

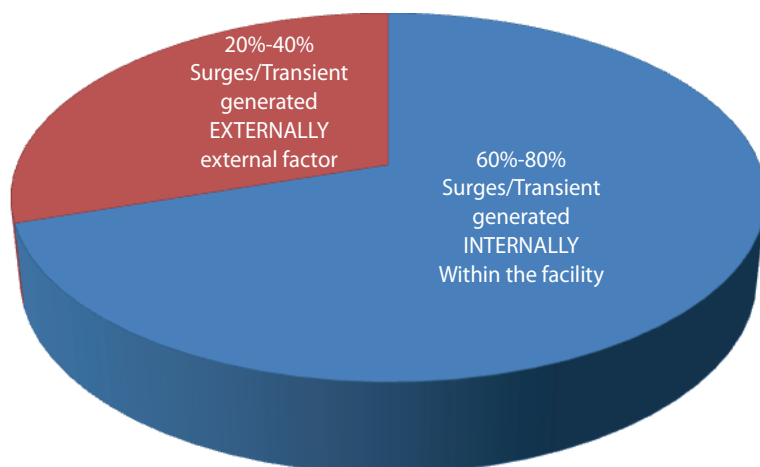
The important of power quality

Most equipment is designed to handle minor variations in their standard nominal operating voltage however; surges can be very damaging to nearly all equipment. Surges, or transients, are brief overvoltage spikes or disturbances on a power waveform that can damage, degrade, or destroy electronic equipment within any home, commercial building, industrial, or manufacturing facility.

Sources of Surges/Transients

A common source for surges generated inside a building are devices that switch power on and off. This can be anything from a simple thermostat switch operating a heating element to a switch-mode power supply found on many devices. Surges that originate from outside the facility include those due to lightning and utility grid switching.

Sources of surges/ Transients



60-80% of surges are created within a facility
Transients can originate from: » inside (INTERNAL sources)

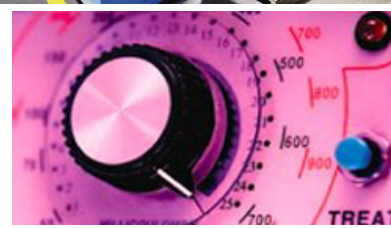
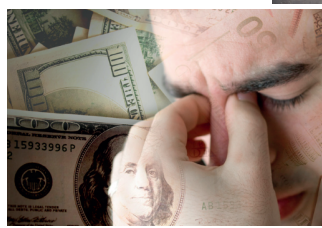
- Contactor, relay and breaker operations
- Switching of capacitor banks and loads (such as power factor correction)
- Discharge of inductive devices (motors, transformers, etc.)
- Starting and stopping of loads
- Arcing (ground) faults
- Fault clearing or interruption
- Power system recovery (from outage)
- Magnetic and Inductive coupling
- Static electricity

20-40% of surges/transient are generated from: » inside (EXTERNAL sources)

- Lightning
- Direct contact of the lightning to a facilities electrical system
- Indirect or nearby lightning that induces electrical surges onto the power or communication systems.
- Power quality disturbances
- Power utilities grid switching
- Power utilities capacitor bank switching
- Fallen tree limb or small animal causing a fault on the line
- Under/Over voltage conditions

Why Power Quality is very important???

- Customer disatisfactions
- Cost of repair is very expensive
- Threaten the human life (e.g. Direct shock, security management, magnetic locks and fire protection)
- Lack of efficiency
- Protect our valuable equipment
- Economical, service and security parameters



Call Us For More Information



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