

Delivered additional profit of US\$ 9.21 million per annum by reducing operating cost of Aircraft Turbine Fuel (ATF) production

BUSINESS CASE

Organization Trends

- Aircraft Turbine Fuel is one of the most profitable products of the organization
- Uncertainties related to Diesel Demand which accounts for about 8 MMTPA (Million Metric Ton per Annum) of production is a risk to the business
- Superior Kerosene which is a common blend for Air Turbine Fuel (ATF) and Diesel production, present an opportunity to enhance Gross Refining Margin (GRM) of the Refinery
- The organization is currently in a post IREP (Integrated Refinery Expansion Project) scenario

CHALLENGE

What is the challenge

- The ATF Mercox unit with a design capacity of 60 m3/hr is unable to process the High Mercaptan (HM) feed (less than 50 ppm) causing irregularities in production. Current production is limited to 17 tonne/hr
- The organization identified KHDS (Kerosene Hydro Desulphurization) and DHDT (Diesel Hydrodesulphurization) as the alternatives for ATF production, but they have a high operating cost compared to the existing ATF Mercox unit
- Moreover the DHDT process would take more than a year to be approved. As only High Sulphur (HS) crudes are envisaged to be used, and due to the inability of ATF Mercox unit to run at full capacity, the production is at a major risk
- The challenge was identified in 2016

IMPACT

What is the impact

- The organization is having a revenue and profit loss due to production irregularities
- The KHDS and DHDT production processes are not optimized, hence increasing the operating cost
- Inability to meet the customer demand is causing the customer to change to more able suppliers
- Irregular production cycle time leading to increased customer complaints

How much is the impact

- Profit loss of US\$ 11.8 million per year due to production irregularities
- KHDS and DHDT unit increasing the operating cost by US\$ 1.7 million

TARGET

What is the Target

- Increase the ATF Mercox charge to its design charge with HS crudes, thereby, providing cheaper alternative for ATF production post IREP scenario
- Optimize KHDS unit operation to reduce its operating cost, thereby delivering additional profits

How much is the Target

- Increase ATF Mercox unit production to at least 30 tonne/hr
- Deliver profits of at least US\$ 7.2 million per annum by reducing operating cost and increasing sales

OUTCOMES

Improved Profits

- Delivered additional profit of US\$ 9.21 million per annum by reducing operating cost of Aircraft Turbine Fuel (ATF) production

Operational Outcomes

- Successfully optimized the KHDS operation to deliver additional profits

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