 - *Concentration of SPK in batch is reported*
 - *Lubricity of the blend is reported*
- Once the batch is certified it is handled as Jet A-1
- The depot at OR Tambo International Airport receives the product as Jet A-1 and it is blended with Jet A-1 from other refineries
- Jet A-1 is also dispatched to the market using road and rail



Usage experience

- Semi synthetic jet fuel in use for 10 years
- Production experience is that the SPK is an excellent component for Jet A-1 blending
- Logistic experience is that no problems were experienced that could be related to the use of SPK as blending component
- Feedback from South African Airways, one of the major users of semi synthetic jet fuel is that no problems were experience with the product over the 10 year of use