



ENVIRONMENTAL TECHNOLOGY

Improved reliability for new process

A refinery in Canada was commissioning a new lipids coprocessing initiative where renewable feedstock is injected into the cracker.

Over a seven month period there were six mechanical seal failures, with two seals lasting less than 24 hours, and the best lasting for just seven weeks. This project is important to the customer as injecting lipids into various refinery products significantly reduces the carbon footprint and produces high margin fuel products. The lipids project, as well as improving profitability, helps towards the refinery's aim to become a carbon neutral facility within the next few decades. With unacceptable reliability from the existing single bellows seal, the customer turned to AESSEAL® for a solution.

AESSEAL® recommended replacing the seals with a CAPI™ single 'pusher' seal. The first seal was installed in September 2019 and ran for six months (a significant improvement over previous seals). Following the seal failure, the AESSEAL® engineering team reviewed the seal failure data and made some design changes to allow the seal to accommodate the significant temperature, viscosity and pressure fluctuations that occur with the process product during both normal and 'upset' conditions. The new solution has been installed and is still operating well over 18 months later.

With a seal cost half that of the original solution and an improved level of reliability, the customer has already saved CA\$96,964 to date. The customer has also found that leakage has been eliminated, removing a constant slip hazard in the area around the pump that existed with the original seals. The service provided by AESSEAL®, along with the exceptional performance of the seals, has led to the customer entering a formal supply contact.

The company was so impressed with the seal's performance at the six-month mark that they installed an entirely new "B" lipids pipeline with the same pump and the new seal design.



'Significantly reduced carbon footprint'

Industry:	Oil & Gas
Product:	CAPI™ Single
Application:	Cracker feedstock
MTBF Increase:	1,014% (and counting)
Savings:	CA\$96,964 / US\$75,309
Reference N.O:	CS0122



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