POWER QUALITY MANAGEMENT

The problems described below, reflects Poor Power Quality of Electrical System :

- Medium Rating Transformers Overheated at low loads or even burning.
- Motors tripping on low load, overheated or even burning.
- Fuse switch overheated or flashing over.
- PCB or Electronic card or component failure.
- Lighting distribution system Neutral conductor burning out.
- Power measurement errors.
- Additional power losses.
- High neutral to ground voltages, resulting in failure of power supply units.

Sources of Harmonics :

- Transformer under no load & light loads
- Saturated Reactors
- Thyristor-controlled motor drives.
- Arc furnaces
- Arc Welders
- Induction furnaces
- Gas-discharge lighting
- Rectifiers
- Electrolysis plants
- Energy conservation devices, e.g. Soft Starters, Electronic Ballast & Fan Regulators
- Equipment with SMPS e.g. TV receivers, PCs
- CVTs

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Causes :

- Presence of "**Harmonics**" in Voltage,Current & Power.
- **"Sags** & **"Swells"** in Voltage output.
- Inrush current.
- Unbalance Distribution.

We support :

- **Measurement** of Power Quality with Precision Power Quality Analyser.
- **Analysis** of data collected by Power Quality Analyser.
- Carry out **Harmonic Filter Design** using
    - **ETAP** (Electrical Transient Analyser Programme) &
    - **ATP** (Alternative Transient Programme)
- Assist in **Procurement and Commissioning** of Harmonic filter equipment.

Capabilities of Power Quality Analyser :

- **Harmonics** (Voltage, Current & Power) from 1st to 51st & **Total Harmonic distortion** (THD)
- **K factor**
- **C factor** (Crest factor)
- **True RMS** Values for Voltage & current
- Recording of **Voltage Sags & Swells**
- Recording of **Watts, VA, VAR, PF, DPF, & Frequency**
- Recording of **Inrush current** of Transformer, Induction motor etc,from 1 sec to 5 minutes.
- Recording of **Transients** in the electrical system due to switching (or) faults.
- All other parameter recordings can be from 4 minutes to 16 days.