

Process Plant Design Basis – Key Issues



The Course is designed for:

Process Engineers and Project Managers engaged in design, engineering and project management services for major oil/natural gas, refinery and petrochemical facilities. It is suitable and useful for graduate trainees as well as experienced engineers.

About the Course:

Process design or basic design of a process plant costs hardly around 1% of the total project cost. But it has tremendous influence on the plant design, project capital expenditure and schedule of the project. Process design is the first step towards execution of the project where the die is cast. And the design basis is the first step for starting the process design. The design basis sets the parameters for the project which can not be changed later. It converts the customer requirements in precise terms of input and output data, specification, information on site, utilities etc. and standards to be followed. It is very important to understand and analyze design basis parameters and its impact on the plant design and cost.

The course not only gives typical checklist of parameters to be included in design basis but also explanation and significance of the parameters. The course also gives some real life case studies.

Course Content:

Module No.	TOPIC	DESCRIPTION
1	Understanding Basic Design and Design Basis	<ul style="list-style-type: none">• Project Life Cycle• Various phases of project execution• Impact of design basis• Definitions - Basic Design and Front End Engineering Design (FEED)• Interaction Chart for developing design basis and basic design• Check list for typical design basis document• Interpretation of parameters given in checklist

2	Case Studies on Key issues of Design Basis	<ul style="list-style-type: none"> • Case Study 1: Location • Case Study 2: Raw material • Case Study 3: Design ambient temperature • Case Study 4: Elevation and ambient pressure • Case Study 5: Wind direction • Case Study 6: Cooling water system • Case Study 7: Storage capacity • Case Study 8: Operating philosophy
---	---	--

Methodology of Presentation:

- Process Engineering is learnt by practice
- We provide the technique and we supplement it with our experience
- Quiz questions and answers
- Exercises for better assimilation
- Power Point presentation in html5 with slides packed with information
- Narration wherever needed along with animation and script

Duration:

6 to 8 hours (excluding practice exercises, time required for which depends on learner's assimilation)

Course Developer:

Dr. U.K. Dutta is a consultant in the Hydrocarbon Process Industry, focusing on specialist consultancy services and training. Graduate in Chemical Engineering from IIT and Doctorate from Loughborough University of Technology (U.K), he has over 50 years of experience in Hydrocarbon Industry (upstream, midstream and downstream) in the areas of process and technology, engineering consultancy, project development, marketing, training and organizational development. He had work experience and association with major Indian and International companies like Engineers India Ltd., Union Carbide, CE Natco, Lummus Crest, Triune and Rotary Engineering. He has presented papers on Technology Development and Technology Transfer in major International Conferences such as ASCOPE and CHEMTECH.

He has conducted customized training programs for executives of major companies like Petronas (Malaysia), Petrosin (Singapore), Vopak (Singapore), PTT (Thailand), Aker Kvaerner (Singapore), The Yokogawa Group, Technip (India), Ernst & Young, Triune Projects (India), Indian Chamber of Commerce, Solar Turbines (Singapore), Solar Turbines Inc. (San Diego, Brussels) and others.

He has conducted several programs for executives in Singapore, **as faculty with National University of Singapore's industry training programs.**