

# BONN - WASTE RECYCLING



Recycling of the waste from Bonn and the surrounding region is carried out by Müllverwertungsanlage Bonn GmbH (MVA), a subsidiary of Stadtwerke Bonn (Bonn Public Utilities). Over 1,000 tonnes of waste, which has to be disposed of in a safe and environmentally friendly way, is delivered to it every working day. In a complex thermal process, the waste is first incinerated and then processed. Flue gases are created when the refuse is burnt.

Their energy is recovered by means of a boiler or steam generator that is downstream from the incineration process. As the hot flue gases flow through the boiler, they are cooled down, while the boiler feed water heats up and evaporates. The steam created is then used to generate electricity and heat. In the downstream condenser, the steam is liquefied again and returned to the feed water.

The feed and boiler water must meet certain requirements to be able to operate a boiler safely and without causing damage.

**sera** designed and supplied a special dosing system for the boiler plant at MVA Bonn. Two independent dosing systems for caustic soda and ammonia solution have been installed in this plant, which condition the boiler water in such a way that it corresponds to the specifications of the VGB guidelines for power station operation. Both systems have dosing pumps, fittings, 500 litre batching tanks, fill level sensors, collecting basins and space for delivery containers. As ammonia solution is a volatile chemical, this part of the system has a gas-tight design. A shared control cabinet monitors the two dosing systems and provides information to the control centre at MVA Bonn. Decentralised monitoring and control of the systems is therefore possible.

The application solutions are both made fully automatically and with level monitoring from a mixture of concentrate and water. Dosing of the prepared solutions is carried out with controllable **sera** diaphragm and/or piston pumps. The demand on and adjustment of the pumping capacities depend on the operation of the higher level system parts.

**sera** dosing pumps ensure that there is a consistent pH value in the boiler feed water by adding caustic soda and that the condensate has a pH value of approx. 9.5 to protect the feed water and condensate pipes.

In this way, the boiler and pipes in the thermal section of the MVA have the optimal permanent corrosion protection.

