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NGX SOLUTIONS

TIME AND COST SAVINGS PROVEN WITH XEBEC FAST-CYCLE PSA

Case Study: Benefits of Fast-Cycle PSA in an Oil Production Facility

Plains Exploration and Production Company (PXP)

Situation: Limited oil production capacity caused by a difficult-to-operate, under-sized low-temperature separation unit (LTS)

Solution: Installation of a Xebec Fast-Cycle Pressure-Swing Adsorption (PSA) Unit to remove heavier hydrocarbons from field gas to meet sales gas specifications

Benefits: Lower Cost, Increased Capacity, Fewer Fugitive Emissions, Shorter Lead Time

Location: Los Angeles Basin, California

XEBEC'S compact M-3100, fast-cycle PSA system was the perfect solution for PXP at the Los Angeles Basin in California

Building a Better Purification System

Plains Exploration & Production (PXP), an oil producer located in downtown Los Angeles, was struggling to meet California's new and more stringent sales gas specifications for ethane and heavier hydrocarbons. Oil production had to be decreased due to limited capacity of their LTS unit, which was used to dehydrate and de-rich the field gas from the oil wells to produce sales gas. Gas production in an oil field is a necessary function of oil production. Therefore, a limitation in gas throughput automatically drives a decrease in oil production, resulting in revenue loss. A new LTS unit was considered, however, it would have taken over 12 months to come online and a multi-million dollar capital investment would have been required. Additionally, due to space limitations and installation requirements, start-up of a new LTS unit would have disrupted oil production by several weeks, resulting in an unacceptably high total project cost. PXP turned to Xebec for a better solution.

XEBEC's Design

XEBEC engineers re-designed the gas processing system to incorporate the use of XEBEC's Fast-Cycle PSA unit. The new system cost less than one-third of a new LTS unit, and by reusing the existing LTS to improve methane recovery, the gas throughput capacity doubled. As an added benefit, the basic design of the Fast-Cycle PSA incorporated the use of a single rotary valve to replace the multitudes of valves found on conventional PSA technologies. This reduced the potential for fugitive emission levels, resulting in a quickened permitting process. From design to start-up, the entire project time took less than eight months. And by incorporating the use of existing equipment, disruption to the operation was minimized.

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The Redesigned Facility in Los Angeles

In the re-designed facility, the PSA processes field gas from the oil wells to sales gas specifications. Tailgas from the XEBEC Fast-Cycle PSA is compressed then chilled through the old LTS unit producing gas which is combined with the product stream from the PSA and natural gas liquids (NGL's). The liquids are then stabilized for sale, while vapors from the NGL Stabilizer are processed in a MicroTurbine to generate electricity for re-use by the producer, as shown in Figure 1.

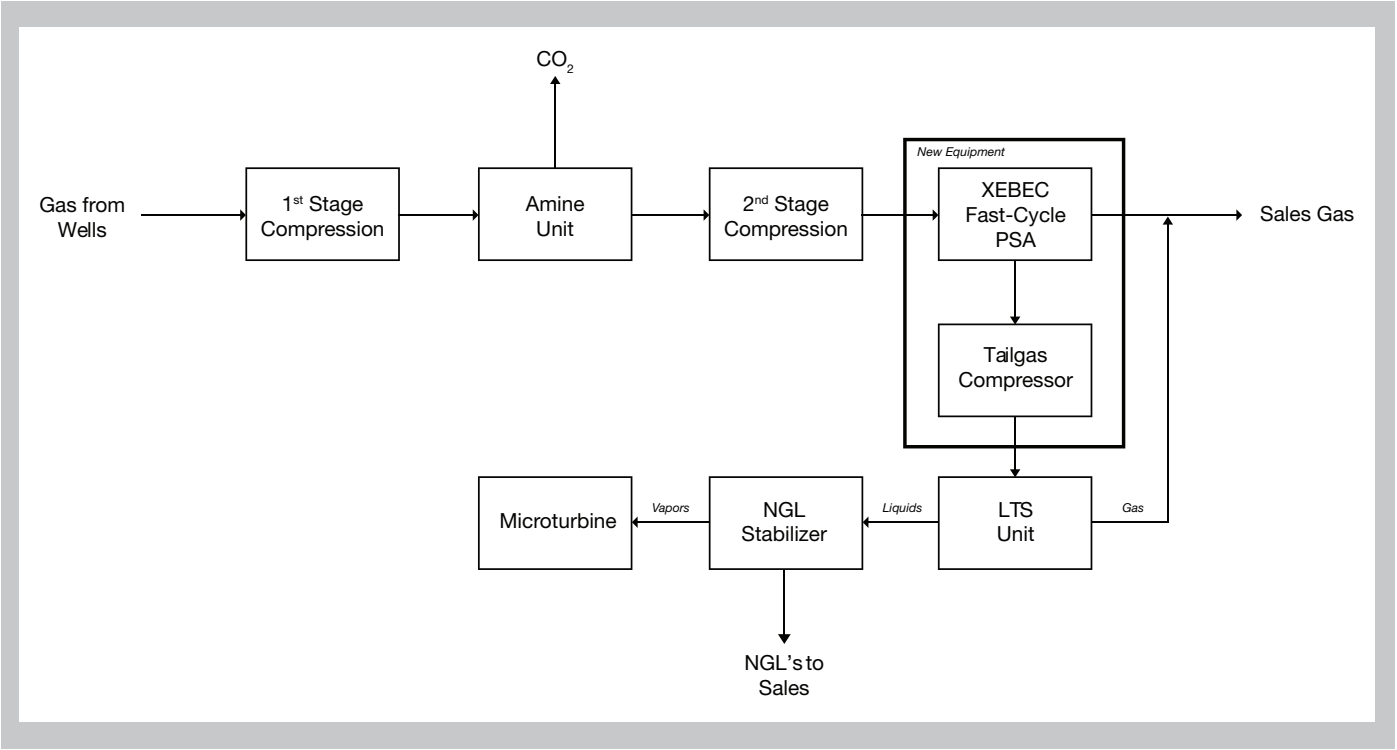

Figure 1

Results

The XEBEC Fast-Cycle PSA has been successfully integrated with virtually no operating and/or performance issues. Sales gas meets and/or exceeds California's new regulatory gas specifications, where the sales gas quality is monitored and can be controlled. Given the high reliability of the gas processing equipment, operating personnel can now devote more time to maximizing oil production.

Contact Us

If you would like to learn more about XEBEC's proprietary gas purification products, please contact:

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About XEBEC Adsorption Inc.

Xebec Adsorption Inc. is a global provider of clean energy solutions to corporations and governments looking to reduce their carbon footprints, while improving energy conversion efficiencies. With more than 1300 customers worldwide, Xebec designs, engineers and manufactures innovative products that transform raw gases into marketable sources of clean energy. Xebec's strategy is focused on establishing leadership positions in markets where demand for biogas upgrading, natural gas treatment and hydrogen purification is growing. Headquartered in Montreal, Canada, Xebec is a global company with two state-of-the-art manufacturing facilities in Montreal and Shanghai, a technology center in Vancouver as well as a sales and distribution network in North America, Asia and Europe. Xebec trades on the TSX under the symbol XBC.

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