



Production Planning & Scheduling Petroleum Refineries Training Conference

14 – 18 March 2027
Cairo (Egypt)



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Introduction:

This petroleum refinery production planning and yield optimization program addresses the intricacies of production planning and scheduling within petroleum refineries. This petroleum refinery production planning and yield optimization conference provides an in-depth discussion on operations scheduling, which is particularly relevant for optimizing petroleum production.

Real-world planning and scheduling examples will lend a practical edge to the participants' understanding. Additionally, this petroleum refinery production planning and yield optimization training will delve into yield optimization in refining processes, covering the journey from crude oil feed to finished products.

The petroleum refinery production planning and yield optimization conference will elaborate on the major refining processes, including feedstock selection, preparation, operating conditions, catalysts, yields, product properties, and economic considerations. The petroleum refinery production planning and yield optimization program aims to impart an understanding of the practical aspects of refinery operations and the terminology and economics integral to the industry.

Yield Optimization in Refineries and Petroleum Highlights

Yield optimization is pivotal in refining petroleum, which revolves around maximizing the value of the product slate while minimizing costs and maintaining product specifications. Exploring yield optimization involves understanding catalysts, operating conditions, and the definition of refining that can lead to varying yields of oil and petroleum products.

This petroleum refinery production planning and yield optimization course will explore advanced techniques for the practical optimization of petroleum production systems, equipping participants with the knowledge to become proficient yield optimizers in modern refining.

A crucial segment of this training will focus on liquefied petroleum gas production and optimization of essential petroleum technologies for the contemporary energy market. As a comprehensive petroleum training conference, it serves as both a petroleum seminar and production planning training conference, ensuring attendees are well-prepared to face the dynamic challenges present in the industry today.

Targeted Groups:

- Operations personnel, including shift supervisors
- Marketers and refinery planners
- Blending professionals
- Refining Technologists
- Engineers aim to grasp refining processes' complexities and their impact on refinement scheduling.
- Accountants, marketers, and other professionals seeking comprehensive insights into Production Planning & Scheduling in Petroleum Refineries

Conference Objectives:

At the end of this petroleum refinery production planning and yield optimization conference, the participants will be able to:

- Attain an appreciation of crude and product delivery planning and scheduling tools.
- Understand the distinctions and commonalities between planning and scheduling.
- Grasp principles of scheduling optimization and what a yield optimizer is
- Acquire skills for crude selection and optimization to elevate profitability.
- Develop abilities to implement blending techniques using software tools such as Excel and linear programming.

Targeted Competencies:

At this petroleum refinery production planning and yield optimization conference, the target competencies will be able to:

- Enhance planning and scheduling operations for increased profitability.
- Primer knowledge in the petroleum refining industry is needed to maximize process fluid yields.
- Understand all processes involved in transforming petroleum into finished products.
- Understand familiarity with tools to comprehend the sophisticated nature of Refining operations.

Conference Content:

Unit 1: Application of Planning and Scheduling:

- Overview of planning and scheduling in oil refineries.
- Refinery Configuration.
- Hydro skimming Refinery.
- Refineries with Secondary Conversion Processes.
- Integrated Refineries.
- Existing and New Refineries.
- Choice of Crude.
- Crude oil scheduling.
- Choice of Processes.
- Capacity Utilization of Crudes.
- The Severity of Process Operations.
- Cut-points Optimization.
- Facing Upset Situations.
- Tankage Requirement.

Unit 2: Improving Product Movements and Releasing Tankages:

- Basic Information Required.
- Crude Assay.
- Intermediate Feed Characteristics.
- Yields and Properties.
- Different Process Units.
- Utilities.

Unit 3: Product Blending Rules:

- Product Specifications.
- New Trends in Fuel Production.
- Environmental Issues.
- Crude Cost.
- Product Netback.

Unit 4: Formulation of Problem:

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

Unit 5: Application to a Refinery Worksheet:

- Petroleum Product Movement and Product Exchange.
- Marginal Depot Supply and Movements.
- Commonly Used Methods and Recent Developments.
- Mathematical Approach to Solution.
- Linear Programming.
- Graphic Method.
- Vendors Software.

Unit 6: Crude Oil Yields Refinery Technology:

- Crude Oil Origins and Characteristics.
- Crude Oil Assay and Properties.
- Crude oil products.
- Product specifications.
- Gasoline.
- Kerosene/Jet Fuel.
- Fuel Oil/ Diesel Fuels.
- Petrochemical Feedstocks.
- Refinery Complexity.
- Overall of refinery flow: Interrelationship of processes.

Unit 7: Petroleum Refinery Processes:

- Crude Processing.
- Desalting.
- Atmospheric distillation.
- Vacuum distillation.
- Heavy Oils Processing - Coking and Thermal Processes.
- Delayed Coking.
- Fluid Coking.
- Flexicoking.
- Visbreaking.

Unit 8: Process for Motor Fuel Production:

- Fluid catalytic cracking.
- Hydrocrack.
- Cat Cracking.
- Isomerization.
- Alkylation.
- Catalytic Reforming.

Unit 9: Supporting Operations:

- Blending for Product Specifications.
- Hydrogen production.
- Refinery Gas Plants.
- Acid Gas Treating.
- Sulfur Recovery Plants.

Unit 10: Refinery Economics:

- Residue Reduction.
- Asphalt and Residual Fuel.
- Cost Estimation.
- Economic Evaluation.