

Still Going Strong

Very First AmiPur™ Continues to Perform, After Nearly 14 Years of Service



(Left) The very first AmiPur installed at Crown Central Petroleum Corp. in 1998. (Above) Process Engineer Wade Hollman remains pleased after nearly 14 years of service.

Still performing and still going strong, the very first Eco-Tec Amine Purification System (AmiPur™) installed in 1998 remains in operation and carries on as a critical part of the refinery's process – despite being an earlier, less rugged version of the systems built today.

In August 1998, Pasadena Refinery Services Inc. (PRSI), in Pasadena, Texas (formerly Crown Central Petroleum Co.), purchased a prototype AmiPur unit from Eco-Tec Inc. to continuously remove impurities from their amine treating solutions. The purpose of the installation, which started up shortly after that year, was to achieve and maintain a low level of heat stable salt (HSS) concentration (to below 1 wt. % as MDEA) on a continuous basis while keeping the corrosion rate below 10 mpy.

Today, nearly 14 years later, this amine purification system, with a footprint of 40 in. x 36 in., continues to process 0.4 gpm of lean MDEA and removes about 1 kg per hour of heat stable salts – an enduring accomplishment for Eco-Tec's AmiPur technology.

"The Eco-Tec reclaimer (AmiPur) is very important to the smooth operation of our amine systems," says Wade Hollman, Process Engineer, PRSI. "This unit is very important to our day to day operation and critical to the long term health of our unit."

While the overall design remains the same, the first AmiPur System in Pasadena was a prototype, built using different parts compared to the more hardy materials Eco-Tec utilizes today. Naturally, after 13 years of continuous amine purification, the original AmiPur is aging, which means PRSI has had to supplement the system for secondary portable services. "As this (AmiPur) unit was essentially a proof of concept type installation, we have some parts that are not as industrial as we would hope, this is our only problem," Hollman says.

Stands By Continuous Performance

PRSI, however, says it stands by the unwavering AmiPur technology and appreciates the continuous, permanent function it has fulfilled over the years. "We know with 100% certainty that when the reclaimer is down we build heat stable salts." When down time and heat stable salt ingress reaches a certain point, outside services are considered, Hollman says. Since 2007, PRSI has only needed to call outside services three times; the last time being in 2010.

PRSI plans on upgrading its Sulfur Recovery Unit (SRU) in the near future. As the plant considers

expanding, it says it looks forward to considering another reclaimer, since it currently remains such a critical part of the operation. "We can tell you that a reclaimer is a must for any new SRU installation," Hollman says.

From that first 1998 application in Pasadena, 59 refinery and gas processing plants, in 18 countries, have installed an AmiPur; in turn, reducing corrosion by-products, minimizing fouling of heat exchangers and contactor

surfaces, and curbing costs associated with cleaning of fouled equipment – for operations worldwide.

Although various design aspects have changed since 1998, one central feature that hasn't changed is Eco-Tec's patented Reciprocating Flow (Recoflo®) ion exchange technology that the system utilizes – the driving force behind AmiPur's worldwide success over the years – delivering features such as fine particle size resins, countercurrent regeneration, short column heights (12 inch, 30 cm), low resin loading, and fast flows and short cycles.

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http://www.eco-tec.com/products/amine_purification.php