

SO₃ Flue Gas Conditioning Systems - Major Upgrade

Hera Case History

Large Eastern Utility



Plant Data:

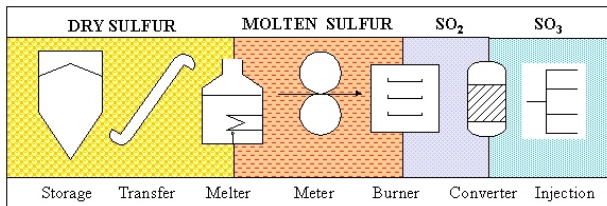
Location: North Carolina
 Thermal Output: 500 MW
 Sulfur Usage: 100 lbs/hr

Problem:

Many utilities depend heavily on the injection of SO₃ to condition their fly ash for optimum collection efficiency in the precipitator. Operators of older molten and granular sulfur based conditioning systems often struggle with hardware availability, resulting in high maintenance costs and routine derates for the station.

Innovative Approach:

HERA, LLC, in cooperation with FGC, Inc. has introduced its dry-to-molten sulfur interface (DSI™) system. This system employs dry sulfur storage and automatic intermittent dispensing of granular sulfur to a sulfur melter. The sulfur melter creates a buffer interface, combining benefits of dry storage with reliability of metering and burning molten sulfur. The DSI system also includes new state-of-the-art liquid sulfur pumps, capable of an 80:1 turndown ratio for even more precise control of injected SO₃. This equipment is followed, in some cases, by the customer's sulfur burner, converter and injection hardware and, in other cases, all new components are supplied.



DSI™ System Schematic

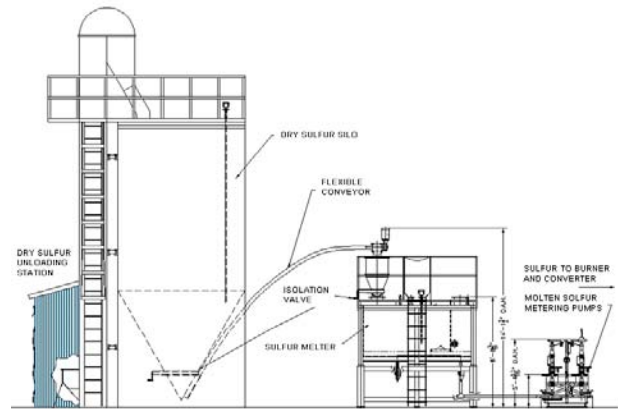
Implementor:

DSI™ technology is exclusively licensed to FGC, Inc. by HERA, LLC. FGC, Inc. designs and manufactures the complete automatic DSI™ system which, per customer preference, may be skid mounted or containerized.

The individual talents of FGC, Inc. and Hera, LLC have contributed to hundreds of successful SO₃ and NH₃ flue gas conditioning systems worldwide.

Project:

This power generating station had originally been fitted with a 70's style conditioning system. This system was later changed to an early generation granular sulfur metering and burning system with very unpredictable performance, resulting in excessive maintenance and downtime. During a brief outage FGC, Inc. retrofitted DSI™ and control upgrades into this system, eliminating the inherent operating problems with the granular system components.



Typical Layout of DSI™ System

Results:

The customer has enjoyed continuous operation of the system since March 2002 without incurring a single problem and, in so doing, exceeded its 99.5% plus availability expectations. Follow-up inspections found no signs of plugging or over/under injection, problems which plagued the prior flue gas conditioning system.



FGC's Sulfur Melter before shipment and in operation

New Projects:

DSI™ technology offers such significant benefits when compared to conventional molten sulfur systems, that new DSI™ systems have been installed at other power plants burning various low sulfur coals.

For more information about the innovations employed in DSI™ systems contact Hera, LLC.

Telephone: 949.707.5432
 Facsimile: 949.707.5435
 E-mail: info@herallic.com



HERA, LLC
 23042 Alcalde Rd., Suite F
 Laguna Hills, CA 92653
www.herallc.com