

Training Title

**CONTROL AND PROTECTION SYSTEMS MASTERY**

Training Duration

**5 days**

Training Date

<b>PE0339</b>	<b>CONTROL AND PROTECTION SYSTEMS MASTERY</b>	<b>5</b>	<b>15-19 Jan 2024</b>	<b>\$5,500</b>	<b>Dubai, UAE</b>
<b>PE0339</b>	<b>CONTROL AND PROTECTION SYSTEMS MASTERY</b>	<b>5</b>	<b>22-26 Jan 2024</b>	<b>\$5,500</b>	<b>Dubai, UAE</b>
<b>PE0339</b>	<b>CONTROL AND PROTECTION SYSTEMS MASTERY</b>	<b>5</b>	<b>05-09 Feb 2024</b>	<b>\$5,500</b>	<b>Dubai, UAE</b>
<b>PE0339</b>	<b>CONTROL AND PROTECTION SYSTEMS MASTERY</b>	<b>5</b>	<b>12-16 Feb 2024</b>	<b>\$5,500</b>	<b>Dubai, UAE</b>

In any of the 5 star hotels as mentioned below. The exact venue will be informed once finalized.

**1. DoubleTree by Hilton Hotel & Residences Dubai – Al Barsha**

P.O. Box 72584, Dubai - United Arab Emirates  
DoubleTree.com

**2. Elite Bybloss Hotel**

www.elitebybloshotel.com  
P.O. Box 390531 Dubai - United Arab Emirates

**3. MILLENNIUM PLAZA DOWNTOWN HOTEL DUBAI**

23215 | Sheikh Zayed Rd | Trade Centre | Trade Centre 1 | Dubai, United Arab Emirates  
W www.millenniumhotels.com

[www.definetraining.com](http://www.definetraining.com)

Training Fees

- \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Buffet Lunch

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

Language: English

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## **COURSE DESCRIPTION**

This designed whom interested to be Gas Lift Master! Learn how to maximize the production of your gas lift wells and how to make the most of a product/technology.

Also, this course will explain in detailed how to interpret your gas lift well behavior? Explaining when it produces at its full potential. Will illustrate all the products that suppliers want to sell to you.

This training course gets all the answers you are looking for and even the general form of technical case

Starting from the very beginning participants will learn all the secrets of gas lift and unlock:

1. Cost savings through smarter product selection and better product knowledge to gain advantages during price negotiations
2. Production increase with minimal investment and work
3. The great feeling of being in control of your gas lifted wells!

### **If you are a Junior Engineer:**

Get a better understanding of the technical discussions at work. Get the knowledge to become an active participant in meetings rather than just watching. Make a positive contribution in technical email exchanges by giving your analysis of the situation. Challenge more senior engineers and impress your manager with your understanding of the topic. Propose ideas to generate production increase and gain visibility among management.

### **If you are a Manager:**

Stay sharp easily by simply watching videos. Get new ideas to increase production. Use course schematics to train your team and get their respect by teaching them new things. Evaluate course content and see how much time you could save by having your team following it. How easier your job would be if they mastered the content.

### **If you work for a Service company:**

Gain credibility and trust of your customers by proposing solutions more adequate with their good behavior. Get the ability to capture the right problem of the well and share business opportunities inside your organization among colleagues in charge of the right product line.

## **OBJECTIVES:**

The course objectives are:

1. Gas processing concept in the oil and gas sector

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2. Skills in Gas Operations
3. Forms of Gas Lift
4. Gas Lift Equipment
5. Gas Lift Unloading Sequence and SPM Design
6. Cost savings through smarter product selection and better product knowledge to gain advantages during price negotiations
7. Production increase with minimal investment and work
8. The great feeling of being in control of your gas lifted wells!

### **WHAT YOU WILL LEARN**

- a. Gas Operator in the oil and gas sector
- b. Skills in Gas Operations and Operations Common
- c. Understanding the Forms of Gas Lift
- d. Gas Lift Equipment
- e. Gas Lift Unloading Sequence and SPM Design
- f. Gas Lift Optimization and Design with Existing Mandrels.

### **WHO SHOULD ATTEND:**

- Production, Petroleum or Well Performance Engineers to maximize their gas lift well production
- Field Production Personnel to understand the importance of data as well as day to day monitoring and optimization
- Completion or Surface Facilities Engineers to understand what they can do to help maximizing gas lift well production

### **PREREQUISITES:**

- Understanding of the Inflow & Outflow mechanisms is preferred
- Basic knowledge on well architecture
- Awareness on the oilfield terms

### **COURSE OUTLINE**

#### **Day (1):**

#### **Understanding the Forms of Gas Lift**

- Gas Lift system
- Gas Lift principle & continuous Gas Lift
- Intermittent Gas Lift
- Plunger lift

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- Chamber lift
- Dual Gas Lift completion
- Concentric Gas Lift
- Self-Gas Lift
- Annular flow
- Side string injection
- Pig lift
- Packer less Gas Lift
- Gas Lift as a backup for ESP
- Gas Lift & jet or hydraulic piston pump
- Illustrative related video
- Workshop – learned lessons
- Day (1) quiz

**Day (2):**

**Gas Lift Equipment**

- Conventional and side pocket mandrels
- Gas lift mandrels with check valve
- Latches
- Running/pulling /kick over tools
- SPM and kick over tools
- 1<sup>st</sup> generation of kick over tools
- Special kick over tools for high well deviation
- Well unloading
- Gas lift valve types
- Dummy valves
- Gas lift pack off
- Orifice valves and rate estimation
- Illustrative related video
- Workshop – learned lessons
- Day (2) quiz

**Day (3):**

- Venturi orifices

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- Unloading valve mechanics
- Casing and tubing pressure-operated valves
- Gas lift valve calibration procedure
- Gas lift valve test block and AVT
- Valve throttling effect
- Flag valve
- Special gas lift valves
- Gas lift valves and mandrels configurations to achieve annular or tubing flow, production or injection pressure operated system.
- VPC
- Electric gas lift valves
- Gas lift injection below packer
- Surface equipment
- Plunger lift equipment
- Illustrative related video
- Workshop – learned lessons
- Day (3) quiz

**Day (4):**

**Gas Lift Unloading Sequence and SPM Design**

- Unloading the well basic principle
- Integrity in gas lift well
- Initial unloading following a drilling or a WO (how to empty your casing of the mud/brine without damaging your valves)
- Unloading sequence with IPO valves
- Unloading sequence with PPO valves
- Gas lift unloading principle explained by counting bubbles of gas
- Gas gradient formula and rule of thumb to quickly calculate your casing pressure at any depth
- Put it all together with an exercise (inflow/outflow/mandrel spacing design)
- Unloading sequence videos from suppliers
- Why installing a gas lift mandrel in a well portion where deviation is higher than 60°
- Gas lift system (fundamental principles, maximum rate estimation, equilibrium curve)

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- Mandrel spacing design principles (where should you install your gas lift mandrels and how to do that manually)
  - Temperature models
  - How to choose your kick of pressure
  - Guidelines to make a mandrel spacing design with Prosper (how to fill the “GL design new” form in Prosper).
  - Illustrative related video
  - Workshop – learned lessons
  - Day (4) quiz

**Day (5):**

**Gas Lift Optimization and Design with Existing Mandrels**

- Optimization starts by good monitoring
- Optimization by Gas Lift rate change
- Gas Lift design optimization – cases review
- Can I optimize a Gas Lift well by choking it?
- Global network optimization
- How to identify Gas Lift wells that can be optimized
- Exercise – Propose a Gas Lift design for a well using abacus
- Why changing your mandrel spacing design?
- Why changing your Gas Lift design using existing mandrels?
- How to determine the targeted liquid rate of a well following a Gas Lift design
- Process to perform a Gas Lift design using Prosper
- How to fill the “Gas Lift design – Existing Mandrels” form in Prosper
- Dual Gas Lift completion optimization and design
- Illustrative related video
- Workshop – learned lessons
- Day (4) quiz

**COURSE METHODOLOGY**

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved.

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You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions

**Case Studies, Group Discussions, Last Day Review, Assessments will be carried out.**



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**MEETING ROOM PICTURES:**

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