Shutdown and Turnaround Management

Course general description:

Planning and managing shutdowns, turnarounds and outages in the process plant environment is a complex and demanding function. Because of the high combined costs and potential impact (both positive and negative) on the business, shutdowns can have intense top management attention. Because of the cost, impact, and attention, these events are more intensively managed than other large maintenance jobs. This aspect has both good and bad (from a shutdown management perspective) results. On the good side, resources are usually easier to come by. On the negative side, we can see excessive top management meddling. Like military actions, professionals should run shutdowns. If turnarounds are not properly planned, managed and controlled, companies run the risk of serious budget overruns, costly schedule delays and negative impacts on customers. This program, includes the core planning technique and cost control applied to the shutdown and turnaround environment and introduces participants to the full range of best practices techniques and knowledge.

Audience:

This course is designed for:

1. Operations and maintenance engineers
2. Maintenance Managers
3. Engineers, supervisors and qualified senior technicians
4. Planning managers, engineers, planners and qualified assistance planners
5. Production managers, engineers, supervisors and qualified senior operators

Course objectives:

The program's principal objectives are:

- The management of overall shutdown phases.
- How to develop the scope of work and Planning Techniques.
- Case Study of oil /gas shutdown plan.
- How to prepare work package for each individual job.
- Effective workforce management and organization.
- Shutdown production operation.
- Costs & Contractors optimum control.
- Management the execution in the face of reality.
- HSE Management System and Manage risks.
- Measurement and reporting the progress
- Reporting the completion /completion /close
- Preparation for startup

Course duration:

5 days

Course location:

Cairo-Dubai-Istanbul

Course contents:

Day-1

✓ Input to shutdown

- Definitions
- Basics of Shutdowns, Turnarounds, and Outages
- Different between Shutdown, Turnarounds and outages

- Size of the Shutdown
- Different between Project and Turnaround
- Turnaround/Shutdown Communications
- Turnaround/Shutdown Phases
- How to justify the Turnaround / Shutdown
- Turnaround/Shutdown Organization
- Master Schedule for Phase 1 Initiation

✓ Shutdown/Turnaround Planning
- Typical Story of maintenance planning (Case Study)
- Definitions and Reasons for a Planning

Day-2

✓ Shutdown/Turnaround Planning…continue
- CMMS as a tool
- Scope of Work: How to Find and Pick the Jobs
  . Sources of shutdown work
  . Formalize the walk down tour
  . Prioritize other work for the shutdown
  . Position yourself for the future
- Work Validation and preparation for planning
- Validation Process
- Packaging
- Individual Job Planning
- Case Study for scope of work preparation

✓ Planning Techniques
- Project Management
- Key concepts for all PM techniques
- Planning, monitoring and control
- Internal Progress meetings
- Projects Boundaries
- Critical Path Method (CPM)
- Resources
- PERT and newer methods
- PM (Project Management) Software

Day-3

✓ Understand Hazards & Risks
✓ Manage Risks
✓ Causes of Equipment Failure
✓ Master Schedule for phase 2 planning
✓ Shutdown Essentials
- Contractors:
  . Contracts & Outsourcing Strategy & Contractor Management
  . How to integrate external organizations
- Budgets & Costs control
- Logistics
  . Spare parts Management
  . Organization for the parts, materials and supplies

- ✓ Case Study - Oil/Gas Shutdown Plan using MS-Project Software
- ✓ Shutdown Execution & production operation
  - Execution (How to manage in the face of reality)
  - Production Shutdown /Turnaround Planning
  - Shutdown/Turnaround operation and safety procedures
  - Equipment or section isolation
    . Type of Isolations
    . Isolation reporting
    . Mechanical Isolation Detailed Sheet
    . Major Isolations
    . Electrical Isolations
    . Safety Lock-off Systems
    . Case Study

Day-4

- ✓ Shutdown Execution & production operation…..continue
  - Particular consideration when pressurizing and depressurizing vessels
  - Master Schedule for Phase 3 Execution
  - KPI's
  - Follow up inspection reports & modification
  - Progress reports
- ✓ Completion Phase
  - Completion
  - Reporting
  - Close Out

Day-5

- ✓ Master Schedule for Phase 4 and Phase 5
- ✓ Start-up
  - Potential problems during the start-up operation
  - Staffing and Equipment/Materials required for plant startup
  - General Start-up preparation
  - Start-up Planning
  - Machinery Start-up operation
  - Static Equipment Start-up operation
  - Utility Start-up operation
  - Process Start-up operation

Methodology:

- 50% lectures & concepts
- 10% Videos
- 10% Case studies
- 10% Exercises
- 10% Discussions
- 10% Software (if applicable or examples)

Course code: (TEME019)