SUCCESS STORY

TAMAR 720-PP seal
Paper industry – black/red liquor and pulp
ANSI pumps
Applications and Problem

• Paper applications are very harsh on mechanical seals

• The black and red liquor have high viscosity, they are sticky and hot

• The paper pulp / paper stock will easily build behind the mechanical seal faces and “choke” the seal

• CIP of the pumps will cause cavitations and other well known issues that will damage the mechanical seals
The solution

TAMAR 720-PP seal:

- Can dry run, does not care about cavitations
- No faces to damage
- Online constant injection system – a sealing barrier that holds the back the paint
- Cartridge seal that completely replaces the packing box - easy to install
- Closed circuit cooling – eliminates use and cost of water flush
Over 4 years running

**Red Liquor**
- Gould’s 3196MT pump
- Steam cleaning cycles
- 1800 rpm
- 160 degrees C

**Black Liquor**
- Gould’s 3196MT pump
- Steam cleaning cycles
- 1800 rpm
- 140 degrees C

**Paper Pulp**
- “scanpump’ with ø60mm shaft
- High suction pressure
- 1200 rpm
- 45 degrees C

And many more!!!!!!
Saving Calculation – elimination of water flush

5 gpm seal water running through each pump 24/7 x 8.33 lb/gal = 8.33 lb of water to be evaporated per minute

Assuming the mill uses a 6 effect evaporator, Steam costs $3/M btu

One lb of steam needed to evaporate .8N lbs of water where "N" is the number of effects in the evaporator ( = .8 x 6 = 4.8 lbs of water evaporated by 1 lb of steam)
Saving Calculation – elimination of water flush

41.6 lbs/min of water / 4.8 lbs of water / 1 lb of steam used = 8.7 lbs/min of steam needed

8.7 lbs/min x 60 minutes/hr = 522 lbs/hr steam needed

About 1000 btu in 1 lb of steam at pressure

522 lbs/hr x 1000 btu/lb = 0.522M btu/hr

0.522 M btu/hr x $3/M btu = $1.56 dollars/hr x 50 weeks/yr x 24 hrs/day x 7 days/week = $13,154/yr estimated savings for each pump!!!!!
Result:

✓ Zero leakage, 6 lpm of air consumption
✓ Not registering air flush pressure due to box pulling vacuum
✓ Typically set at 10-15 psi over box pressure

Pumps / seals running smooth and leak free
Join the success!

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