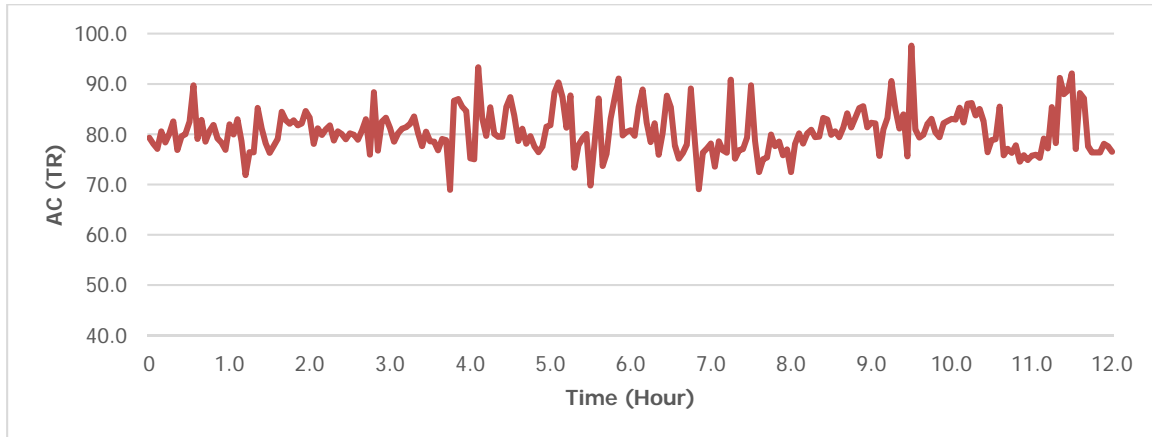


Case Study: **Building Energy Audit: Profiling of Air Conditioning Load**

SENERGY Consultants (P) Ltd

Background:

While conducting energy audit for the Commercial Premises, the requirement of air conditioning was monitored throughout the day (12 hours) to analyze the requirements and consumption pattern.



Operating Scenario:

- The normal office period of 9 hours during which the occupancy was 100%. The occupancy was sporadic for next three hours.
- The centralized air conditioning system was operated for 12 hours. The individual AHUs (Air Handling Units) were provided with two way control valves on chilled water pipe line to monitor flow based on temperature.
- The air conditioning load was observed to be more or less steady throughout the operating period as represented in the chart.
- The bypass valves to control system were observed to be kept open and few of the control valves were malfunctioning.

Energy Conservation Measures:

The above concerns and issues were addressed by

- Repairing / replacing the faulty control valves.
- Strictly adhering to maintenance schedule and ensuring that all bypass valves remained closed.
- Switching off the refrigeration compressor after office period. The system inertia was observed to be adequate to meet the load.

Outcome:

- The overall energy consumption of the refrigeration compressors reduced by around 15%.

SCPL-CS-13

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