

Production Planning & Scheduling in Petroleum Refineries

INTRODUCTION

- This Production Planning & Scheduling in Petroleum Refineries training seminar is specifically designed to identify and resolve issues of production planning and scheduling in petroleum refineries that are most commonly encountered by refinery personnel working in this area. Issues of operations scheduling for petroleum refining are discussed in depth. This training seminar will be enhanced with practical planning and scheduling examples using both excel and proprietary planning and scheduling linear programming software.
- In addition, Production Planning & Scheduling in Petroleum Refineries training seminar will provide relevant background information of the subject and will update refinery personnel on new technologies used in the field.
- Learn how improved planning and scheduling operations result in improved profitability
- Act as a primer into the industry of Petroleum Refining to maximize process fluid yields
- Familiarize industry professionals with all processes associated with the processing of petroleum into finished products
- Equip new engineers into the industry, with the basic tools for understanding the complex nature of Refining and its operations

OBJECTIVES

- Gain an appreciation of the planning and scheduling tools that will be useful for planning of crude and product deliveries
- Differentiate and appreciate the similarities and differences between planning and scheduling
- Understand the principles of scheduling optimization
- Learn the skills to crude selection and optimization that result in improved profitability
- Develop the skills necessary to apply blending techniques using excel and linear programming software

TRAINING METHODOLOGY

- This Production Planning & Scheduling in Petroleum Refineries training seminar will be conducted with formal lectures, active participation and instructor led discussions. Short videos along with computer software and simulations, used by production planning and scheduling personnel, will ensure a thorough understanding of the topics introduced. Case studies will be provided to illustrate the application of planning and scheduling and will be re-enforced with practical exercises and ample opportunities for deliberation and sharing of experiences.

ORGANISATIONAL IMPACT

- Have a comprehensive understanding of the impact of Refinery Production Planning and Scheduling
- Learn how their competitors identify and improve issues related to planning and scheduling
- Know how to manage planning scheduling and blending errors more effectively and efficiently
- Gain insight of common and new techniques and software as well as key industry success factors

PERSONAL IMPACT

- Gain understanding and practical insight of the basic concepts of Production Planning and Scheduling and its impact on the organization profitability
- Be equipped with the basic tools for understanding the complex nature of Production Planning & Scheduling in Petroleum Refineries
- Improve their level of personal knowledge of the techniques used in industry for blending and optimisation
- Be able to plan and develop techniques for improving custody transfers

WHO SHOULD ATTEND?

- All professionals involved in Production, Planning and Scheduling and anyone that wants to update themselves on the methods used in this important field and learn how to implement error free methods for the benefit of their organizations. Process Engineers and Technologists engaged in planning and scheduling activities and who are required to understand and discuss issues related to their industry.
- Operations Personnel including Shift Supervisors
- Marketers and Refinery Planners
- Blending Professionals
- Refining Technologists
- Other Engineers who would like a further understanding of the complex refining processes and their impact on refinery planning and scheduling
- Accountants, Marketers and other professions who would like understand the complexities and terminology of Production Planning & Scheduling in Petroleum Refineries

Course Outline

Application of Planning and Scheduling

- Overview of Planning and Scheduling in Oil Refineries
- Refinery Complexity
- Refinery Configuration
- Integrated Refineries
- Choice of Crude
- Crude Oil Scheduling
- Capacity Utilization of Crudes & Operational Efficiency
- Workshop - Cut-point Optimization

Improving Product Movements and Releasing Tankages

- Crude Assay
- Intermediate Feed Characteristics
- Yields and Properties
- Different Process Units
- Storage Tanks
- Custody Transfer / Measurements
- Class Exercises: Using Excel - Yield Optimization

Product Blending Rules

- Product Specifications
- New Trends in Fuel Production
- Environmental Issues
- Crude Oil Pricing Regimes
- Product Netback

Refinery Flow Sheets

- Refinery Flow-sheets
- Simplified Material Balance
- Product Inventory Control
- Product Quality Control
- Fixed Composition Blend
- Capacity Control / Constraints
- Availability of Feedstock / Control

Refinery Planning and Scheduling

- Petroleum Product Movement and Product Exchange
- Marginal Depot Supply and Movements
- Crude Selection Strategies
- Linear Programming and Fundamentals of Supply Chain Management for Refining
- Refinery Planning and Scheduling
- Discussion and Summary