

PQ service – AVA Waste-to-Energy Plant Augsburg



Customer

AVA Abfallverwertung Augsburg is a communal organisation. It recycles the waste of over one million people from the city of Augsburg and the region.

For this purpose, it operates a waste-to-energy plant with integrated hospital waste incineration, a slag processing plant and a biowaste fermentation plant.

State-of-the-art firing technology and elaborate filter systems ensure that emissions in all parts of the plant are far below the levels prescribed by law.

Description

Since then, there has been an increased failure of components in other parts of the plant that are connected to the same transformer.

The feed of the main-distribution was monitored over a week with a PQ-Box 300.

The following observations were made:

- The power quality according to IEC 61000-2-4 (limits up to 9 kHz) could be complied with, but
- Supraharmonics around 30 kHz were massively above the limit values of the IEC 61000-2-2
- The oscilloscope showed a big noise on the sinewave



Application

The waste delivered by the refuse trucks is dumped into a bunker. Two gantry cranes with refuse grabs mix the refuse and fill three kiln lines with it. Both cranes and their equipment were replaced.

Suggested Solutions

A further EMC analysis revealed glaring deficiencies in the shielding and earthing of the cables between the inverters in the machine cabinet and the motors on the crane systems.

The crane manufacturer suggested using an isolating transformer to decouple the system from the rest of the low-voltage network. The implementation is still pending.

