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LD ParexTM Aromatics Complex: Lowest Cost of Production for PX Technology

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Synopsis

In the last 45 years, UOP has licensed more than 100 Parex units for the selective adsorption of paraxylene. Two of the first Parex units that started in the early 1970's were designed using a light desorbent (LD) system and are still in operation today. These LD Parex units use toluene (A7) as the desorbent, whereas the majority of Parex units in operation use para-diethylbenzene (p-DEB)—heavier A10s—as the desorbent. Based on the knowledge and technology available at the time, the heavy desorbent technology was a more economical solution, which is why all units since the early 1970's have been designed using p-DEB as the desorbent.

During the last more than 40 years, UOP has gained extensive manufacturing knowledge from the production of a range of commercial adsorbents for xylenes separation. In combining this knowledge with our vast operating and engineering experience, UOP developed the LD Parex Aromatics Complex, which provides a step-change advancement in the reduction of capital investment requirements for a new Aromatics Complex.

Removal of heavy desorbent from the separation system relaxes the A9 specification to the Parex unit, allowing for an optimized fractionation flow scheme in the complex. This optimized flow scheme reduces the required number of pieces of equipment and fractionation trays within the complex by 20%. As verified by a major Western EPC firm, this reduction in equipment count results in a steel weight savings of as much as 20% and, therefore, a reduction in the total capital investment costs for an Aromatics Complex by 15-17%. At the same time, the design maintains the industry-leading energy efficiency of the Energy Efficient Aromatics Complex (EEAC) design.

LD Parex is commercialized, with the first LD Parex complex currently in the basic engineering phase for UOP Schedule a design. Construction of this project is expected to start by end of 2016.

UOP's LD Parex Aromatics Complex design combines significant reductions in both capital investment and energy costs, making it the lowest cost pX production technology available. This presentation discusses in more detail the differences between light and heavy desorbent systems, UOP's extensive design and operating experience with light desorbent systems, and how LD Parex will position you as the most profitable pX producer in the industry.