

**TRAINING TITLE**

**REFINERY SHUTDOWN AND TURNAROUND**

**TRAINING DURATION**

5 days

**TRAINING VENUE AND DATES**

REF RT014	Refinery Shutdown & Turnaround	5 days	14-18 April 2025	\$6,000	Singapore
--------------	-----------------------------------	--------	------------------	---------	-----------

In any of the 4 or 5-star hotels. The exact venue will be informed later.

**Training Fees**

\$6,000 per participant includes Training Materials/Handouts, Tea/Coffee breaks, Refreshments, and Lunch.

**Training Certificate**

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

**TRAINING INTRODUCTION**

Refineries extreme safety and continuous operation construction requirements demand properly designed and executed shutdowns together with increase in efficiency with the use of latest technologies place massive importance on properly designed and executed shutdown and turnaround.

This Refinery Shutdown and Turnaround introduces the methodologies to plan execute major overhaul and upgrading in the most efficient and cost effective way of the high complex refinery structure.

This Refinery Shutdown and Turnaround training seminar emphasizes the optimization of the shutdown work structure so assets remain reliable and efficient with minimization of the required shutdowns throughout the life cycle of the Refinery.

**TRAINING OBJECTIVE**

**Upon the successful completion of this course, participants will be able to:-**

- Understand the Failure mechanisms of Refinery applying API 571
- Size the necessary work for Assets life maximization using API 579
- Apply the correct type of turnaround for each asset
- Schedule work activities
- Control time, budget and scope during shutdown
- Assess performance of Turnaround

DMCT/OL/9/18(Rev3Dt:23/9/18)

## **TRAINING METHODOLOGY:**

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions, and motivate everybody find the right answers. 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.

All presentations are made in excellent colourful power point. Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

## **WHO SHOULD ATTEND?**

It is highly recommended that Refinery maintenance, reliability, engineering and technical support staff including leadership and management to attend this training. Also, including:

- Planners
- Supervisors
- Engineers
- Reliability Engineers
- Maintenance Team Leaders and Managers
- Operations Team Leaders and Managers

## **COURSE OUTLINE**

### **DAY 1**

#### **Refinery Shutdown Types and Asset Pairing**

- Definitions of Shutdown and Turnaround
- Material Failure and Degradation in Refinery using API 579
- Refinery Structure and Units Sensitivity to Failure
- Failure Rate Mathematics the Basis of Reliability Center Maintenance
- Shutdown and the Life Cycle of Refineries

### **DAY 2**

#### **Shutdown and Turnaround Planning**

- Refinery Work Order System (WO) Input for Planning

*DMCT/OL/9/18(Rev3Dt:23/9/18)*

- Size of Work using API 579 and Create Work Breakdown Structure (WBS)
- Creating the Most Appropriate Organization Structure to Run the Shutdown
- Spare Parts and Materials required for the Shutdown
- Personnel Internal or Subcontractors required for Shutdown

**DAY 3**

**Organizing the Shutdown Time Sequencing**

- Work Sequencing Optimization
- Material – Personnel - Contractors Constraints
- Fitting the Optimum Number of Shutdowns in the Life Cycle of Plants
- Utilization of Timing Techniques (CPM-PERT)

**DAY 4**

**Control of Shutdown Time, Costs and Work Quality**

- Gantt Charts for Keeping in Time
- S - curve Usage for Budget Monitoring
- Financial Reserves for Uncertainties
- ISO/API Standards for Work Handover

**DAY 5**

**Shutdown Performance Analysis and Turnaround Efficiency Measurement**

- Asset Turnaround Performance Indicators
- Shutdown Workload Performance Indicators
- Shutdown Planning Performance Indicators
- Turnaround Effectiveness and Cost Performance Indicators
- Shutdown and Turnaround Data Archiving and Future Recommendations

**NOTE:**

- Pre & Post Tests will be conducted
- Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.

.....

DMCT/OL/9/18(Rev3Dt:23/9/18)