

Delivering speed and dynamic control

Waste to energy plant



End User:	AMSA
Location:	Milano, Italy
Application:	Waste to energy
Challenge:	Frequent unplanned service maintenance
Technology:	Fastrak
Results:	No unplanned service events



The AMSA plant process utilizes residential waste as the feedstock to the 50 MWe steam turbine boiler system.

Background

A2A is the second largest national electricity operator in Italy with an installed capacity of 5.6 GW. The company has a considerable share of renewable energy generation, about 26%, comprised of hydroelectric generation, gas and the national leader in the environmental sector as a result of 2.7 million tons of waste treated; of which, 1.3 million are used to produce electricity. In addition, the group is also the first in Italy to install a 780km district heating sector which covers Milan, Brescia and Bergamo from the process steam from cogeneration plants in Lamarmora, Goltara and Carnovali.

A subsidiary, AMSA (Azienda Milanese Servizi Ambientali) manages the waste collection which has more than 2 million residential customers and owns some of the most innovative plants in Italy. One of them, Silla 2 (ref picture top left), utilizes 4 steam conditioning valves installed in the turbine bypass system, where power is made from the collected residential trash.

Customer Challenge

The plant operates 24 hours a day, 7 days a week and allows only one week a year outage for maintenance. However, the service manager elevated to the business that they were experiencing significantly higher levels of unplanned maintenance as a result of the valves vibrating in the turbine bypass system. Vibration was causing unplanned outages due to positioner and linkage failure.

Solution

In September 2010 the CCI Atermarket Manager for Italy visited the AMSA plant and presented the Fastrak positioner and actuator upgrade as the perfect solution by improving the dynamic performance of the system - low deadband and faster stroke speed.



Customer Benefit

It took only four months for the equipment to be delivered and installed at the factory. It took only 2 months of uninterrupted operation before AMSA could see the benefits of having done the replacement. The plant has now operated an additional 2 hours per month as a result of fewer trips than they had prior to the upgrade, which not only helps to make the waste disposal process more efficient, but also enables them to handle an additional 100 tons per month. This additional waste disposal provides enough electrical energy to power an additional 1,000 washing machines per day and heat 25,000 showers with the thermal energy. The return on investment was less than a calendar month and the increase in availability means an extra 1GW/year can be produced. By implementing the CCI Fastrak solution the plant is more available for operation which has led to an increase in power sales.



About CCI

CCI offers world class technical expertise to ensure optimum process performance for the oil and gas, fossil and nuclear industries. The Valve Doctor® experts have in-depth knowledge on control and isolation valve design, as well as actuation, noise reduction, system piping and system operation. With headquarters in Rancho Santa Margarita, California, and offices worldwide, customers have trusted CCI for over 50 years to provide quality products and services for their severe service applications.

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