



IMI CCI wins replacement of competitor's pump recirculation valve at paper mill in Brazil

The challenge

IMI CCI has had a close relationship with this customer for ten years, maintaining the installed IMI CCI turbine bypass systems. This relationship meant that during outage planning at one of the customer's paper mills, the IMI CCI team conducted a severe service seminar to share some of IMI CCI's new solutions for critical applications in combined heat and power plants that might be of benefit to the customer. During the seminar the customer described the problems they were facing with its existing minimum flow valves in the feed pump recycle application. The valves were leaking and they had severe trim, seat and body erosion. The valve needed frequent replacement and maintenance.

The solution

The IMI CCI team identified that the erosion was caused due to cavitation from uncontrolled high trim exit velocities (erosion is proportional 3rd or 4th power of velocity).



The erosion in the valve can then lose its ability to provide tight shut off. Once a leak is developed, the high pressure, high velocity fluid quickly causes a combination of wire draw and

cavitation damage to the seating surfaces, trim and valve body. The IMI CCI proven 100DR design, that performs the dual function of controlling fluid velocities to less than 50ft/sec (15m/sec) during valve operation and provides tight MSS-SP-61 isolation valve shutoff when closed was offered to the customer. The fluid velocity is controlled via an 18 stage DRAG® disk stack. The trim has additional features to eliminate trash damage, local velocity damage and an effective plug/stack seal. The tight shutoff is achieved by a combination of high actuator force and a combination of materials for the plug and seat ring. With the new solution, the customer is expected to save a significant amount every year.

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