Jeanne and Todd
Yes, we work for a living
Refineries Seeking Answers To Two Key Questions To Strengthen Positioning

Competitiveness
Looking outside the fence

“How competitive is my refinery in the marketplace?”

Efficiency
Looking inside the fence

“How well is my refinery operating the facilities that it has today?”
How Well Is A Refinery Operating The Facilities That It Has Today?

• Operational perspective – focus on efficiency
• Comparison of total costs and resources
  – Taking into account actual configuration aspects – number and size of individual process units and other structural aspects

Focus is on the effectiveness of cost control and resource management typically within a refinery manager’s control
What makes a Coker unique?

- A dirty unit
- A physical unit
- Driven by Switch, warm up and blowdown cycles
- It is both process and mechanical in its nature
During Outage

- Ops mined out the Pre-Frac tower
- Saved $250,000 in contract services (none were available)
- Increased run time of Coker unit
The Message:

Operations is the one group, constantly "living" with the Process and Pipe and can literally save its' refinery millions of dollars. When embedded with other disciplines and vendors, refineries can reap the rewards of a cost effective and efficient Organization.
OPERATIONS
CSB Investigations Reveal Gaps:

**Training**

- Little formal structured or documented training
- Not reinforced
- Little training in abnormal situations mgmt
The Extra mile

- Step-up Foreman
- Trainer
- Process Safety management
- Coordinating
- Projects

Working these areas will only enhance your skills as an Operator
Why did that Engineer put that &$#! control valve way up here?

How do those variable speed Fin Fans work?

We’ve been having a lot of foam overs lately, maybe the vendor needs to change the antifoam mix.

That analyzer has been flatlined for 2 shifts. I wonder if anyone has notified Environmental. Is it even working?
In the mid-nineties, a Solomon study was done in Refining to explore and analyze Maintenance costs. Contrary to the initial assumption, Refinery Age, size and location had virtually no effect on refining Operations.

Multi-refining organizations showed little consistency in performance across their locations.

The research discovered:

12% profit difference between the Refineries in the lowest and highest performance quartiles
One of the major findings of the study:

Tapping the resourcefulness of the Process Operators to contribute to the reliability improvement and maintenance accomplished by training Operations staff in multiple skills. Refineries investing in job rotation and training paid off in reduced maintenance costs and higher refinery utilization.
Benefits

Operators become truly proficient in troubleshooting realistic-complex problems in a wide range of situations
Tools of the Trade
In a combined effort Maintenance and Operations can work toward increased reliability of unit equipment.

How?

- Maintenance coordinator in the Unit could be filled by Operations or Maintenance personnel.
- Create a critical equipment list, including Stores Personnel to verify all equipment is stocked on site.
- Maintenance and Ops Lunch and Learn concerning new equipment being introduced to unit and/or discuss "Bad Actors" in the unit.
Organize a Unit communications group to
Discuss and resolve such items as:

▸ Small capital and non-routine projects within the area

▸ “Top 10” list of items unit Engineers, maintenance and Ops want to tackle
I did the calcs and all those support columns looked fine.

There goes the budget.
What’s Covered by PSM?

- Process Safety Information
- Employee Involvement
- Process Hazard Analysis
- Operating Procedures
- Training
- Contractors
- Pre-Startup Safety Review
- Mechanical Integrity
- Hot Work
- Management of Change
- Incident Investigation
- Emergency Planning and Response
- Compliance Audits
- Trade Secrets
The PHA or Hazop template provides an excellent outline for Refinery teams. Typically a team would include the following:

Mechanical and/or Process Engineer
Unit Foreman
Unit Operator
Maintenance Coordinator
Vendor/Outside Resource Inspection
Environmental/Health
Process Safety Specialist
Using What You Learn

• The ideas and techniques of Process Hazard Analysis will be immediately useful in Project groups, alarm rationalization, Process revalidation, and the use of new equipment or Chemicals.

• Expect to be part of a Process Hazard Analysis Team early on in your professional career
VENDOR AND OUTSIDE RESOURCES

PROCESS SAFETY PSM

MECHANICAL & PROCESS ENGINEERING

OPERATIONS

MAINTENANCE
Vendors and outside resources, hold a wealth of information and experience. Their support and involvement with Operations, Maintenance and Engineering can supply the Refinery with what it needs.
• When possible, include at shelter meetings, Vendors who supply Equipment and Chemicals to the unit, to discuss, demonstrate and educate personnel.

For example:

➢ Analyzers
➢ Chemical Injection systems
➢ Specialized valves, pumps, filtration and logic systems
When you look at your people, do you look at costs to be reduced?

Do you see employees prone to opportunism, and free riding who can’t be trusted?

Do you see employees who can and should be contracted out to save labor costs?

OR

Do you see the most critical and strategic assets your organization has?

With the right perspective and mindset, managers can determine how to implement high performance management practices
Knowledge transfer

By 2015, it is estimated that 20% of the workforce will be 55 or older. If companies allow their experienced workers to retire, there will be a crisis of inexperience in the workplace in the next 10-15 years.
The whole is greater than the sum of the Parts

Operations, Maintenance, Engineering, Process Safety, Vendors and management fostering maximum productivity and reliability
The Optimum Coker Operator

Support your crew, your unit, your contractors and your company
Your crew...because you live with them
Your unit...because you live in it
Your contractors...because you are responsible for them
Your company ...because of your commitment
Jeanne Rameau and Todd Lingbloom provide their hands-on experience and advising through the Coking.com Resources group.

They are available for commissioning, procedure writing, training, field services, turnaround support and various projects.

For more information, contact Gary Pitman or Paul Orlowski – Info@Coking.com 1.360.966.7251 US; 1.403.668.7467 Canada.