

# Improved Pump & Seal Reliability When & Where It Really Counts

Poor mechanical seal reliability in the old pumps created serious risks when the sealed lift station was under flood waters.

The City of Chester, IL was getting only about 6 months life out of the mechanical seals in their former non-clog lift station pumps. While replacing seals twice per year was difficult and expensive, the more serious problem occurred when the seals failed with the Mississippi River at flood stage and with the sealed lift station underwater. The sewage pumps, which handle waste from a large state prison as well as blowdown from the local water plant, would eventually flood the pump station from within because of the seal leakage from failed seals. The cost of replacing flooded motors and controls would be clearly unacceptable.



Vaughan Co.'s sales representative, Municipal Equipment, proposed a solution in June 2005 to replace the original non-clog pumps with 2 Vaughan 6" discharge pedestal chopper pumps using Vaughan's more durable flushless cartridge mechanical seal. To save the city money, Vaughan Co. designed a custom motor mounting stool to accommodate the existing dual speed 75/33 HP, 1750/1170 RPM motors. Vaughan Co.'s chopper pumps were able to provide the same performance as the original non-clog pumps



*Chester, IL Watertight Lift Station next to the Mississippi River.*

while also providing Vaughan's chopping capability with no power requirement penalty.

To make this change the City sent one motor at a time to Vaughan Co. while one pump stayed in service. By late 2005 both Vaughan chopper pumps had been installed and started up.

After more than 5 years not one mechanical seal has required any attention in either of these pumps. This kind of service suggests that the robustness built into the Vaughan flushless cartridge seal is paying real dividends to the City of Chester. The plant superintendent, Kenny Surmann, is also sleeping much better at night now, especially when the Mississippi floods its banks. "It's great not having to pull pumps and change seals every six months. And it's real peace of mind when the river is up and the station is under water."



*1 of 2 retrofit Vaughan pedestal chopper pumps with older motors.*

Since these pumps went into service, the City of Chester has purchased additional Vaughan chopper pumps.

*Vaughan Company Inc, Montesano, WA, 360-249-4042; [www.chopperpumps.com](http://www.chopperpumps.com).*