Case Study for IT Company

Situation

- 6000 Sqft., area spread across 3 floors
- 28 tonnes of air conditioning used for cooling
- 20 KVA UPS backup for lighting and computing loads
- 100 KVA DG Set backup
- About 5000 units of electricity consumption per month for work area and data center.
- Improper cooling distribution resulting in heat generation and minor incidents of fire.
- Insufficient backup time resulting in frequent and excessive dependency on DG set.
- Occasional failure, inefficient operation and unknown consumption of DG set used for backup.

Task

- To correct the distribution imbalance across entire building
- To optimize power back and distribution
- To target the 19 nos. of air conditioning units to quantify the cooling energy consumption and provide better visibility.
- To define conservation metrics
- To reduce downtime and improve load balancing of the air conditioning system.
- To quantify consumption, efficiency and conservation metrics
- To reduce downtime and improve load balancing of power backup systems.

Action

- Site survey done to identify the energy guzzlers
- Installed smart energy meters and monitoring hardware and networked to SEnergy Cloud.
- Reengineered
  - Overall distribution by optimal deployment of equipment and rewiring to match the requirement
  - Specification of distribution components and end equipment
  - Specification and distribution lay out of power backup system
- Defined and quantified various consumption, efficiency and conservation metrics
- Altered workspace layout to match space tonnage index
- Introduced ventilation elements to improve heat exchange and air circulation
- Corrected space tonnage index of targeted space by adding more A/Cs
- Executed the conservation project within 42 days.

Result

- Eliminated need for costly energy audits
- Helped to enforce strict SLA adherence
- Increased UPS backup by 2 hours without additional batteries and minimized the dependency on DG set for back up
- Isolated and identified pilferage of diesel and reduced the per unit production cost.
- Eliminated additional security deposit for electricity proving company
- Alerted and eliminated earth fault and prevented the chances of fire mishaps.
- Provided 360 degree of operational control of electrical equipment to the customer
- Enabled expansion of computing and workspace facility without further increase in CAPEX, which would otherwise have been incurred for more power backup
- Helped to save close to 40% energy per year
- Projected RoI of 18 months directly calculated from reduced energy bill payment