Best Practices In Process Plant Management
Kuala Lumpur Convention Centre, MALAYSIA
21-22 June 2006

Pre-Conference Workshop
Process Integration:
Symantic Tools and Industrial Applications
Impiana KLCC Hotel & Spa, Kuala Lumpur, MALAYSIA
19-20 June 2006

Post Conference Workshop
Developing & Implementing a Comprehensive,
Cost-Effective Safety Programme
Impiana KLCC Hotel & Spa, Kuala Lumpur, MALAYSIA
23-24 June 2006

Organized by

In conjunction with
About Malaysia
Malaysia, a land full of fascinating sights and attractions, rich in colour and contrasts, is a tropical paradise. Its sun-drenched beaches, enchanting islands, diverse flora and fauna, beautiful national parks and magnificent mountains are among the best in this region. Many visitors have also discovered Malaysia’s other attractions such as shopping heavens, versatile conference venues, world-class highlands and seaside resorts and much more. Besides, the natural warmth of Malaysians is legendary; wherever one goes, the friendliness and hospitality of the multi-cultural society will remain and unforgettable experience.

CBPPPM’06 Introduction
Survival in a borderless business world driven by the enterprise of innovation demands so much more than a singular, well-defined strategy for success, no matter how accurate one’s corporate vision. Rather, it demands inability to challenge change by shaping a definitive shift towards the development of high-growth industries stimulating thereby, tangible gains in growth, productivity and profitability vital to commercial links worldwide. Thus this conference affords qualified professionals from the chemical and related industries and opportunity to gain the practical working knowledge requisite to effect the transfer, adaptation and integration of technologies intrinsic to process plant management, future-ready to further spur the surge of national advancement within a global framework.

3 Major Reasons For You To Attend
- Will discuss best practices implementation in detail and discover how your colleagues across the industry are using new strategies to capture value through increased efficiency.
- Provides the perfect opportunity for you to network and interact with industry peers facing the same challenges and issues as yourself.
- Have chosen selected speakers who will share their experience, in-depth knowledge and passion. Their unique hands-on approach that combine vision and well thought case studies will empower you to build and implement workable strategies for your company.

Objectives
- To engender the competencies key to successful management of complex plant operations through introduction to benchmark technologies.
- To generate an in-depth knowledge and understanding of the technical, financial and organizational factors critical to process plant management.
- To energise visionary, value-driven individuals able to sustain impetus for innovation by anticipating and capitalising upon the potential of new and emerging technologies.
- To reinforce regard and respect for environmental and safety concepts.

Who Should Attend
Plant Managers, Engineers, Scientists or Professionals who are involved in:
- policy making, planning or decision making
- the day-to-day operation of process plant
- the upgrading, expanding or retrofitting of existing process plant
- the design and development of new process plant
PAPER 01: EFFECTIVE EVALUATION AND MANAGEMENT OF RISKS IN PROCESSING PLANTS
Mr Stephen J Wallace, PE
President, Wallace Consulting Services, UNITED STATES OF AMERICA

Abstract
Serious accidents that result in loss of life, wellness, and capital continue to occur in processing plants throughout the world. The identification and effective management of risks is paramount in preventing serious incidents in these facilities. A comprehensive loss prevention program includes knowledge-based evaluations throughout design, operation, and maintenance. It also includes the development of innovative procedures and the effective training of the workforce. The author will share his extensive experience of these subjects, using lessons learned from international case studies and best practices. He will discuss various “traps” that continue to catch employers, and specific steps for ensuring the effectiveness of evaluations and safety and health training.

Profile
STEPHEN J. WALLACE, PE, CSP has several years of experience in the chemical and petrochemical industries working with a variety of process technologies. He has been an operations manager in the chemical industry where he oversaw production. As a manager of health and safety, he oversaw the development and implementation of comprehensive process safety programs, including emergency response. The facilities where he worked won numerous awards and were designated among the safest facilities in the US by the Occupational Safety and Health Administration. As a safety consultant, he has assisted numerous companies in developing comprehensive, cost-effective safety programs. He has conducted training for various organizations and has also audited several facilities in the US and abroad.

PAPER 02: MITIGATING THE CHALLENGES IN THE INTEGRATION OF NEWLY BUILT PLANT
Mr Abdullah Hassan
Head, Hydrotreating Reforming Group, PETRONAS PENAPISAN (MELAKA) SDN BHD, Melaka, MALAYSIA

Abstract
Designing a new plant is in itself an enormous task, but ensuring a smooth and efficient integration with existing plant facilities will guarantee the successful implementation of project. Sharing common facilities with an existing plant requires special attention on the design, planning and management of the installation of the interfaces between the plants. Besides the sharing of feedstock and some product storage tanks, other disposal, firewater, central fire alarm systems, electric power distribution system, and other facilities are required to be adequately addressed.
Completion of the project on schedule and within budget, trouble-free start-up, and sustained efficient and reliable operation of the new plant will depend very much of the timely and proper design, planning and management of the installation of the required interfaces.
Profile
ABDULLAH HASSAN had been involved in the oil refining business for the past 15 years. A graduate from University of Louisiana, Lafayette, USA in Chemical Engineering in 1988, he joined PETRONAS Melaka Refinery as a Chemical Engineer during the early stage of the design of PETRONAS Second Refinery project. He had held several positions within the refinery from design till the current operating phase as Project Engineer, Planning Engineer, Senior Process Engineer, Resident Engineer for the Melaka Lube Base Oil Project and Process Engineering Manager. He is currently Head of the Reforming Group within the plant’s Technical Services Division.
During his tenure in the various positions, he had the opportunity to be heavily involved in coordinating interfaces between plant operation and refinery modifications and expansion projects.

PAPER 03 : ASSET INTEGRITY MANAGEMENT
Mr Ammeran Mad
Senior Plant Manager, Shell Refining Company(FOM) Bhd., MALAYSIA

Abstract
Asset Integrity encompasses developing through-lifecycle knowledge and understanding of the asset condition, their pro-active management to conform with operating specifications, best practice and their compliance with regulatory and safety requirement.
The paper is intended to share with the audience on how Shell Refining Company, Port Dickson:-
- Define inspection and maintenance activities
- Examine QA/QC requirements for inspection & maintenance
- Plan and execution of inspection & maintenance task
- Control Deviation and Change

Profile
Ammeran Bin Mad graduated in BSc in Mechanical Engineering from Washington State University and MSc in Integrated Process Plant Management from University Technology Malaysia. Joined Shapadu Oil and Gas in 1988 and Shell in 1992. Currently holding Senior Engineering Manager position in Shell Refining Company Port Dickson. He is responsible for Discipline Engineering, Project Engineering, Turnaround Engineering, Contracting and Procurement Services, Maintenance and Reliability Engineering, Global Asset Management Excellence Initiatives. He has published and co-published a number of journal and conference papers in the field process plant asset management.

PAPER 04 : DESIGN GUIDELINES FOR DISTILLATION REVAMPS
Mr Karl Kolmetz
Director, KLM Technology Group, UNITED STATE OF AMERICA

Abstract
In most chemical processing systems two main unit operations dominate; chemical reaction followed by separation. From the reactor the reactants are then sent to a separation unit. In the separation unit, the reactants are separated into desired products, unreacted products for recycle, and unwanted or by products. Distillation is the most common separation technique and is energy intensive. Distillation can consume more than 50% of a process plant’s operating energy cost. A way to improve an existing plant’s operating
cost is to improve the efficiency and operations of the distillation unit by correct equipment selection, process optimization and control. A review of successful and not so successful revamps can help develop guide lines for the implementation of future successful distillation revamps. Case studies of successful revamps will be reviewed and guide lines developed from these case studies.

Profile
He is currently the General Manager for KLM Technology Group. He has over twenty-five years of progressive experience in the design, construction, commissioning, and operations management of process units from the US Gulf Coast to Alaska through Asia. He has a strong background in the manufacturing of a wide variety of chemical process technologies and product categories including; cryogenic liquids, ethylene, propylene, benzene/toluene extraction, styrene, catalytic reforming, crude atmospheric/vacuum fractionation, polyvinyl chloride, and steam/power plant operations. Mr. Kolmetz has substantial experience in the design and trouble shooting of distillation columns, which is one of the key unit operations in hydrocarbon production. His experiences includes four eyes of Construction, two of which were on the Alaskan Pipeline with Fluor Daniel. Seventeen years of Refining experience, including eleven years in Catalytic Reforming, in The Charter/Phibro Refinery (now Valero Refinery) in Houston, Texas. One year of commissioning experience with Raytheon Badger EB/Styrene plants in Asia. Seven years Ethylene experience: four years in Louisiana and three years in Malaysia. He was also a former Asian Assistant Technology Manager for Sulzer Chemtech a leading distillation tower internals manufacturer. Karl has a Degree in Chemical Engineering from the University of Houston and is a member of the American Institute of Chemical Engineers. Karl presently resides in Malaysia.

PAPER 05 : COMPONENTLESS DESIGN : SHIFTING FROM MASS INTEGRATION TO PROPERTY INTEGRATION
Professor Dr. Mahmoud El-Halwagi
McFerrin Professor, Texas A&M University .UNITED STATES OF AMERICA

Abstract
Traditionally, process design techniques have been based on tracking individual chemical species. Interestingly, there are many design problems that are not component dependent. Instead, they are driven by properties or functionality of the streams and not by their chemical constituency. Recently, the concept of clustering has been introduced to enable the conserved tracking of surrogate properties. Hence, the process design can be optimized based on integrating properties instead of chemical species; leading to the introduction of property integration as a new design paradigm. Property integration is defined as a functionality-based, holistic approach to the allocation and manipulation of streams and processing units which is based on tracking, adjustment, assignment, and matching of functionalities throughout the process. The presentation provides an overview of developments and evolution in the areas of mass and property integration. Emphasis is given to systematic rules and visualization techniques for the identification of optimal mixing of streams, their allocation to units based on their properties, task identification, and integration with molecular design.

Profile
He is a professor, holder of the McFerrin Professorship in Chemical Engineering, and Associate Head at the Department of Chemical Engineering Texas A&M University. His main research interests involve integrated process synthesis, design, operation, optimization, and pollution prevention. Professor El-Halwagi has a
B.S. and M.S. from Cairo University and a PhD from the University of California, Los Angeles, all in chemical engineering. Dr. El-Halwagi is the recipient of several awards including the National Science Foundation’s National Young Investigator Award, the Mortar Board Favorite Educator Award, the Birdsong Merit Teaching Award, and the Fred H. Pumphrey Award. Dr. El-Halwagi is the co-author/co-editor of four books and more than 100 papers. He has served as consultant to a wide variety of chemical, petrochemical, petroleum, gas, pharmaceutical, forest-product, and metal-finishing industries.

PAPER 06: TOTAL PRODUCTIVE MAINTENANCE IN THE PETROCHEMICAL INDUSTRY
Mr Megat Muzafar Mohd Mokhtar
TPM Superintendent, BP CHEMICALS, Pahang, MALAYSIA

Abstract
TPM was developed in Japan, in the fabrication and assembly industries, which soon followed in the process industries. TPM is popular because of its dramatic results in – (1) visibly transforming the workplace (2) raising the level of knowledge and skill in production and maintenance workers.

The implementation of TPM in the process industry requires a different approach than the implementation in the fabrication & assembly industries due to – (1) diversity of equipment (2) centralized control with few operators (3) long production runs requires shutdown maintenance.

There are 8 Main Pillars in TPM – (1) Autonomous Maintenance (2) Planned Maintenance (3) KAIZEN/Focused Improvement (4) Early Management (5) Maintenance of Quality (6) Office TPM (7) Training (8) Safety, Health & Environment. Doing all activities from all eight pillars would require a lot of resources, hence most companies would be selective in which pillar activity to begin with.

Implementing TPM at our site means involves 400 rotating machines, 100+ production and maintenance employees.

Profile
Megat then joined BP Chemicals in Kuantan in 1995, starting up a PTA plant in 1996 (Purified Terephthalic Acid) which was designed for making 500,000 mt PTA per year. He was later involved in the Debottlenecking of the plant to 600,000 mt per year in 1997. Megat was one of the key persons in leading the efforts for obtaining ISO 14001 for the site. He started off with the PTA section but then moved to the Oxidation section, and later had responsibility for both sections.

In 2004, Megat was made TPM Superintendent, in charge of the challenging & successful implementation of Total Productive Maintenance in the plant. 3 main TPM pillars were chosen to promote – Autonomous Maintenance, Planned Maintenance and KAIZEN.

In his many years working in Operations, Megat has been involved in many areas like HAZOP leader, HAY system analyst, Pre-Start up Safety review, Job Safety Analysis, Planned Job Observations, Process Safety Management, TURNAROUND, Plant Commissioning, Training, SS, Developing procedures, etc.

PAPER 07: MANAGING MAINTENANCE SHUTDOWNS AND OUTAGES
Mr Rasidi Norman
Director, RF TEMS Sdn Bhd, MALAYSIA

Abstract
Managing maintenance shutdowns & outages are very significance to manufacturing plant because it can reduced and save substantial amount of opportunity loss and minimize maintenance cost and associated costs. Shutdowns & outages will reduced the plant efficiency, reliability, utilization and create opportunity...
loss of production. Shutdowns & outages will in return increase the manufacturing costs and reduce the potential profit margins. Poor managing of maintenance shutdowns & outages will create many impacts on costs, reputation, moral, etc. As mentioned, poor management of maintenance shutdowns & outages would increase cost of production due to increase of maintenance costs and associated costs. Intangible cost such as costs of bringing down and starting up the process units-chemical costs, product wastage costs, consumables costs, extra labour costs, start-up costs, etc, if not manage efficiently and effectively will increase costs of production. Good “Key Event Timing” preparation and readiness for shutting down and starting up the process units are very important to eliminate unnecessary/unplanned events/incidents for preparation of the units for maintenance activities and readiness for starting up the units after maintenance activities completion.

Profile
A Mechanical Engineer by qualification with over 16 years experience in the Oil/Gas & Petrochemical industries. More than 6 years as design and consulting engineer, and supported with more than 8 years as a Technical/Engineering & Maintenance Manager for BP Chemicals Plant-Kuantan-responsible for leading, managing, supervising, developing, mentoring and coaching of the mechanical/maintenance groups which include mechanical engineers, electrical/instrumentation engineers, plant inspectors, designers, and maintenance supervisors/technicians. Responsible for planning, organizing, and directing all activities for mechanical/maintenance groups to provide timely and quality projects, maintenance work and engineering support for the facilities(operation, maintenance, engineering, HSE, etc.). In addition, experiences include responsibility in leading/managing/supervising of major maintenance annual turnaround activities for the process units. Since 2003, managing own entity and carrying out projects which responsibilities/duties include as a contractor turnaround manager and mechanical manager to carry out effective and timely execution of client’s turnarounds, shutdowns, and project execution activities.

PAPER 08: IMPLEMENTATION OF CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) AT SHELL REFINERY
Dr. Khairil Osman
Instrument Development Engineer, Shell Refinery Company(FOM) Bhd, MALAYSIA

Abstract
As part of Shell’s commitment to the environment, and for compliance to the Malaysian Department of Environment’s requirement on emissions monitoring, a continuous emission monitoring system (CEMS) has been installed at Shell Refining Company (SRC), Port Dickson, Malaysia. The CEMS system, which is installed on the long residue catalytic cracker sulphur recovery unit (SRU) stack, measures CO, CO2, NO2, O2, SO2 and H2S emissions. The CEMS is a cool and dry extractive based system and is made up of three separate analysers. The total system is zone-2 compliance to meet site safety conditions and is fully air-conditioned to ensure system reliability. The system features an automatic blowback function to ensure the sampling probe and heated sampling line are kept clear of solid residues. The operating functionality of the CEMS is controlled by the system’s programmable logic controller (PLC) together with the plant’s distributed control system (DCS). ct execution activities.

Profile
Dr. Khairil Osman graduated from Southampton University, where he obtained degrees in B.Eng. Electronics Engineering and Ph.D. in Microelectronics, specializing in semiconductor fabrication. Khairil moved to the oil & gas industry in 2004 and is currently working at the Shell Refining Company, Port Dickson, Malaysia as an Instrument Engineer. His current role covers several areas which include systems, field instrumentation,
projects and learning and development. He has published and co-published a number of journal and conference papers in the field of semiconductor and oil & gas.

Other invited speakers:

**ENVIRONMENTAL MANAGEMENT**
Mr. Arazmi Juhari  
EHSQ Manager,  
Huntsman Tioxide(M) Sdn Bhd, MALAYSIA

**POWER PLANT & PROCESS PLANT STRUCTURES**
Mr. Kang Kim Ang  
Managing Director,  
Control Corrosion Specialists Sdn Bhd, MALAYSIA

**ENERGY MANAGEMENT**
Mr. Azmi Abd Rahman  
Manager (Technology) Technical Services Dept.,  
Malaysia LNG Sdn Bhd, MALAYSIA

**PROCESS DEVELOPMENT**
Dr. Mohd Tusirin Hj Mohd Nor  
Senior Director, Oils & Fats,  
Golden Hope Plantations Berhad, MALAYSIA

**SAFETY MANAGEMENT**
Dr. Nazily Noor  
General Manager,  
Asian Composites Manufacturing Sdn Bhd, MALAYSIA

*the organizer reserves the right to make any changes without prior notice*
This workshop will provide a step-by-step coverage of the fundamentals and industrial applications of process integration with particular emphasis on mass integration. Systematic techniques will be presented to guide in developing cost effective solutions to process design and operation problems. In particular, the workshop will address the following:

- How to identify best achievable performance targets for a process without detailed calculations.
- How to systematically enhance yield, maximize profit, maximize resource conservation, and prevent pollution.
- How to debottleneck a process.
- How to choose units and screen their performance.
- How to understand the big picture of a process and use it to optimize any plant.

Course Content

1. Introduction to Process Integration
2. Global Analysis of Mass and Energy Flows
   a. Mass-energy matrix of a process
   b. Breadth analysis vs. detailed equipment design
3. Mass Integration
   a. Overall targeting of performance
   b. Direct recycle strategies
   c. Screening of candidate separation processes using mass pinch analysis
   d. Tradeoffs between objectives
   e. Allocation, segregation, mixing, and direct reuse/recycle
   f. Stream interception
   g. Visualization tools
4. Putting it together and Industrial Applications
   a. How to launch a process - integration initiative?
   b. Hurdles and how to overcome them
   c. Sample applications

Course Tutor

PROFESSOR DR. MAHMOUD EL-HALWAGI
McFerrin Professor Texas A&M University . UNITED STATES OF AMERICA

He is a professor, holder of the McFerrin Professorship in Chemical Engineering, and Associate Head at the Department of Chemical Engineering Texas A&M University. His main research interests involve integrated process synthesis, design, operation, optimization, and pollution prevention. Professor El-Halwagi has a B.S. and M.S. from Cairo University and a PhD from the University of California, Los Angeles, all in chemical engineering. Dr. El-Halwagi is the recipient of several awards including the National Science Foundation’s National Young Investigator Award, the Mortar Board Favorite Educator Award, the Birdsong Merit Teaching Award, and the Fred H. Pumphrey Award. Dr. El-Halwagi is the co-author/co-editor of four books and more than 100 papers. He has served as consultant to a wide variety of chemical, petrochemical, petroleum, gas, pharmaceutical, forest-product, and metal-finishing industries.
Safety is often viewed as something that is external to normal operations. However, a comprehensive safety program with effective performance measures can enable businesses to better achieve operational objectives. It is vital for operating facilities to incorporate safety into all aspects of design, start-up, operation, and maintenance.

This workshop discusses the core elements of a comprehensive safety programme, how to smoothly incorporate them into the facility culture, and how to effectively train the workforce to ensure success. Best practices will be discussed, with case studies and hands-on examples.

Course Content
- Core elements of an effective process safety programme.
- Steps involved in setting objectives and establishing performance measures to monitor and track progress toward goals.
- Tactics for incorporating safety components into all aspects of operations.
- Using evidence-based approaches to ensure the effectiveness of training programme.
- Various techniques to select between options and ensure the cost-effectiveness of implementing process enhancements.
- Conducting meaningful risk-assessments and making informed decisions.
- Performing hands-on exercises to illustrate the concepts discussed.
- International best-practices and high profile accidents.

STEPHEN J. WALLACE
President, Wallace Consulting Services, UNITED STATES OF AMERICA
Stephen J. Wallace, PE, CSP has several years of experience in the chemical and petrochemical industries working with a variety of process technologies. He has been an operations manager in the chemical industry where he oversaw production. As a manager of health and safety, he oversaw the development and implementation of comprehensive process safety programs, including emergency response. The facilities where he worked won numerous awards and were designated among the safest facilities in the US by the Occupational Safety and Health Administration. As a safety consultant, he has assisted numerous companies in developing comprehensive and has also audited several facilities in the US and abroad.

Mr. Wallace has given several presentation and written numerous articles on the subject of health and safety that have been published in a variety of journals, including Professional Safety, Loss Prevention Bulletin, Process Safety Progress, and Hydrocarbon Processing. He is currently writing the Best Practices Section of the American Society of Safety Engineer's Handbook, due to be published late in 2006.

Mr. Wallace holds a Bachelor of Science in Chemical Engineering. He is a Certified Safety Professional Engineer licensed in multiple states in the US.
About CEPP
Chemical Engineering Pilot Plant (CEPP) has been setup for the purpose of developing new and innovative processes or products for the specialty chemical and biochemical industry. It is located at the main campus Skudai Johor Darul Takzim and it is first installation of its kind in South East Asia.

CEPP offers unique opportunities for staff to be trained in an industrial environment utilizing semi-industrial scale process equipment with full instrumentation and control setup. This unique facility was designed using Malaysian and German expertise and houses various unit operations eg. distillation, reaction, filtration, evaporation, extraction, fermentation, fractionation etc. It specializes in organizing courses in process and plant technology for various staff levels (from managers to plant operators). Currently, CEPP is the leading training provider for the chemical industry in which staff for more than 300 companies have attended its training programmes. Its major customers include PETRONAS and its subsidiaries, Shell, Exxon Mobil, Titan, BASF, BP, Felda, Procter Gamble, Idemitsu, Kuwait Institute Scientific Research, Qatar LNG, SABIC, KHARTOUM Refining Co. etc.

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for more info and latest update
http://www.cepp.utm.my/cbpppm06
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All hotels are situated 5-7 minutes walk from Petronas Twin Tower, the tallest twin tower in the world and Suria Kuala Lumpur City Centre, the top shopping destination in Kuala Lumpur.

Check In Date
Check Out Date

Note:
* Prices quoted are approximate. Subject to extras which depends on individual requirements.
* Final rate will be confirmed at time of booking
* Rates are subject to bookings made through CEPP, UTM
* Confirmation is subjected to room availability at date of booking.

The following activities can be BOOKED SEPARATELY

CONFERENCE INFORMATION

Conference only
USD 1350
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USD 1650
Workshop 2
USD 1650

I cannot attend the event, please send me the Conference Documentation only at USD 125 (plus shipping and handling fee of USD 25)

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CEPP recognizes the value of teamworking. Group bookings of 3 or more participants from the same company will receive a further 10% discount if they register for the same event.

TEAM DISCOUNT
CEPP recognizes the value of teamworking. Group bookings of 3 or more participants from the same company will receive a further 10% discount if they register for the same event.

Please instruct your bank to remit the full amount, net of bank charges

PAYMENT METHOD

To register, please contact:

www.cepp.utm.my/cbpppm06

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CHEMICAL ENGINEERING PILOT PLANT
UNIVERSITI TEKNOLOGI MALAYSIA