# BARON SYSTEM DESIGN BASIS

## DATA SHEET 090280

Case studies of BARON Systems are done while taking the following into consideration for BARON System Design.

- Measurement Techniques
- Mitigation Techniques
- Performance And Payback Projection
- Validation of the Study

## DESIGN METHODOLOGY

For the reliable Performance of BARON Systems, the Design of the System is by a Step-by-Step Systematic Design Methodology as mentioned below:

| Studies | System Selection Criteria |
|---|---|
| Power Quality Studies | Type and Location of System |
| Load Flow Studies | Rating of System |
| Harmonic Studies | Projected Performance levels |
| | Annual Saving |
| | Cost of System |
| | Payback Calculation |
| **Analysis of Data** | **System Supplies & Validation** |
| Harmonic Analysis | Supply of such Systems |
| Waveform Analysis | Validation report of Systems |
| Spectrum | Validation of savings |

## PERFORMANCE

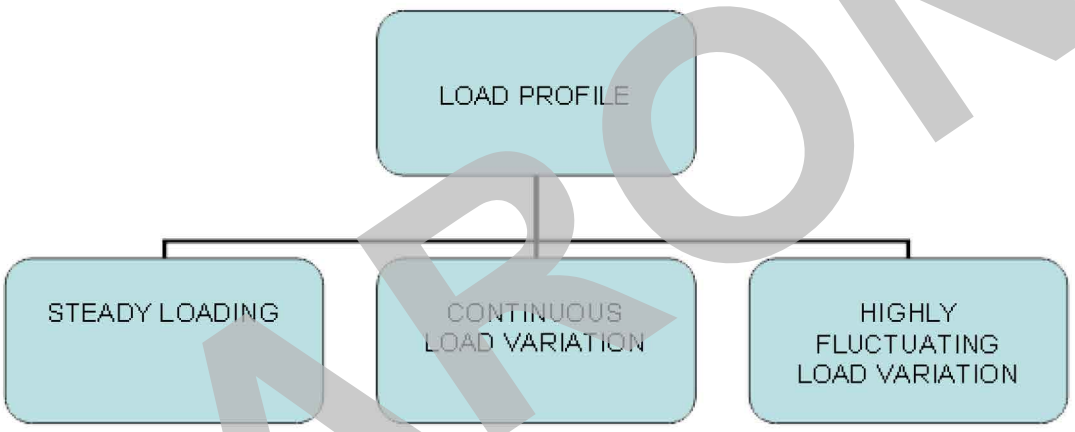
The installation of BARON Systems will lead to various direct and indirect benefits, which are estimated for possible cases and are validated for the performance of the offered Systems. The optimally designed and selected System will perform the following:

- Shunt Harmonic Currents.
- Reduce Neutral Current & safeguards it.
- Reduce Total Harmonic Distortion.
- Reduce System Losses.
- Reduce Peak & average Phase Current.
- Reduce Transformer overload.
- Reduce local Neutral to Ground Voltage.
- Improve System protection.
- Increase System's Active loading capacity.
- Improve Power Factor of Non-linear loads.

## BENEFITS

| DIRECT BENEFITS – EVALUATION OF SIMPLE PAYBACK | INDIRECT BENEFITS |
|---|---|
| •Reduction of MD KVA | •Increased life of Equipments and Machinery |
| •Avoidance of MD penalty | •Reduced Equipment/Machine Down time |
| •Avoidance of PF penalty | •Reliable Measurement and Control functions |
| •Availing PF incentives | •Reduced Maintenance cost |
| •Reduction in KWHr consumption | •Avoidance of harmful Resonance |

## REACTIVE POWER MANAGEMENT SYSTEMS - INDUSTRIES - LOAD PROFILE




| | | |
|---|---|---|
| TEXTILE INDUSTRIES<br>BREWERIES<br>CONFECTIONERIES<br>CHEMICAL INDUSTRIES<br>RICE MILLS<br>FOUNDARIES | MALLS<br>IT PARKS<br>CEMENT INDUSTRIES<br>PAPER MILLS<br>PRINTING PRESS<br>OTHER MANUFACTURING SECTORS | ROLLING MILLS<br>QUARRIES<br>WELDING SHOPS<br>SHEAR PRESS LOADS<br>PLASTIC MOULDING<br>READY MIX CEMENT<br>STACKERS/RECLAIMERS |