



CASE STUDY

The Challenge

This client had recently built and commissioned a brand new facility. Due to the high quantity of variable speed drives installed across the network for energy efficiency purposes, an elevated level of harmonic currents and voltage was being constantly recorded throughout the plant. It was identified very early that those abnormal harmonic levels would have a negative impact on the performance of the facility. A full evaluation was required to ensure that the electrical distribution network would function as required and could reliably support the new milk processing production equipment.

How We Helped

Premium Power conducted an extensive power quality metering assessment to identify harmonic levels at LV transformer offloading boards. The assessment highlighted significant breaches of the voltage harmonic limits as stipulated by the IEC61000-2-4 standard.



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Client Profile

- Large food and nutrition plant
- Harmonics and reliability issues
- Project Date: Spring 2015

We modelled the facility's electrical distribution network using our specialist software analysis programs. The software model was used to size a filtering solution that would mitigate any harmonic issues.

The Result

Premium Power supplied and commissioned multiple active harmonic filters at the Client's facility based on our analytical results. Total harmonic voltage distortion fell from 6.5% to 3.5%, maintaining it within the IEC61000-2-4 limits, preventing future failures of critical devices, such as PLCs and controls, reducing the energy losses due to excessive currents and extending lifespan of mission critical power equipment.