



ENVIRONMENTAL TECHNOLOGY

AESSEAL® lowers the temperature in Montana

A company in Montana was having trouble with an unreliable seal on a debutanizer reboiler pump. The problems were being caused by an inner seal cooler.

The cooler was proving ineffective at reducing seal chamber pressure, and so was failing to establish a satisfactory vapor pressure margin. Typically the seal would fail after about 12 months. The pump was an API 610 6th edition, and the seal was difficult to rebuild. Apart from the cost incurred by the persistent failure of the seal, there were also significant safety concerns. Gasoline was being pumped at 333°F (163°C) and seal chamber pressure was very close to vapor pressure.

AESSEAL's solution was to install a modified CAPI-TXS™ dual seal API 682 style cartridge seal with a circulating device on the primary seal as part of the seal cartridge.

The Plan 23 feature on the seal is more efficient than a Plan 21 at reducing seal chamber temperatures. It was calculated that the seal chamber temperature would be reduced to 175°F (80°C) thus establishing a significant vapor pressure margin - or product temperature margin.

The seals were installed in January 2019, and are still running over four years later. Site measurements have shown that seal chamber temperatures are lower than expected for all but the hottest months of the year. The compact design of the AESSEAL® CAPI-TXS™ API cartridge seal allowed the pump to be upgraded to the more efficient Plan 23 cooling system with no modifications to the legacy pump. The cost of the upgrade was almost the same as refitting the old unreliable seals, which resulted in a significant improvement in reliability and safety at virtually no cost, with overall savings to date of more than \$30,000.

‘Significant improvement in reliability and safety’

Industry:	Oil & Gas
Product:	CAPI-TXS™ Dual
Application:	Reboiler pump
MTBF Increase:	300% (and counting)
Savings:	>\$30,000
Reference N.O.:	TD3085489



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