

Integrated Project Manager for Success in an Oil-To-Chemicals Driven Environment

Delphine Largeteau (Speaker) 1,

Jacinthe Frécon 1 (co-author),

Institutes:

1: Axens (Process Technology Division), Rueil Malmaison , France

INTRODUCTION:

In Middle East, refiners are increasingly assessing options to further upgrade their products into petrochemicals by increasing conversion and by implementing technologies to produce more valuable chemicals.

This global trend is based on various studies showing that the petrochemicals growth will be much higher than that of transportation fuels. It is expected to see a petrochemicals global growth at about 4% per year compared to 0.8% for fuels. Integrating Refining and Petrochemicals offers several advantages to the refiners:

- expand into higher growth markets
- mitigate risks related to raw material and product price variations
- improve asset profitability

However, these Refining to Petrochemicals projects are typical large and complex. Managing these projects is challenging and keeping them on budget and on schedule are some of the key challenges that refiners will face.

In this paper the author will review the different risks associated to those projects and will present in the context of various case studies the approach that can be taken to best plan, prepare and execute this type of projects. The case study will detailed the benefits that have been achieved by integrating in a phased-approach project definition, process optimization, production of the BDPs (Basic Design Packages) and pre-EPC activities. We will also review how this approach along with the right technologies can also help achieve the objective of moving towards petrochemicals and the opportunities they can bring around upgrading the bottom-of-the-barrel.

THE CASE STUDY

In that paper author will present in details the benefits that were achieved deploying such approach on complex grassroots refinery project in Asia.

Examples will be given on how this approach associated with the right process configuration can bring the best solution for the refiners to meet the growing demand for petrochemicals products while meeting some demand in clean transportation fuels meeting new specifications linked to the looming environmental regulations. In particular, this paper will detail the largest crude to PX project in Asia for Hengli which includes a complete suite of technologies to maximize residue conversion to produce heavy naphtha and further upgrade it to paraxylene.

A second example will show how S-Oil has chosen a novel technology to further upgrade its atmospheric residue into valuable products and in particular into propylene while minimizing its Fuel Oil production. The paper will also develop how the overall risk has been mitigated during the pre EPC phases applying a methodology that alleviates the critical aspects of project management, covering:

- Integration management
- Scope management
- Risk & quality management

- HR & communication management
- Procurement management
- Construction management