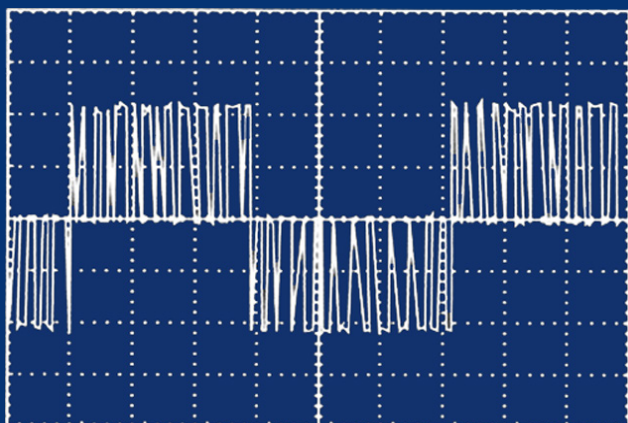


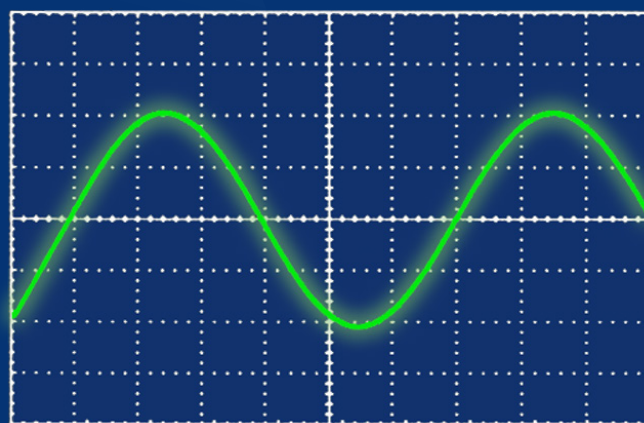


LEAN PROPULSION

# MARINE GRID SURVEY



PWM



SINUS

**WHY DISTURB PERFECTION?**



# MARINE GRID SURVEY



LEAN PROPULSION

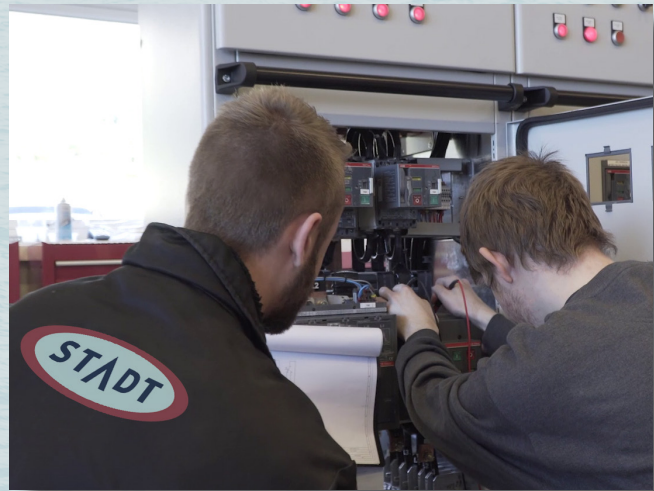
The modern world fleet is today equipped with frequency converters, computers, LED lighting, UPS etc. These products may reduce the energy consumption, however they come with several downsides.

They all create current harmonics; this is especially important to know about and handle on a vessel since it is an island grid with generators operating as a soft and sensitive grid.

## PERFECT GRID QUALITY

The perfect power has a power factor of 1 where the current is in phase with the voltage for each phase. The phase voltage is phase shifted 120° without any unbalance. The voltage and current are sine wave.

The perfect power quality does not exist, however we can identify the non-ideal characteristics and come with improvements.



## POOR GRID QUALITY

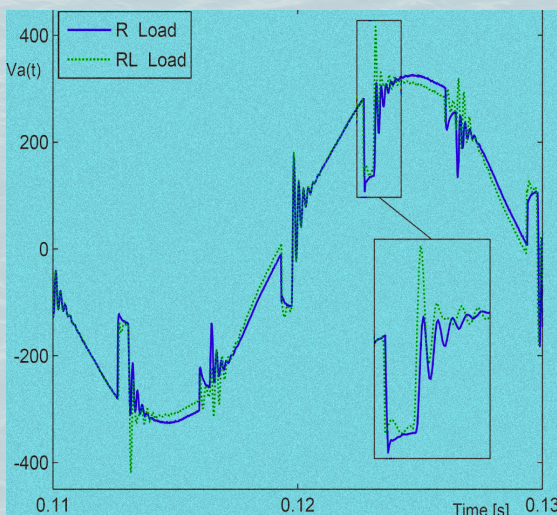
There are many known problems to poor marine power quality like:

- ▲ Overheating motors
- ▲ Overheating transformer
- ▲ Voltage dips
- ▲ Damaged equipment
- ▲ Unwanted tripping of breakers
- ▲ Shorter lifetime of equipment
- ▲ Non-compliant class requirement

## GOOD GRID QUALITY

The benefits of an improved marine power grid are:

- ▲ Less problems and off hire
- ▲ Longer lifetime of equipment
- ▲ Less fuel consumption
- ▲ Better economy
- ▲ Class complaint



## OUR MARINE GRID SURVEY

STADT can support with a marine grid survey where we come onboard your ship for a power quality measurement.

Our marine grid survey will include:

- ▲ Pre-study of the grid
- ▲ Measurement
- ▲ Grid Quality Report
- ▲ Suggestion for improvements

**Ask us for a grid survey today!**