



SCHOOL OF BIO AND CHEMICAL ENGINEERING

DEPARTMENT OF CHEMICAL ENGINEERING

Seminar On

Technology Upgradation and Modification in Refining Sector

Event Summary

Date 20/06/2020

Mr. Jothikannan from Inherent engineering, Chennai delivered seminars on Opportunities in Technology Development.

Dr. Sathish , HOD/Chemical Delivered welcome address and Dr D Venkatesan has given introduction about the speaker

Vote of Thanks delivered by Dr Joshua Amarnath Professor/Chemical.

Mr Jothikannan has delivered seminars and some of the key points as follows

The Indian Petroleum refining sector has come a long way since crude oil was discovered and the first refinery was set up at Digboi in 1901. Till 1947, that was the only refinery with a capacity of 0.50 million metric tonnes per annum (MMTPA). The present Mumbai Refinery of HPCL was the first modern refinery to be set up after independence by Esso in 1954, which was followed by setting up of refineries by other oil majors, like Burmah Shell and Caltex in Mumbai (BPCL) and Visakhapatnam (HPCL). Since then, refineries were established by the Government, Private Sector, Joint Venture.

India has witnessed a spectacular growth in the refining sector over the years. From a deficit scenario in 2001, the country achieved self-sufficiency in Refining and today is a major exporter of Quality Petroleum Products. Today India is the global refining hub with refining capacity of 248.9 MMTPA and is the fourth largest in the world after the United States, China and Russia. There are total 23 refineries in the country, 18 in the Public Sector, 2 in the Joint Venture and 3 in the Private Sector well spread geographically and connected with cross country pipelines.

Simple refinery configuration was adopted in 1950s, comprising crude oil distillation, naphtha/ kerosene/ ATF treatment and catalytic reforming for upgrading naphtha to petrol, with no secondary processing, low energy recoveries and high sulphur fuel oil as internal fuel. The refineries established in the sixties by Govt. undertakings were based on processing of indigenous crude oils of low sulfur origin available in North East and Gujarat basin. Indian PSU refineries started adopting state-of-art modern technologies to upgrade the configuration in line with the international trend and as per the product requirements and quality. Secondary processing facilities like Fluid Catalytic Cracking (FCC) Units to upgrade low value streams to high value middle distillates were installed in many of the refineries.

Configuration of Indian refineries further underwent a major change in late 1980s and early 1990s. There was increased emphasis on maximisation of middle distillates as well as better stability of products, with configurations showing shift from FCC towards Hydrocracking process and a combination of both. The first hydrocracker in the country was commissioned in Gujarat refinery of IOCL in 1993. All new grassroots refineries started considering installation of hydrocrackers. This led to marked increase in investment requirements for refinery installations.

Refinery configurations in late 1990s were dictated by the product quality up-gradation due to environmental considerations. These include lead free gasoline, low sulfur diesel, fuel oil and other improvement in properties along with the ever-increasing demand for middle distillates. The configurations therefore were modified to include:

- Continuous Catalytic Reforming (CCR)
- Hydrocracker
- Hydrotreating / Hydrodesulphurisation facilities to generate low sulfur fuels and fuel oil for internal use
- INDMAX Technology for LPG maximisation



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DEPARTMENT OF CHEMICAL ENGINEERING
SCHOOL OF BIO AND CHEMICAL ENGINEERING

presents

WEBINAR

on

FUTURE PROSPECTS AND OPPORTUNITIES IN PROCESS INDUSTRY

DATE : JUNE 20th & 21st, 2020

TIME : 04.00 p.m to 05.00 p.m



JOTHIKANNAN . M

DIRECTOR – TECHNICAL & PROJECTS, INHERENT ENGINEERING

REGISTRATION LINK : <https://forms.gle/95hHZswure6q7gWp7>

FOR DETAILS – CONTACT : 9790976746 (Mr . D . VENKATESAN)

CONVENOR : Dr . WILSON ARUNI , Pro Vice Chancellor

CO-ORDINATORS : Mr . D . VENKATESAN , Assistant professor

Dr . J . ARAVIND KUMAR , Assistant Professor

ORGANIZERS : Dr . S . SATHISH , Head Of the Department

Dr . D . PRABHU , Head Of the Department

Dr . D . JOSHUA AMARNATH , PROFESSOR

Dr . A . ANNAM RENITA , PROFESSOR

No registration fee
Participants will be provided with e-certificate



Meeting in zoom app