



Protecting Drives, MCC's and PLC's Wheeling Corrugating—Fallon NV

Wheeling Corrugating has been America's leading fabricator of roll formed steel products for more than 120 years. They have 12 facilities nationwide and are perfect for agricultural, commercial, highway construction and residential applications.

The roll form machine was powered by several drives and protected by an isolation transformer. The Fallon NV, facility was experiencing constant failures of circuit boards of the Indramat drives, PLC drives and constant blown fuses. The failures would happen when the roll form machine was under full load. If a circuit board was blown there would be one day of down time waiting for replacement parts.

Environmental Potentials' team conducted a full power quality analysis at the MCC panel and the results were striking. The current and voltage readings were severely polluted with high frequency noise. EP recommended removing the isolation transformer and installing 1 EP-28883Y480 and 1 EP-2775 at the main panel and 1 EP-28883Y480 and 1 EP-2775 at the MCC.

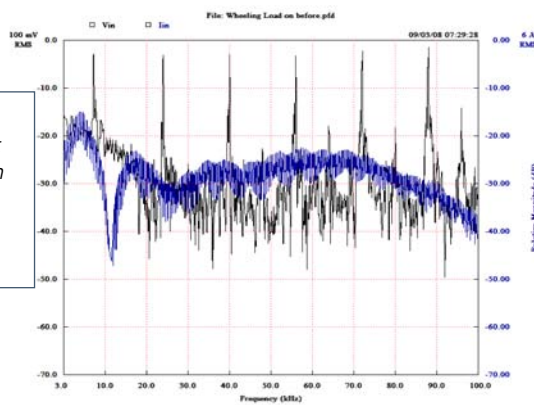


Figure 1: The voltage & Current HF readings reach severe levels that can damage equipment.

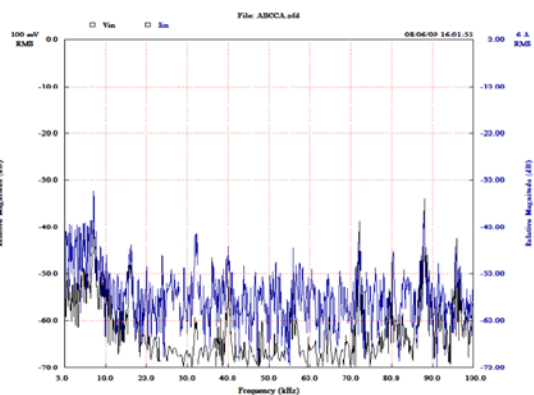


Figure 2: After installation both the current & voltage have decreased to harmless levels.

The results were evident. The current high frequency noise decreased from -28dB to -55dB. The voltage high frequency had severe spikes reaching -2dB at constant intervals. After installing EP the spikes were eliminated. The voltage noise was reduced to harmless levels of less than -60dB.

Balance in voltage and current is vital for good power quality. Imbalance in the current will cause bearing currents, ground loops, and energy losses. The current imbalance before EP installation was 12.18%, after EP it decreased to 2.65%. This illustrates that EP is not only correcting the sinusoidal nature of the current waveform, but the filtration levels the magnitude across the phases.

Environmental Potentials' patented waveform correction technology significantly improves power quality by eliminating harmful noise and balancing voltage and current.