Solution Sheet

ITT Engineered Valves Solutions: Power Industry

Skotch® Valve solution for coal-to-gas conversion project

Situation

Virginia-based power plant switches to natural gas

In early 2013, one of the nation's largest energy companies began plans to convert a former coal-fired power plant to natural gas. With coal and oil serving as the plant's primary fuel sources, the project required a major overhaul of the facilities main boiler unit. In order to perform a complete conversion, representatives from the plant needed to replace current coal burners and oil igniters with gas equipment—creating a need for a new National Fire Protection Association (NFPA)-approved fuel train.

In addition to a full range of industrial process equipment, the plant would need more than 35 shut-off valves to support the new natural gas fuel train. New valve installations needed to meet NFPA85 and Factory Mutual (FM) requirements for double-block and vent safety valves in order to effectively switch from coal to gas. The conversion would be costly and the plant needed a manufacturer that could fulfill all the added requirements.

Having worked with ITT Engineered Valves on previous projects, plant personnel were confident in the longevity of ITT's products and ITT's experience with engineered valve systems. So plant personnel contacted ITT to evaluate the project.

The ITT Solution

With ITT Engineered Valves, the plant is able to lower overall ownership costs by installing a single-valve system in support of the new fuel train.

Project Overview

- Application: Power
- Valve type: Skotch safety shut-off valves
- Standard installations: Main burner valves, igniter valves
- Custom installations: Skotch safety shut-off valves in compliance with NFPA85 standards
- Product Specs: Factory Mutual (FM) and NFPA 85-certified products; custom limit switches and speed controls on the air inlet; custom junction boxes for igniter valves
- Product features: Single-valve system instead of three individual valves

ITT Solution

A customized plan for a smooth transition

The ITT Engineered Valves team knew this would be a challenging task. The coal-to-gas conversion process can be tedious and requires specific attention to industry-wide specifications. ITT Engineered Valves needed to satisfy both the owner and original equipment manufacturers' (OEM) strict requirements while also complying with industry technical standards.

After assessing the plant's needs, ITT Engineered Valves worked with the customer and devised a plan to supply a single-valve system to streamline the conversion process. The single valve system simplifies the installation reducing total installed cost and lowering total cost of ownership and increasing economic gain for the user.

Skotch double block and vent gas safety shut-off valve system—6” series fabricated body with 2.5” vent, custom limit switches and speed controls on the air inlet

Skotch double block and vent gas safety shut-off valve system—1” series cast steel body with ¾” vent and custom junction box.

Results

Leveraging industry expertise to deliver value-added solutions

By partnering with ITT Engineered Valves, the Virginia-based plant has a single engineered valve package that is inherently more reliable than a traditional three valve system. The customer will also realize significant savings in operational and maintenance costs over the life cycle of the valves. Making the decision to switch to natural gas will save the customer money while improving their environmental sustainability. Today, the plant is still under construction with plans to cease burning coal by spring of 2014.

Once the conversion process is complete, ITT will work with the plant on both aftermarket services and any additional requirements they may have for other units. Due to ITT Engineered Valves’ deep industry and field expertise, the team is well positioned to provide service after the sale to the plant—including start-up engineering, valve testing and field training to plant staff.

The Power Plant at a Glance

Challenge

A public power facility needed shut-off valves to support a new natural gas fuel train.

Solution

ITT Engineered Valves worked with the customer to develop and deliver a single-valve system to support the coal-to-gas conversion.

Results

The plant reduces additional operational costs by cutting back on total installations.

About ITT Engineered Valves

ITT’s Engineered Valves brand offers solutions for abrasive, corrosive, hygienic and critical containment applications within many industries. The ITT Engineered Valves team provides a premier customer experience, sustained by its operational excellence, high quality products and valve expertise. Supported by a global network of partners, ITT Engineered Valves includes the Cam-Line, Cam-Tite, Dia-Flo, Fabri-Valve, Pure-Flo and Skotch product lines.