

Refinery Sector Rule Wednesday, November 28, 2012

Phillips 66 U.S. Refining Presence

Phillips 66 (P66) is a downstream energy company and is the third largest refiner in the US. P66 operates 11 US refineries with a total crude capacity of 1.8 million barrels per day representing over 10% of the total US. P66 employs 12,000 people in the US and almost 14,000 world-wide. We are committed to keeping the U.S. refining sector strong while also investing in effective environmental improvements. From 2003-2014, P66 will have invested \$1.8B for environmental controls in our refineries.

Refinery Sector Rule:

The data collected by the refining industry for the Information Collection Request (ICR), EPA's risk modeling, and the guidelines established in the Clean Air Act Section 112 (f) risk review, all support EPA's previous conclusion that the public is protected with an ample margin of safety and that the risk from refineries is acceptable. Therefore, any further requirements should be required to demonstrate cost effectiveness.

A coker depressurization work practice of 2 psig/ 5 psig is not cost effective:

EPA's Solution is Not Universally Applicable:

We understand that EPA assumed that sites can universally adopt the use of an engineering solution to meet a 5 psig/2 psig standard. This is inaccurate because, in many cases, a significantly more complex solution is required. The following are specific considerations:

- No two cokers are alike – there are differences in unit configurations and constraints.
- Some cokers will require additional gas compression, ejectors, fin-fans, larger overhead lines and/or other components. Many will require multiple components.
- The use of maximum limits on each drum cycle, rather than average limits, will require engineering a designed pressure discernibly lower than the standard.
- The implementation schedule may not allow time for reasonable budgeting, engineering, and permitting and may cause an accelerated schedule for unit shutdowns.

EPA's Cost Analyses:

We understand EPA made two assumptions with respect to the compliance cost to achieve a 5 psig/2 psig standard: 1) the cost per coker will not exceed \$1.5 MM and 2) the incremental cost for cokers to meet 2 psig, rather than 5 psig, is \$0 for cokers currently venting above 5 psig. Both are inaccurate assumptions based on the following:

- P66 believes that industry projects required to achieve a 5 psig will range from a low of \$2-10 MM to a high of \$25-35 MM per individual unit.
- P66 believes that industry projects required to achieve a 2 psig standard will range from a low of \$2-10 MM to a high of \$40-60 MM per individual unit.
- The cost to achieve 2 psig appears to be about twice that of achieving 5 psig.
- For P66 to achieve 2 psig, about 2/3 of our units will require investment, including significant unit reconfigurations.
- Timing of implementation could increase cost due to an accelerated shutdown schedule.

Cost Effectiveness:

An internal P66 estimate of the cost / benefit¹ calculations for NMNE VOC emissions shows that **cost effectiveness** for obtaining 5 psig or 2 psig limits are well above the accepted threshold.

- In the range of **\$121,000 - \$216,000 per ton VOC** to achieve 5 psig.
- In the range of **\$133,000 - \$207,000 per ton VOC** to reduce from 5 psig to 2 psig.

Duplicative Rules:

A previously finalized rule in NSPS Subpart Ja will set coker vent limits at 5 psig.

¹ P66 emissions estimates were derived using a fluid-flow model developed for each P66 coker, utilizing VOC concentration data from industry reported coker vent tests. Annualized cost estimates employed EPA's depreciation schedule of 20 years with a 7% discount.