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Top Ways a Refinery Can Use to Help Weather Current Market Conditions

What are the top ways a refinery can use to help weather current market conditions is a question we posed to our 160+ engineers. This is the next article in the series which includes responses from several different authors.

David Fisher

- Do not cut safety programs. I've seen where refineries cut non-required training to save a few dollars and it ends up hurting their reliability program because of operations and mechanical training is cancelled.
- Focus on safe and reliable operations. Do not short cut normal operations or mechanical work to try to save money. Safety and reliability actually make money.
- Do not cut turnaround budgets or projects. Cutting a couple hundred thousand dollars in a turnaround looks good on paper and for the turnaround group, but operating performance will be reduced and maintenance dollars will increase because of something that was cut out that should have been replaced or repaired.
- Communicate to all employees the company strategy for operating a refinery with tight margins. Employees may not agree with the strategy, but at least they know there is one and it is not just cut all budgets.
- Don't keep harping on how bad the margins are. The employees cannot do anything about it. Their job is to operate the refinery safe, environmentally friendly, and reliably. That's all you can ask of them. Don't act like it's their fault and they need to fix the market.

As you can see, my thoughts are from an operator's view and I have been through several swings in the market and management. Most of the time, companies look at the short term fix as margins are tight. They don't see the big picture of what the cuts will do in two or three years by not fixing or replacing equipment during turnarounds. Equipment that would cost one hundred thousand dollars to replace during a turnaround now costs one million in down time and contractor cost.

Sam McKenzie

The problem is margins and the response will be shutting down capacity so that a shortage will increase price. I would suggest that the equipment be maintained properly during any shutdown or low capacity running so that when the capacity surge happens, there are no untoward and expense incidents.

Upcoming Training Courses

- **API 510 Pressure Vessel Inspection**
September 12-14, 2017
Fort Erie, Ontario, Canada
 - **API 936 Refractory Inspection & Code**
October 24-26, 2017
Fort Erie, Ontario, Canada
- For more information, see our website at www.carmagen.com.

Work Highlights

Analytical

- *Provided analytical chemistry forensic support and troubleshooting regarding a client's recent failure to consistently meet jet fuel JFTOT specifications.*

Flexicoking

- *Provided ongoing unit health monitoring, troubleshooting and consulting support for various Flexicoking units.*

Process Design

- *Completed a detailed feasibility/debottlenecking study and process design package on Satgas plant amine contacting and regeneration facilities with budgetary cost estimating.*

Safety

- *Facilitated a European Refiner's Vacuum Distillation Unit HAZOP onsite.*

Jim Tosso

Suggest refineries focus their efforts on low cost, high return spending initiatives including:

- Process optimization
- Training
- Preventative maintenance programs
- Turnaround planning
- Energy efficiency studies

Taking advantage of capital spending lull by investing in employee development and training will result in long term benefits both to employee morale and plant operations.

Vern Maddox

Prepare for downturns by investing in reliability improvements. If this is done, maintenance costs will be lower and productivity will be up.

I am afraid that plants will take risks now to lower costs because there seems to be no long term thinking and planning. The smart guys will get through this just fine because they planned ahead.

Mel Ozdemir

Operational cost + crude oil cost can exceed cost of the final product of some oil producing countries of the world. Could be better to reduce production capacity and import final products for demand of the consumers.

About the Authors

David Fisher has over 38 years experience in Refining and Pipeline operations with Mobil Oil, ExxonMobil, Hovensa LLC and BP Pipelines. He is experienced in Refining and Pipeline Operator Care and Process Safety Management. His specialties include Safe Work Practices, Operator Reliability, HF Alky Assessment, and Process Safety Management.

Sam McKenzie has over 40 years of experience in management and technical consulting regarding compliance with US environmental laws for the petrochemical manufacturing sector.

Jim Tosso is a Project Engineering Management Professional, possessing extensive experience in engineering, design and construction of capital and revamp projects in the refining, chemical, energy, pharmaceutical, and microelectronic industries. Positions included 14 years as an Owner's or Contractor's onsite project and construction engineer and an additional year as an on-site subcontractor administrator.

Vern Maddox is a mechanical engineer with over 40 years experience in rotating machinery selection, installation, startup, maintenance, problem solving and vibration analysis of pumps, compressors, steam turbines and a variety of special equipment and components. He was responsible for the machinery engineering, commissioning, startup and operation of a world-class ethylene plant and many smaller facilities.

Mel Ozdemir has over 40 years of extensive project experience in the field of process, chemical, large-scale industrial plant, power, and pharmaceutical projects and has worked on several major projects throughout the U.S.A., Venezuela, Peru, Russia and Turkey.

Please contact Vince Carucci (vcarucci@carmagen.com) if you'd like more information on Carmagen's expertise in these areas.

