

Badger Fluid System Technologies

Case Study: Power Plant

Background

Nitrogen Oxide (NO_x) from coal-fired power plants are a by-product of power generation throughout the world. These gases travel into our atmosphere through smokestacks, pollute the air, and are hazardous to our health.

Challenge

An electric power provider was facing fines, penalties, and even plant shutdowns. They needed to comply with EPA guidelines regarding NO_x gas emissions before a government-mandated deadline.

The company's contractor was tasked with integrating a chemical delivery system into six Midwestern coal-fired power plants. Historically, this system worked well to reduce NO_x gases. The ammonia-based chemical has the ability, when introduced into the boiler, to react by separating the toxic NO_x molecules, and venting the results harmlessly into the atmosphere. After separation, the nitrogen and oxygen can be safely vented into the atmosphere. Their proposed system needed to work, to be under budget, and to be on time.

We took on the challenge of integrating proven supply processes in order to provide the best value and save the customer money.

Solutions

Technical Support

Our solution entailed reducing the number of fittings, which decreased potential leak paths and offered easier installation and engineered connections. In order to meet the specifications for the job, thorough supporting documentation of tubing and fittings was produced, which demonstrated that this system would outperform a standard piping system with threaded connections.

This solution proved to be a cost-effective, more reliable system with fewer connections and higher-quality valves and fittings.

Order Entry

A custom website was created to enable 24/7 technical service and ordering capabilities, allowing procurement momentum at all times. Additionally, pricing was made available online to meet their purchase order requirements.

Since the customer had six locations working simultaneously it was necessary to simplify the order process.

This was accomplished by dedicating one inside representative to this contractor to offer a single point of reference for questions regarding shipping and ordering information, invoices and other non-technical support.

Custom Solutions

The customer needed to leverage resources to complete the job on time and on budget. Our Custom Solutions department matched each valve to the design drawings to streamline installation. On-site warehousing of the product was incorporated, saving the customer money. Additionally, permanent, metal laser-etched identification tags were provided, and were affixed to each valve. This detail ensured the right valve went to the right spot.

Training

Each of the six locations received customized installation instruction and training, covering over 60 pipefitters. This assured that each pipefitter knew the proper procedures to tighten and install each fitting, thus eliminating dollars lost associated with labor, and other leak-related costs.

Results

All together, these efforts increased the contractor's bottom line and helped contribute to the success of this project. In summary, this project was comprised of:

- **75,000+ feet of tubing safely installed**
- **Over 700 valves, and roughly 6,000 small bore (3/4" & 1"OD) tube fittings**
- **Over 15,000 connections with 15 leaks**
- **A leak rate of less than 0.1%**

Contact Badger Fluid Systems today to learn how you can benefit by leveraging our capabilities.

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