



For **Severe Service** Control Solutions, Turn to Fisher Technology and Innovation

HPASR “ELEPHANT” VALVE EQUALIZES STEAM TURBINE PRESSURE

In 1994, a turbine OEM in New England called Fisher's Engineered Products group with an unusual application and safety issue. They had a huge, 48-inch turbine bypass valve in place to divert or “vent” up to 1000 psi of steam pressure. Atop it was a much smaller valve whose sole function was to permit the larger valve to open and close during an emergency trip.

The customer had been making the small equalizer valve in-house, and the valve was leaking. Plus, they realized that if the smaller valve failed to do its job on demand, the result could be millions-of-dollars damage to the steam turbine.

They needed a control valve expert and an engineered solution to reduce costs, improve safety, and provide better control of this steam turbine service. Wisely, they sought help from Fisher engineers, who set to work, modifying an existing valve design. The end result was an unusual push-down-to-open valve called an HPASR.

The construction and installation of the two-inch HPASR equalizer valve proved a particular challenge.

- The valve had to meet tough pressure drop and capacity requirements. Its inlet is rated for ANSI 1500, and its outlet is ANSI 600.
- The valve would be bolted to existing piping and had to be an “exact fit” in the small space occupied by its predecessor. Mounted in a tight space atop the big valve, the HPASR valve required an “elephant-trunk-like” ANSI Class 600 RF (raised face) outlet flange.
- Because the valve was difficult to install and access, designers made it easy to maintain. The trim may be removed through the bonnet.

The customer considered the valve's price a bargain and has been very satisfied with its performance since 1994.

Fisher now offers three different HPASR valve designs in 4-inch, 2-1/2 inch, and 2-inch sizes. As of March 2003, Fisher has sold more than 300 of these small but critical valves.

For more severe service solutions see us at www.fishersevereservice.com.

