

Desuperheater Spray Valve

Chesterton Stationary Equipment Sealing Solutions

Power-Nuclear Products: 5800 Set & Valve Management Tool Case Study 005 SE

Challenge

Background

A fossil power plant was having an issue sealing their Desuperheater Spray Valve. Previous packing sets would leak at start-up. Mechanics would tighten until the leak stopped and then the actuator would "hunt" to overcome increased torque.

Goal

Increase valve reliability and minimize stem friction.

Solution

Product

Ran the process requirements through Chesterton's valve management software; **Chesterton's 5800 Packing Set** and Live Loading were recommended.

The **Chesterton 5800's** wedge-shaped design lowers packing friction compared to typical graphite packing. This design, combined with Chesterton Live Loading technology, will prevent over-tightening of gland bolts, allowing the actuator to function properly and minimize "hunting" by the valve.

Results

- The installed Chesterton packing solution improved the valve performance by reducing the stem friction and eliminating start-up leakage
- Predictable friction torques

The Valve Management Tool is able to:

- Provide an engineered solution
- Maintain valve data and improvements
- Provide documentation and installation drawing



Fossil Power Plant was having issues with its linear control valve.



Process requirements showed the packing set required torque.

Details Calculation	8						
General Valve Int	10		Calculate Packing Friction	Torqu	e	Select Packing	amenta
Survey Number EIN / Tag Number Actuation Data	S20141001301	1301	A. Stuffing Box Bore ID B. Valve Stem OD C. Stuffing Box Depth	1.250	inch *	Sealing Ring Item Number Sealing Ring Style Sealing Ring Quantity End Rins Item Number	0032 1724 6 NA
	TEST1						
	MOV						
Pressure	250.0	n iac	C. Cland Stud Oby	2		End Ring Style	NA
Temperature	300.0		M Gland Stud Diameter	1 26	M inch *	End Ring Quantity	
Certification	General	v •	M. Grand Followers I amoth	0.440	a sign		
Service Type	Emissions	v *	Pro Des Chambre	0.440	inch		
Manufacturer	AWC	~ ·	Box Bore Chamler	0.030	inch		
Packing Set	1724	v *	Box Bottom Taper	0			
Media	Hydrocarbons ~	~ ·					
- Thread Engagem	ent		Live Loading				
Thread Engagement		Live Load	2				
			R Radial Clearance	00 10	ch *		
			R. Radial Caratance	00 11	611		

Chesterton Valve Management Tool.

Technical data reflects results of laboratory tests and is intended to indicate general characteristics only.

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