



## COMMISSION PETRO-CHEMICAL PLANTS WITH EXCELLENCE “DELIVERING ON THE PROMISE”

**YOU CAN PLAN FOR COMMISSIONING EXCELLENCE AND EFFECTIVE START UP OF COMPLEX CONTINUOUS PROCESS OPERATIONS!**

### **On-Site Training Opportunities**

*Put TMEII's expertise in maintenance and reliability training to work in your organization*

*TMEII is a results-oriented resource and provider of maintenance and reliability initiatives. You can benefit from our experience of presenting hundreds of on-site training and consulting sessions for large and small companies world-wide.*

Contact Pete Peters at 919-270-1173 or [Pete@PRIDE-in-Maintenance.com](mailto:Pete@PRIDE-in-Maintenance.com) for more information!



### **100% Guarantee**

*A complete refund is provided if you cannot achieve a 10 to 1 return on investment from this training.*

*Ralph W. Peters*  
**President, TMEII**

### **Your Learning Outcomes; Not Training, but Rather Your Professional Development**

#### **Participants will:**

- Advocate a thorough before planning evaluation of lessons learned in other commissionings.
- Know that commissioning includes mechanical completion, equipment verification, systems validation, production operations, start-up, and continuing production.
- Understand what needs planning at the strategic, tactical, operational, & task/tools for each phase of commissioning.
- Examine commissioning resources and their management to ensure quality and quantity of each: people, supervision, tools, materials, project equipment, information, time, and money.
- Mechanical completion, equipment verification, and systems validation requires detailed planning and careful execution. Inspect, verify and account for incredible amounts of information and documentation.
- Emphasize how all three of these phases will occur simultaneously.
- Operators and mechanics participate in all three phases to verify, validate, and ensure quality of equipment and systems.
- Operators and production supervision are the keys to start-up. The commissioning team must be relentless in providing the best training, reference materials, and start-up plans to make start-up flawless.
- Mechanics and maintenance supervision must integrate with production preparing, lubricating, watching, helping, and adjusting, during start-up.
- Develop progress and quality controls to assure flawless production.
- Document and control: 15 or more items for each of 3000 or more mechanical items; 250 or more items for each of 50 or more systems; 1500 items or more for one start-up unit.

#### **TMEII CONTACTS:**

Pete at 919-270-1173 ([Pete@PRIDE-in-Maintenance.com](mailto:Pete@PRIDE-in-Maintenance.com)) or Anne at 919-896-5368 ([Anne@PRIDE-in-Maintenance.com](mailto:Anne@PRIDE-in-Maintenance.com)) to coordinate a custom in-house session.

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## “DELIVERING ON THE PROMISE”

Successful commissioning of new plants or major start-up new units, equipment and systems requires planning, organizing and controlling. There must be careful methodical, detailed planning – early – is the key to the success of any commissioning. Proper planning defines many important tasks defining scope, approach, goals, organization, control plans, schedule, methods, safety, quality, equipment, crews, information flows, threats, and opportunities. Successful planning for commissioning is done in a variety of forums: meetings, visits, presentations, negotiations, alone or with others. Planning also takes many forms: study, prefabrication, scheduling, instruction, discussion, walk through, and simulated operation.

### Who Should Attend:

- Any staff member involved in commissioning and major shutdown activities
- Plant Maintenance Staff, Plant Leaders, Supervisors, Superintendents,
- Maintenance Planning Staff and Managers
- Project Engineers and Project Managers
- Other Engineering Professionals
- Plant Managers, Shutdown Managers and Coordinators
- Cost and Quality Control Staff
- Construction Superintendents
- Procurement and Site Warehouse Management Staff
- Contractor Staff in above positions for commissioning and major shutdowns
- Project team members in: manufacturing and process industries
- Also research and development, utilities, local authorities



The ACE Team  
Certification for  
Estimating is  
Available from  
TMEII

### ALSO

**NOTE #1:** Project management knowledge will be an advantage to participants

**NOTE #2:** Attendees will be asked to bring any as much info as possible about past projects or most importantly bring information about current or a future project for use during the class project.

### Why Training for Maintenance Excellence

- We will give you the firepower and knowledge needed to reinforce your current maintenance needs to the Top Leaders in your organization. We will help you be “the maintenance messenger” to get action from Top Leaders.
- We can personally help you make a difference in the total operations success of your organization after you attend this event! Top Leaders must clearly understand your needs and the consequences of gambling with maintenance costs.
- Successful implementation of today’s best practices requires changes in philosophies, attitudes and the application of technical knowledge.
- Our Training for Maintenance Excellence Service is a very essential element of our approach to providing both [Maintenance Excellence Services](#) and [Operational Services](#). We recognize the importance of maintenance during the pursuit of world-class status.
- The [Training for Maintenance Excellence](#) suite of offerings focuses on creating awareness and the internal understanding that maintenance must be managed and led with a profit & customer-centered approach.
- Training from TMEII can provide a measurable return on investment to justify your training dollars.

**If results from this TrueWorkShop™ do not provide at least a 10-to-1 Return-on-Investment, to cover your time and training costs, you will receive a complete refund.**

*Ralph W. Peters*  
Founder-President-Coach for TMEII

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## Some Important Things You Will Learn to Apply Within Your Organization:

### How Planning Completes Commissioning on Paper?

As a commissioning team, people learn the thought, the logic, and approach that led to the plan. “Planning has a six-to-one payoff in execution” – for every one hour we spend in planning, we save six hours in execution. The speed of work increases – quality of work improves – planned execution is a fraction of unplanned. To repeat – the quality of the work improves – deliver new product with record setting stakeholder approval.

**Increase the Probability of Excellence:** The greater the number of people who understand the plan; the higher the probability of excellence. We emphasize learning to plan the right things, the right way, at the right time. We also stress being the best we can possibly be – the higher the expectation, the greater the success.

**Plan to Manage and Communicate on the Political Side:** Informed stakeholders are happy. Invest in Communicating, Coordinating, Cooperating, and in Celebrating. Meet the challenge of keeping operators, mechanics, contractors, consultants, engineers, supervisors, and service people all focused on producing the finest Commissioning possible.

**Expect Real Challenges:** Mistakes, misinterpretations, overlooked items abound. You will learn to see challenges as they are budding and have alternatives defined before being confronted by fully-grown trouble. And you will understand how to manage risk and results and to lead vision and values. Making safety both the first thing and last thing planned – zero accidents is the only standard.

**This TrueWorkShop™:** Provides an approach to plan the plan, plan mechanical completion, plan and prepare for production, plan equipment verification, plan system validation, plan production start-up and to plan for long term reliability and maintenance excellence. The team of planners and doers accomplish this crucial preparation for success. You will learn to plan the right thing correctly at the right time.

**Life-Cycle Reliability & Maintenance Excellence:** Never before has reliability and maintenance processes been so important. Consideration starts with pre-design and continues through construction, commissioning and beyond during the operation of complex petro-chemical processes. This is one of only a few courses of this type that includes consideration and development of a maintenance strategy for major project systems and sub systems.

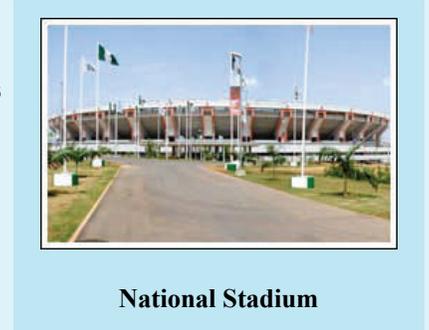
### What is a TrueWorkShop™?

The Maintenance Excellence Institute believes principles and practices covered in this training can be taken back and put into practices for a true return on investment. A TrueWorkShop™ requires active participation and work. There is pre-course work and extensive practical exercises on key topics, extensive idea sharing and instructor’s case studies from over 300 plant and facility sites. We also provide each attendee with today’s most comprehensive benchmarking tool; The Scoreboard for Maintenance Excellence to complete prior to start date. Your final task will be developing a plan of action for applying back within your organization.

### Take An Important First Step:

This training process, like Pete’s book is for the public & private sector. It applies to commissioning of petro-chemical plants and application to large facilities like [The Burj Tower in Dubai](#) as well as hospitals.

It will help provide you the important steps toward improving commissioning complex facilities, establishing the maintenance process and the long business of profitable operations & reliable maintenance of your new operation.



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## “DELIVERING ON THE PROMISE”

### TrueWorkShop™ Agenda

On-site TrueWorkShops™ are customized to meet your specific goals and objectives. Below is a sample outline which can be modified as needed to ensure the results you are looking for.

#### Day One:

- **The First Step –**
  - Lessons Learned from other Commissioning projects – The six keys questions
- **Strategic Planning**
  - Purpose; Mission; Goals
  - Measures of Success
- **Commissioning Phases**
  - Plan to Plan
  - Schedule Mechanical Completion
  - Plan Equipment Verification
  - Plan Systems Validation
  - Plan Production Operations
  - Plan Start-Up & Continuing Production
- **Planning Process for:**
  - Strategic, Tactical,
  - Operational Task/Tool for Commissioning and Each Phase
- **Commissioning Staffing & Forging the Commissioning Organization**
- **Safety Management**
  - Plan; Process; Control
- **Document Management**
  - Plan; Process; Control
- **Issue Management**
  - Plan; Process; Control
- **Problem Resolution**
  - Plan; Process; Control
- **Decision Management and Problem Escalation**
- **Risk Management**
  - Identify, assess
  - Cause, resolve
  - Control, Monitor per criticality/probability
- **Contingency and Reserves**
  - Time; Cost; Effort

#### Day Two:

- **Tactical – Plan the Commissioning Project Management**
  - Safety Management – Zero Accidents is the only standard
    - Vessel Entry
    - Burn Permits
    - Medical Support
  - Policy – how to move from one phase to the next on a system by system, unit by unit basis.
  - Sequence and Priority of Start-up
  - Political Plan
  - Logistics

#### Day Two (cont'd):

- Meetings
- Progress Controls – Schedules
- Document Control
  - Punch List Control
  - What does Ready mean?
- Quality Controls
- Risk Control
- Communication
- Problem Escalation
- Safety Control
- **Plan Production – Continuing Operations**
  - Resources – people, supervision, materials, time, money
  - Operator and Mechanic Training
    - Production Simulation

#### Day Three:

- **Operational – Plan Each Phase – Plan, Organize, Staff, Direct, Control**
  - Equipment Verification and Design Compliance (to include electrical, instrumentation, and control systems)
    - Document and control: 15 or more items for each of 3000 or more mechanical items
  - Systems Validation
    - 250 or more items for each of 50 or more systems
  - Start-Up
    - 1500 items or more for one start-up unit
  - Continuing Production
- **Resource Validation – Duration, Labor Hours, Cost, Materials, Equipment, Crews**
- **Plan and Schedule Review – Time, Territory, Technology**

#### Day Four:

- **Task/Tools for Equipment Verification**
  - Drawings and Specifications (what was intended?)
  - Piping and Instrumentation Drawings (what was intended?)
  - Purchase Orders (what was bought?)
  - Inspection (what is installed?)
  - Operating Instructions
  - Operating Parameters
  - Calibration
  - Operating Spares

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## Day Four (cont'd):

- Drawings and Specifications (what was intended?)
- Piping and Instrumentation Drawings (what was intended?)
- Purchase Orders (what was bought?)
- Inspection (what is installed?)
- Operating Instructions
- Operating Parameters
- Calibration
- Operating Spares
- Maintenance Procedures
- Preventive Maintenance
- Predictive Maintenance and Continuous Monitoring of Processes, Energy Management, etc
- Repair Spares and MRO materials
- Warranty
- Test for Operation
- Protect for Systems Validation
  - Secure for Start-up
- **To Be Verified**
  - Types of Possible Equipment and Motors
  - Types of Vessels, Controls, and Instruments
  - Piping and Supports
  - Utilities (water, sewer)
  - Power (electrical, steam)
- **Verification Schedule**
- **Documents and Document Control for Verification**
- **Task/Tools for System Validation**
  - Instruments
  - Production Control Systems
- **Systems to be Validated**
  - Systems List
  - Plan for Each System
- **Documents and Document Control for Validation**

## Day Five:

- **Task/Tools for Start-up**
  - Start-up Units
  - Start-up Plan for each unit
    - Zero Energy
    - Blinds – protective and zero energy
- **Start-up Control**
- **Document and Document Control for Start-up**
- **Plan and Present Complete Commissioning Plan** (with estimates and controls) **for Upcoming Project**
- **Presentation of Certificate**

## **Team Work and The ACE Team Process:**

The Maintenance Excellence Institute International agree teams are important for “delivering the promise” on petro-chemical plant commissioning. Team training on the topic is our standard process for complex topics we will cover. Likewise, teamwork during this 5-day session will be an important learning tool. Professional contacts made will last long after TrueWorkShop completion. And further study on related topics will always be necessary. One such topic is summarized below. **Certification on The ACE Team Process** for estimating maintenance type work is available exclusively from TMEII.

## **Benefits and Value**

**We personally guarantee this TrueWorkShop™!** We will help bring you the firepower and knowledge you need to reinforce your operations and maintenance needs to Top Leaders before and after commissioning!

We can personally help you make a difference in the total operations success and commissioning excellence of your organization by attending this event! Top Leaders must clearly understand your commissioning needs and the consequences of gambling with maintenance costs after commissioning.

## **Training is Not Over When it's Over!**

Your company will benefit most if you attend with a 3 or 4 person company team which will work together. You return to your organization with the new knowledge and team support for PM and PdM along with your new plans for reliability and maintenance excellence. We invite your Top Leaders, Maintenance Leaders and Craft Leaders to attend as a team. The workshop “**is definitely not over when it's over.**” **Yogi Berra once said, “It ain't over until it's over!”**



Your session is **definitely not over when it's over!** Following completion of this **TrueWorkShop™** a personalized follow-up will be scheduled for each attending organization. Our one-on-one coaching is to help you apply the key topics and to implement your plan of action. Implementation is your key to results and we want to help you make that happen!

## **Even in Good Economic Times**

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## About The ACE Team Process Certification

**Certification for The ACE Team Process for Estimating:** This is an exclusive, TMEII stand alone **TrueWorkShop™** for planner certification. **ACE** is an acronym for “**A** Consensus of **E**xperts”; experts who know and have performed maintenance work. It includes the complete process ranging from selecting and analyzing benchmark jobs for actual wrench time for job tasks, developing “spreadsheets” up to the development of the planned wrench time. All leads to a schedule with reliable planning times which includes planned travel and other miscellaneous time not considered wrench time. The process trains the planner and ACE Team members to analyze job tasks (that also become standard job plans) in terms of repair method, safety, quality and reliability issues.

This exclusive certification is available only from TMEII. And this **TrueWorkShop™** is specifically designed for planners and is available in several delivery options:

- As a supplement to our 3 day or 5 day planning, estimating and scheduling offerings.
- As a two day session public session with pre-course and post course work.
- As a self-paced, self-study, TMEII facilitator led and directed **TrueWorkShop™** requiring no travel.

**Note:** This training support for planners is included at no charge as part of The Scoreboard for Maintenance Excellence assessment for the client’s existing or new planners.

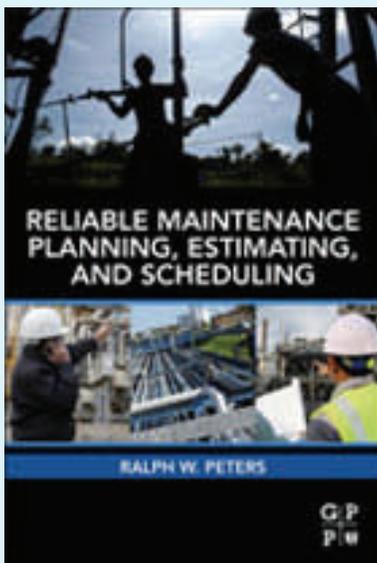
## Understanding the Value of Maintenance

Regardless of the type of operation, Top Leaders must understand the “true value of maintenance.” Maintenance Leaders must develop and nurture an organizational culture that clearly supports long-term continuous maintenance improvement.

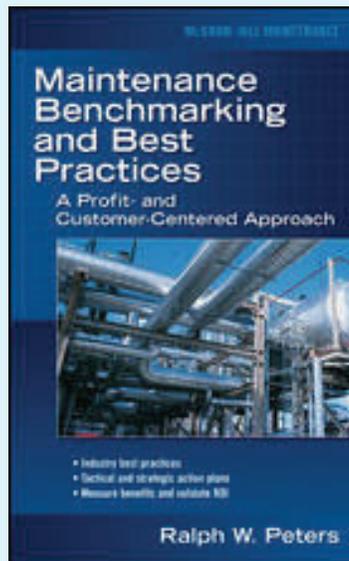
**Training for Maintenance Excellence** supports our belief in the basics and building upon basic best practices as the foundation for advanced maintenance practices that achieve reliability and maintenance excellence.

## Extensive Knowledge base of References to Take Home:

This workshop is based on Pete’s two books:



*Reliable Maintenance Planning, Estimating and Scheduling*



*Maintenance Benchmarking and Best Practices*

TMEII provides more electronic references for all TrueWorkShops™ than any other series of courses now being offered from around the world.

Each attendee will receive e-book copies of these two major books plus many, many more valuable topic references on CD. The electronic versions are included to allow easy application and duplication of all course materials. Attendees receive all PowerPoint’s used and “one of the largest Maintenance, Reliability and MRO Materials Management Glossary” currently available.

TMEII believes in providing each attendee an extensive knowledge base to support professional development well beyond actual class time.

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### Your Instructor and Coaching Team



**Ralph W. (Pete) Peters** the Founder/President of The Maintenance Excellence Institute International is your primary instructor. His experience of over 40 years has included being a manufacturing plant manager at two sites; director of facilities management. He has had extensive maintenance experience within the US Army beginning in Vietnam (1970) and with the US Army Corps of Engineers building what is now called, the National Highway. He consults and provides maintenance best practice training in over 30 countries, written maintenance chapters in four books as well as a book on *Maximizing the Value of Your CMMS*. In 2006, he wrote and published *Maintenance Benchmarking & Best Practices* for McGraw-Hill's professional book division. In 2015 he completed *Reliable Maintenance Planning, Estimating and Scheduling* for Elsevier's Gulf Publishing Division. Pete's positive approach and his experience from consulting, allows him to be an excellent coach for today's top leaders, maintenance leaders and craft leaders. His worldwide **PRIDE-in-Maintenance** initiative will be highlighted in his next book with key topics from this universal book included in all of his worldwide **TrueWorkShops™**.



**Lee Alan Peters, P.E. F. ASCE** has been a principal with *ProjectLEADER Inc.* for over thirty years and is a valued Alliance Team Member of TMEI since 2001. He has three decades of experience in project management, process improvement, and systems development. Clients' best know him for welding people, technical processes and management systems together into high performance projects. Lee consults in strategy, quality, performance, risk, and leadership. He delivers experienced change methodologies to create beneficial growth and development. He works on projects B capital, shutdowns, maintenance, research, events. Since 1972, he has had experience with capital projects in eight chemical process facilities; maintenance management in fifteen chemical plants; and research or product development with four corporations. Lee has authored more than sixty articles published in *TAPPI Journal, American Papermaker, Cost Engineering, Chemical Engineering, Construction Digest, Journal of Management in Engineering* and *pmNETwork*. He also conducts seminars and workshops and is a speaker at professional conferences and symposiums. Lee Peters is a fellow of the American Society of Civil Engineers and Project Management Institute. He is also an arbitrator/mediator for the American Arbitration Association and a Partnering facilitator. Lee has a bachelor's degree from Rose Hulman and master's degrees in both Management and Civil Engineering from Purdue University. He is also an honor graduate of the U.S. Army Command and General Staff College and is a Vietnam veteran.

**Note:** Lee & Pete are not related, but they served together in Vietnam in 1970 building roads for the US Army Corps of Engineers. Lee was Pete's engineer company commander and direct leader at that time. They reconnected around 1988 and since then they have remained friends and business associates.



**Thomas Stuenkel** brings outstanding knowledge to support our *Effective Shutdown, Turnaround, Outage Management* (STO) session with over 20 years of work experience in different fields of plant engineering; in commissioning and start-up of water treatment plants (industrial and municipal waste water & drinking water), polypropylene plants, propane dehydrogenation plants, solar-grade silicon production facilities; in document management; in material management and in project management and he has extensive knowledge of different control systems. As an Alliance Team Member, Thomas provides you with an excellent commissioning & start-up training, at the place of your choice, worldwide. His business as The Commissioning Coach brings great practical experience to this new course for TMEI.



**Brahim Toubi** brings 37 years of experience in the oil and gas industry in Algeria and others countries, working for major international companies such as SONATRACH (Algeria), TOTAL, REPSOL, and for Dietsmann for Ocelot Energy. He has managed and led large oil and gas plants with good communication and persuasion skills including an LPG operation in Algeria with multi-ethnic employees (company & contractors) from various nationalities. His Operations leadership roles include serving as overall site leader; Production Superintendent; HSE Advisor; well testing; rigless operations; construction/project supervisor; commissioning and start-up of production facilities. In addition to having a very successful logistics and procurement experience, he has had excellent performance in public and administration relationships and organizing Production Training Courses. He managed the GTFT plant/facilities (Algerian Association: Sonatrach /Total & Repsol) with a high level production of Natural Gas, LPG and Condensate with important Gas production wells and an array of pipelines. He led the HSE MS implementation and development, was leader of Emergency Management System, and responsible for production targets. He served as a member of the corporate executive committee. Toubi's direct Logistics and Supply Chain Manager experience was for an LPG Plant providing preparation and follow-up of services contracts, procurement of spare parts and consumables, negotiation with suppliers, and managing all means for transportation. As a Hydrocarbons Production Engineer and HND, he graduated from the Algerian Petroleum Institute. He has also completed an extensive number of technical professional development courses in the USA, France, Japan, and Great Britain. He speaks three languages fluently; English, Arabic and French.

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