



MAESTRO
CONSULTANTS

BOOSTER STATION UTILITIES FOUNDATION

COURSE OUTLINE 2024

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TRAINING TITLE

BOOSTER STATION UTILITIES FOUNDATION

VENUE

London, UK

DURATION

5 Days

DATES

12 – 16 FEBRUARY 2024

PRICE

\$6,500 per attendee including training material/handouts, morning/afternoon coffee breaks, and Lunch buffet.

TRAINING INTRODUCTION

Learn how to operate booster station utilities by understanding the fundamentals of chemical injection and utilities operation

Utility plants are vital part of oil and gas operation. Plant utility provides necessary and safe support to the process operation, hence understanding the basic operation principle of utility plant are fundamentals to process operation.

This course has been designed to provide training on essential components Basic Utility plant including instrument air system, fuel gas system, chemical injection system fire water system etc.

This course includes to cover principle and operation of various utility plant operational trouble issues and how safe over come to maintain a well-established operation and targeted production targets.

TRAINING OBJECTIVES

- Routine and emergency operation of generators
- Routine and emergency operation of fire water pumps
- Emergency operation of spillover
- Monitor of dosage rates
- Learn theory of operation of the following systems:
- Plant air, instrument air and humidryers
- Fuel gas
- Chemical injection/chemical transfer
- fire water
- Principle of chemical injection

- Booster station utilities and power generating systems
- Basic alarm management
- Firefighting systems
- Fuel gas systems
- Flares
- Examples and exercises

TRAINING AUDIENCE

Operators II & Operators I. The program is ideal for supervisory and middle management level personnel who operating and /or supervising oil & gas production and plant utilities facilities. This course is suitable for Operating personal from refineries, gas plant and LNG operation whose responsibilities include safe and efficient operation practices in in oil and gas operation.

TRAINING OUTLINE

Day 1

Instrument air system

Introduction, definition, various equipments used in Instrument air plant, Air Dryer – construction and design, operations and maintenance, start up and shut down.

Humidification – definition, Air dew point.

Instrument air compressor – construction and design, operation and maintenance, start up and shut down, control system, loader and un-loader system. Instrument air supply and distribution.

Operational and maintenance problems in Instrument air distribution, control system, safe guard, Emergency shut down.

Inert Gas generation –Definition, various types of inert generation plant, PSA system, combustion method, design and construction, operation and maintenance.

Day 2

Chemical Injection system – Various chemicals using in oil and gas operation, MSDS, chemicals hazards, injection pumps, injection rate. How to calculate chemical injection rate, Monitor of dosage rates,

Fire water Pumps – definition, fire water pumping system, emergencies, electrical driven pumps, diesel driven pumps, jokey pumps. Fire water chemical treatment, fire hydrant, routine maintenance and monitoring the performance. Fire fighting systems, Routine and emergency operation of fire water pumps.

Day 3

Flares - Overview of flare relief and blow down system

Requirement of relief system, Pressure vessels & pressure ratings, Pipe specifications, Flare relief devices, Upstream and downstream piping and valves. Sloping of flare headers, Flare knock out drums. Heat radiation from flare- safe manning envelope, Safety philosophy-applied to flare relief and blow down, Zero flaring concept & Emergencies.

Types of Flares

Ground and Elevated flares – Construction and Operation, Combination to form an integrated disposal system, Staging to achieve back pressure control,

Function of a Flare System

Equipment and vessel relief valves and the need for a disposal system, What do we want from our disposal system?

Components of a Flare System

Collection main, liquid knockout, Seal Pot, back pressure control and disposal.

Day 4

Fuel Gas System – definition, fuel gas source, fuel gas scrubber, construction design, operation and maintenance, start up and shut down, control system – fuel gas pressure and condensate level control, safe guard system. Fuel gas distribution.

Power Generation – Gas turbine, design and construction, operation and maintenance, start up and shut down, control system, safe guard system.

Day 5

Emergency handling – Emergency action plan, duties of operators in an emergency, Process safety management systems, Hazardous chemicals management, spillage of chemicals, actions on chemical spillage, Fire and emergency training.

Case Histories – Flexiboro and Bhopal disasters, reasons.

Various case studies, practical examples, P&ID reviews.

TRAINING OUT COME

Up on finishing the course candidates are able to through knowledge of the working principle of Plant utility systems including design and construction, operation and maintenance, start up shut down, trouble shooting and optimization techniques.

TRAINING CERTIFICATE

MAESTRO CONSULTANTS Certificate of Completion for delegates who attend and complete the training course.

METHODOLOGY

Our courses are highly interactive, typically taking a case study approach that we have found to be an effective method of fostering discussions and transferring knowledge. Participants will learn by active participation during the program through the use of individual exercises, questionnaires, team exercises, training videos and discussions of “real life” issues in their organizations.

The material has been designed to enable delegates to apply all of the material with immediate effect back in the workplace.