

Case Study

Solving Erosion in Dump Valves

1 Searching for a Solution

An oil and gas producer in West Texas was seeking ways to increase dump valve life (LCV) on a 3-phase separator and reduce overall cost of ownership.

2 Identifying the Challenges

The competitor's valve was consistently failing after one month of service with high volumes of sand particles in the produced fluid. The failed competitor valve had high erosion on the plug, seat, and cage of the trim assembly and bridge of the valve body. In addition, the oil & gas producer was concerned with the related loss of production due to constantly changing out the failed valve at several different production sites.



Series 2720 Control Valve

3 New Control Valves Deliver Value

The Norriseal Series 2720 control valve properly configured to their sand application with the correct trim material, correct flow direction, adjustable actuator, and had a lower cost of ownership even though the initial 2720 cost is higher than the competitor's valve. A Series 4" 2720 control valve was installed at one production site 10 months ago and the valve is still operating with only one trim change ordered by the oil & gas producer during scheduled maintenance. The valve was configured with tungsten carbide trim material overcoming the erosive properties of sand, the flow direction under the plug dispersing the produced fluid over wider area of metal surfaces, and the adjustable spring actuator will allow fine-tuning of the process to minimize the erosive effect. Additionally, the Norriseal 4" valve has a higher flow capacity, which will reduce the pressure drop and flow velocities.

4 Results: Less Downtime & More Savings

- **Reliability:** Norriseal valve is lasting 10 times or longer than the competitor's valve.
- **Higher Flow Capacity:** 4.0" Norriseal valve Cv value is 211 compared to 71 Cv of the competitor's valve.
- **Durability:** Norriseal valve uses tungsten carbide trim for erosive applications.
- **Cost of Ownership:** Even though the Norriseal valve has a higher initial cost, the overall cost of ownership is lower by: 1. No loss of production; 2. Less valve change outs/repairs with valve life lasting ten times longer; 3. Reduced labor cost with less maintenance.
- **Cost of Repair:** Norriseal valve does not require the cage and guide to be replaced during trim maintenance.