

Fundamentals

Wednesday, May 24 at 10:00 a.m.

Implementing a Planning and Scheduling Work Process

W. G. 'Buddy' Jacks, President, Industrial Planning Consultants

This paper provides a view of a world class planning and scheduling work process; it defines the roles and responsibilities while providing value and strategies for successful implementation.

Wednesday, May 24 at 1:15 p.m.

Fundamentals of Metallurgy and Corrosion

Erin Jolly, Materials Engineer, Chevron Energy Technology Company

Why is some of the equipment in your plant made from stainless steel? Why do low alloy steels always need to be post weld heat treated? These questions and more will be answered during this session as we discuss the fundamentals of metallurgy and the basics of common corrosion mechanisms.

Wednesday, May 24 at 2:45 p.m.

Inspecting the Inspectors – Facilities' Inspection Program

Robert Smallwood, Principal Consultant, Det Norske Veritas (USA)

Abie Mathew, Senior Consultant, Det Norske Veritas (USA)

Due to various influences and pressures, plant inspection programs have evolved into the organizations that we know today. This evolution has resulted in numerous inspection organizations unable to effectively assess the condition of process equipment in a manner most useful to business units. Successful inspection organizations have a clear understanding of the equipment's minimum mechanical integrity and service requirements. Inspection consists of those techniques, procedures and management systems that can detect, measure and monitor the various equipment damage mechanisms that may occur and clearly characterize the present and future equipment serviceability to management. Inspection planning and execution is an evergreen process, which must be adjusted as conditions warrant. Effective proactive inspection programs excel in the subjects of equipment stewardship, communications, knowledge management, damage mechanism assessments, inspection and monitoring, record keeping, equipment evaluations and follow-up of corrective actions. Each of these inspection program concerns will be covered in more detail.

Thursday, May 25 at 10:00 a.m.

Pipe Leak Repair Techniques

Pat Kerns, Team Industrial Services

Thursday, May 25 at 1:15 p.m.

New Compressor Train Project

Charlie Rutan, Senior Engineering Advisor, Lyondell Chemical

This paper will discuss the positive and negative issues of a project to purchase and install a new compressor unit as it relates to reliability and maintenance of the new compressor train. Details concerning the initial project premise, design and specification, installation, start-up and spare parts will be discussed.

Thursday, May 25 at 2:45 p.m.

Understanding Weld Failures in Refinery Equipment

Paul G. Wittenbach, Chief Metallurgical and Welding Engineer, ConocoPhillips

Welding has been used to construct much of the equipment in refineries. This includes piping, pressure vessels, structures, instruments, pumps, valves, etc. Welding is so widely utilized and relied upon because weld properties (strength, ductility, corrosion resistance, etc.) usually function as well as the metals they join. However, welds, like other joining methods also represent anomalies in the fabricated components. Sometimes these anomalies initiate failures. This presentation will review causes for weld failures and discuss what precautions should be taken to prevent them.

New Technology

Thursday, May 25 at 2:45 p.m.

New Technology for Automatic Tank Gauging

Dr. Joe Hopenfeld, Chief Engineer, Noverflo, Inc.

David Fashimpaur, Environmental & Loss Control Specialist Hydrocarbon & Environmental Management Refining Technology, BP

A new low cost fiber optic based device for automatic tank gauging instruments called NMTG will be presented. This device measures densities, liquid levels and the depth of the bottom water in fuel tanks. Results from laboratory and field tests and various options for data acquisition including a newly patented PC camera-based system will be discussed.

Thursday, May 25 at 2:45 p.m.

Feature Assessment and Mapping-Conformable Eddy Current Array

Sean Laughlin, President & CEO, Clock Spring Company LP

Advances in Pipeline Assessment and Mapping – Conformable Eddy Current Array

Thursday, May 25 at 2:45 p.m.

Using Virtual Trial Fitting to Reduce Rework and Control Construction Cost and Schedules

William J. Crawford, Vice President and Manager of Business Development, Texas Gulf Coast Engineers

Texas Gulf Coast Engineers was asked to support UE-1 by utilizing TGCE's Advanced Integrated Measurement System (AIMS). AIMS technology ensures that the rework commonly encountered with a project of this size is minimized. AIMS utilizes an Images Measurement System and a Point Measurement System to provide dimensional information for the verification of system components. The image measurement system extracts dimensional information from digital images, while the point measurement system utilizes Total Station technology for dimensional capture. These systems provide dimensional data for the verification/correction of fabricated elements without modification in the field. The use of leave long field fits is also eliminated.

Operator-driven Reliability

Wednesday, May 24 at 10:00 a.m.

ODR at Rohm and Haas, Deer Park, TX

Tor Idhammar, Partner & Vice President, IDCON, Inc.

Andrew Morey, Plant Reliability Manager, Rohm and Haas

Operator-driven Reliability makes sense! A well-trained operator is the first line of defense in the fight to improve plant reliability. However, improving ODR is sometimes easier said than done as it involves many people from a wide range of backgrounds. Implementation of ODR requires good project planning, an approach for what to inspect, coordination of inspections with existing reliability programs, equipment knowledge training for operators, ODR management training for supervisors, software implementation and training, and much more.

Wednesday, May 24 at 2:45 p.m.

A New Vision for Root-cause Analysis

C. Robert Nelms, President, Failsafe Network, Inc.

The vision of Root-cause Analysis as a sophisticated tool used by an elitist group to tell someone else why something went wrong is archaic. RCA will become the endeavor that shows our personal role as things go wrong. As we continue to creep closer and closer to the "edge," it has become increasingly necessary that each person in an organization understand themselves and their role to a much greater degree.

Thursday, May 25 at 10:00 a.m.

Troubleshooting and the Operator

Mark Cooper, Principal Machinery Engineer, Lyondell Chemical Corporation

Troubleshooting of equipment involves evaluation of the process and mechanical condition of equipment to determine the probable cause for identified or suspected problems. This troubleshooting information is used by the operator to determine if the problem is equipment or process related and to develop the scope for work requests. This presentation will discuss a process which will give guidance in determining the suspected source of the problem and will aid the operator in determining if the problem is equipment or process related before any equipment is overhauled. The expected results are reduced overhauls on equipment, improved MTBF, increased operator knowledge, better notifications, and a way to capture the knowledge of plant "experts". Because this process is available at all times it can be used by the operator when the problem is discovered. If using this process reduces overhauls of equipment by only 5% (5 out of 100 uses) it can have a substantial impact on a maintenance budget.

Thursday, May 25 at 2:45 p.m.

Operator Ownership Leads to Improved Reliability by Condition Monitoring

Deepak Gupta, Principal Technology Specialist, Bayer Corporate & Business Services

Ralf Ochel, Reliability Manager, Bayer Material Science

Sanjay Joshi, Manager, Manufacturing Solutions, Bayer Corporate & Business Services

Uwe Klingler, Manager, Bayer AG

Operator ownership of equipment is a key factor to achieve success in today's competitive world. Increased on-stream time and reduced maintenance costs come via better reliability of assets. TDI-1 unit at Baytown was chosen as a pilot unit to test the concept of operator ownership and operator-driven reliability. Operators were engaged more with their unit equipment and assets by "knowing it first" about their equipment through condition monitoring. The digitized data collected by operators on basic vibrations and other outside readings was combined with existing process data on equipment that provided a comprehensive way to monitor equipment process reliability. Condition-based alarms and corresponding operator actions and tasks were defined. Benefits were documented. Process reliability condition monitoring provides a pro-active tool for operator ownership and an analysis tool for plant engineers and manufacturing experts.

Procurement: Contracting Strategies

Wednesday, May 24 at 10:00 a.m.

A Global Contracting Strategy for Improving Productivity and Cost Management

Ruediger Schmidt, Vice President, Technical Site Services Americas, Bayer MaterialScience LLC

Dr. Thomas Birsztejn, Vice President, Technology Services, Contractor Management, Bayer MaterialScience AG

Bob Harrell, President, Management Controls

Randy Corbett, Senior Consulting Manager, Management Controls, Inc

Time and Materials contracting is the dominant contract type used today in US refining and petrochemicals. Wrenchtime, the measure of productivity, averages 30% in US refining and chemicals operations. We believe there is a correlation.

Unit Price contracting is not for the faint of heart. With the right kind of tools and practices, Unit Price contracts deliver significant improvements in productivity and drive costs down. We'll show you what BayerMaterialScience is doing globally to achieve the best of both worlds.

Wednesday, May 24 at 2:45 p.m.

Maintenance Outsourcing: Performance-Based Contracting for "Total Spend" Savings

Paul D. Ring, Director, CH2M HILL - Lockwood Greene

Companies have used outsourcing to reduce their operations and maintenance cost and increase performance and reliability. The trend in contracting for outsourced maintenance is toward performance-based contracting, which is proving to be the best means for reducing "total-spend" and achieving continuous improvement. CH2M HILL - Lockwood Greene will discuss a case study with Coors Brewing Company in which outsourcing has proven very successful in reducing maintenance cost and improving performance measures.

Thursday, May 25 at 10:00 a.m.

The GPPMA: A Tool for Maintenance Efficiency

Daniel J. Statile, Maintenance Manager, Valero Refining Company

Jim Kehoe, Business Manager, VA Local 322

James J. White, President, JJ White Incorporated

Collaboration between owner, contractor, and building trades through an enabler such as the General President's Project Maintenance Agreement (GPPMA) has yielded efficiency improvements over traditional union boundaries and provided a platform for efficiencies over non-union resources. This discussion will highlight the overall intent of the GPPMA and some of the benefits that can be gained through its use. Specific examples of past practice and current practice at the Valero Paulsboro Refinery will be used to illustrate key points.

Reliability

Wednesday, May 24 at 10:00 a.m.

The High Cost of Cheap Paint

Eddie Borne, Technical Coatings Representative, Technical Coatings Services, Inc.

The goal of a protective coatings program should be to minimize the life cycle cost of a coating system. One of the most effective ways of minimizing the life cycle cost is to extend the life cycle by placing the major emphasis on material quality. Performance can be determined objectively by evaluating the results of a number of widely accepted industry/ASTM tests. Illustrative case histories are presented describing the successes which result from this approach. This is contrasted with failures which result when the specifications do not emphasize product quality and life cycle cost.

Wednesday, May 24 at 2:45 p.m.

Improving Plant Mechanical Integrity with Risk-based Inspection Analysis

Tony Poulassichidis, Senior Reliability Analyst, Dow Chemical

Using Risk-based Inspection (RBI) as a reliability engineering tool to set priorities for resource allocation can result in significant gains for a plant's fixed-equipment health. The workshop will present an Olefins plant's findings from the implementation of a RBI program.

Thursday, May 25 at 10:00 a.m.

RCM Benchmarking Survey Results

Terrence O'Hanlon, CMRP, Reliabilityweb.com

In January 2005, Reliabilityweb.com researched how over 200 companies use Reliability-Centered Maintenance (RCM). The results of this survey are detailed and a way forward to increase the chances of a successful RCM implementation are explained. Additionally, the new RCM Scorecard will be made available and explained.

Thursday, May 25 at 1:15 p.m.

Ninety-Nine "Diseases" of Pressure Equipment

John T. Reynolds, Senior Principal Consultant - retired, Shell Global Solutions

Mike Badeen, Reliability Leader, ConocoPhillips

Dave Bryan, Fixed Equipment Technologist, Marathon Petroleum

Mark Geisenhoff, Fixed Equipment Manager, Flint Hills Resources

The owner-users in this workshop will present a summary of several significant pressure equipment failures/incidents that occurred within their operating facilities, how they reacted to the incidents, and what corrective actions they took to prevent similar incidents.

Turnarounds

Wednesday, May 24 at 10:00 a.m.

Turnaround Scope Optimization Process

F. Walter Pinto, Manager, Stationary Equipment Engineering, Lyondell Chemical Company

Allen Valenta, Turnaround Manager, Lyondell Chemical Company

This presentation describes the turnaround scope optimization process used at Lyondell Chemical Company. During this presentation, the steps and workflow involved in optimizing the turnaround scope will be reviewed. A qualitative tool developed for prioritizing turnaround scope items will be presented. Examples of using this tool will be discussed. Also, success stories and lessons learned will be shared.

Wednesday, May 24 at 1:15 p.m.

Best Practices for Repair of Heat Exchanger Components During a Turnaround

William A. Schmidt Jr., President, WM. A. Schmidt & Sons. Inc.

Deric Masten, Valero Refining Company

In service, gasket faces, partition plates, and internal surfaces of heat exchanger parts erode, corrode, and fatigue requiring repair, usually during a turnaround. In order to meet the delivery measured in hours and days, we have developed a "best practices" repair system that streamlines resources needed, provides effective communication, and eliminates waste. The manufacturing steps involve: a proactive planning meeting, identifying appropriate contact and interface, arranging for efficient transportation, sharing proper documentation, methods of eliminating chlorides, mechanical repairs and machining, blasting & coating with the proper product, quality inspection and "Certificate of Compliance", and communicating with a spreadsheet identifying process steps and estimated times to complete. By using this method, we are able to share a case study involving a Valero refinery in New Jersey. Valero recently required repair of 150 heat exchanger components in eight days. It was the first time that they have relied entirely on one contractor for their entire turnaround work load.

Wednesday, May 24 at 2:45 p.m.

Successfully Forecasting Turnaround Cost and Schedule

Dean Edmundson, Director, Technology Alliances, Primavera Systems Inc

Kirk Blanchard, Project Administrator, Valero Energy

Valero Energy and Primavera Systems will discuss how organizations are successfully delivering turnarounds within budget and on schedule. Our discussion will focus on how leading refineries are integrating their financial systems, time & attendance and project planning solutions to capture real-time turnaround cost.

Thursday, May 25 at 8:00 a.m.

Turnaround Safety & Housekeeping Coordinator

Sean P. Reynolds, Turnaround Coordinator, Motiva Enterprises LLC

Terry P. Savole, Learning & Development Coordinator, Motiva Enterprises LLC

Believe it or not, housekeeping impacts all facets of your turnaround, from safety performance to the bottom line. It's all affected by how orderly you keep your turnaround. We will examine a different approach for effectively managing this important aspect of refinery turnarounds.

Workforce Strategies

Wednesday, May 24 at 10:00 a.m.

Predictive Reliability and Maintenance Management Information.

Rick P. O'Hara, Master Black Belt, The Dow Chemical Company

Michael R. Hernu, Project Manager, Solomon Associates

In the majority of plants, Reliability and Maintenance (RAM) reports provide only historical reliability and maintenance data, while other functional areas have progressed to using models to forecast future costs and margins. RAM reports could be using predictive models to anticipate costs and losses and to proactively focus sustainable performance improvement initiatives that optimize future spending. This reporting presents a more complete picture of overall future maintenance costs, based on statistical analysis of the historical data. The RAM analysis includes gap calculations in each area of cost and loss of production to determine performance gaps with industry leaders, and quantifying the benefit to be gained by closing the gap. Thus, efforts can be focused to increase benefit, and not merely to reduce expenses.

Wednesday, May 24 at 1:15 p.m.

How to Thrive in the Big Crew Change

Timothy Armstrong, Refining Discipline Manager, John M. Campbell & Co.

Perry Lovelace, Refining Discipline Manager, John M. Campbell & Co.

The "Big Crew Change" is no joke! To address this crisis, leading petroleum companies are using competency-based skill development programs. This paper will present some of the pitfalls to be avoided as NPRA members wrestle with the skills crisis.

Wednesday, May 24 at 2:45 p.m.

A Machinist Apprenticeship Strategy

Clarence Trowbridge, Technical Training Manager, BP Carson Business Unit

Barbara Trautlein, Ph.D., Consultant, ESW, Inc.

Linda Knox, Training Manager, BP Whiting Business Unit

Chuck Fear, Machinist Training Coordinator, BP Whiting Business Unit

Our panel of managers and union leaders will focus on the lessons learned from the development and implementation of a Machinist Apprenticeship Program and share what has gone well, and what has been a challenge. We will also discuss our use of a continuous improvement process as we move forward with the management of our apprenticeship programs.

Thursday, May 25 at 10:00 a.m.

Workforce Demographics

Don Whyte, President, National Center for Construction Education and Research (NCCER)

Steve Greene, Vice President, National Center for Construction Education and Research (NCCER)

Construction needs in the industrial sector in the next 25 years will increase significantly because "Residential and commercial development in the next quarter-century will eclipse anything seen in previous generations..." according to a Brookings Institute Report. Will we have the skilled workforce to meet our future needs? This workshop will discuss the current demographics of our workforce, reasons for the shortage of skilled craft professionals, the workforce crisis that is being magnified by the war in Iraq and the Gulf Coast hurricanes and the strategies and resources that are being employed to curb this crisis in the future.

Thursday, May 25 at 2:45 p.m.

A Retrospective Look at Implementing Change

Tom Henry, Mechanical Manager, TOTAL Petrochemicals, Inc.

Karen M. Wold, Project Manager, Reliability Management Company

Implementing Change is a necessary and routine exercise in today's workplace. Frequently, you find a forward-looking approach to change without much regard for lessons learned along the way. This paper will examine both the positive results of implementation of a Total Plant Reliability initiative, as well as problems encountered and what could have been done differently to achieve better results.

Plant Managers Panel

Friday, May 26 at 8:00 a.m.

Gordon Geoffroy, Maintenance Process Leader, Dow Chemical

John Gott, General Manager – Lake Charles Refinery, Conoco Phillips

Al Prebula, Vice President, CITGO

Jonathan Stuart, Regional Vice President & General Manager, Valero, San Antonio