Bob Williamsom, Contributing Editor ***As evidenced by our current gas pump crisis, insufficient maintenance, training, staffing levels, work methods, procedures and communications, combined with out-of-date drawings, aging assets, risk mitigation apathy and leadership focused on short-term, bottom-line results are a formula for disaster.***

Most of us have heard about recent refinery problems, not to mention the pipeline failures in the oil and gas production side of the business. Fires, accidents and unplanned shutdowns happen all the time, in many different businesses around the world. It's only when catastrophic events happen close to home and impact our pocketbooks that they seem to stay in the news. Let's examine the role "leadership" has played in getting us to our current situation.

Corporate leadership sets the stage for equipment, process and facility performance in the areas of safety, environmental, quality and profitability. Why, then, does

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Maintenance and Reliability acti
critical processes, should be imm
annual budget-balancing cut

corporate leadership often seem to ignore the importance of Maintenance and Reliability?

A constrained process hiccups

Today's oil and gas business, from the wellheads to the refinery terminals, are part of our aging infrastructure. No new refinery has been built in the past 30 years or so. Old facilities have been expanded and improved, but domestic refinery capacity simply cannot keep up with demand for

refined petroleum products.

Drivers in the U.S. use about 36 million more gallons of gasoline per day than our domestic refineries produced in 2005, compared to 17 million gallons per day in 1995. This "gap gasoline" we use comes to us as imports. Being a global commodity, gasoline is sold to the highest bidder in a free market. The domestic supply of petroleum products decreases when major events disrupt the supply—Hurricane Katrina and the Texas City, TX refinery explosion in 2005; the 2007 fire at the Sunray, TX, McKee-Valero refinery; the April 2007 explosion at the Williams Energy refinery in Oklahoma; the May 2006 mechanical failure and fire at Valero's St. Charles, LA, refinery. When consumer demand exceeds supply, prices climb. If prices did not climb, slowing the demand, we would quickly run out of fuel. (This actually happened in some areas after Hurricane Katrina shut down Gulf Coast refineries.) The U.S. typically has about a 20-day supply of fuel on hand in the system.

Supply and demand goes a bit deeper too— down-hole. Crude oil from wells around the world is sold on the world market for high bid, as is gasoline. When major events hint at disrupting this supply—or when actual events really do disrupt it—the supply prices climb. Recent events in Prudhoe Bay, AK, are a case in point. There, two pipeline leaks in 2006, followed by a water line leak in May 2007, significantly hurt crude oil production, with a partial shutdown extending from August through October 2006. These types of events cut both supply and oil company revenues. For example, the May 2007 water line leak at the BP Prudhoe Bay field was reported to have stopped nearly 100,000 barrels of oil production per day. As a result, the price for a barrel of crude oil increased, both short term and long term. The associated revenue loss is hard to imagine: 3 days x 100,000 bbl x $65 = $19,500,000 in lost revenue in three days! Because $19 million revenue was included in the budget for the year, what happens after the financial loss?