



# Demand Side Management Implementation Challenges for Mumbai utilities

*26<sup>nd</sup> March 2008*



# Demand Side Management

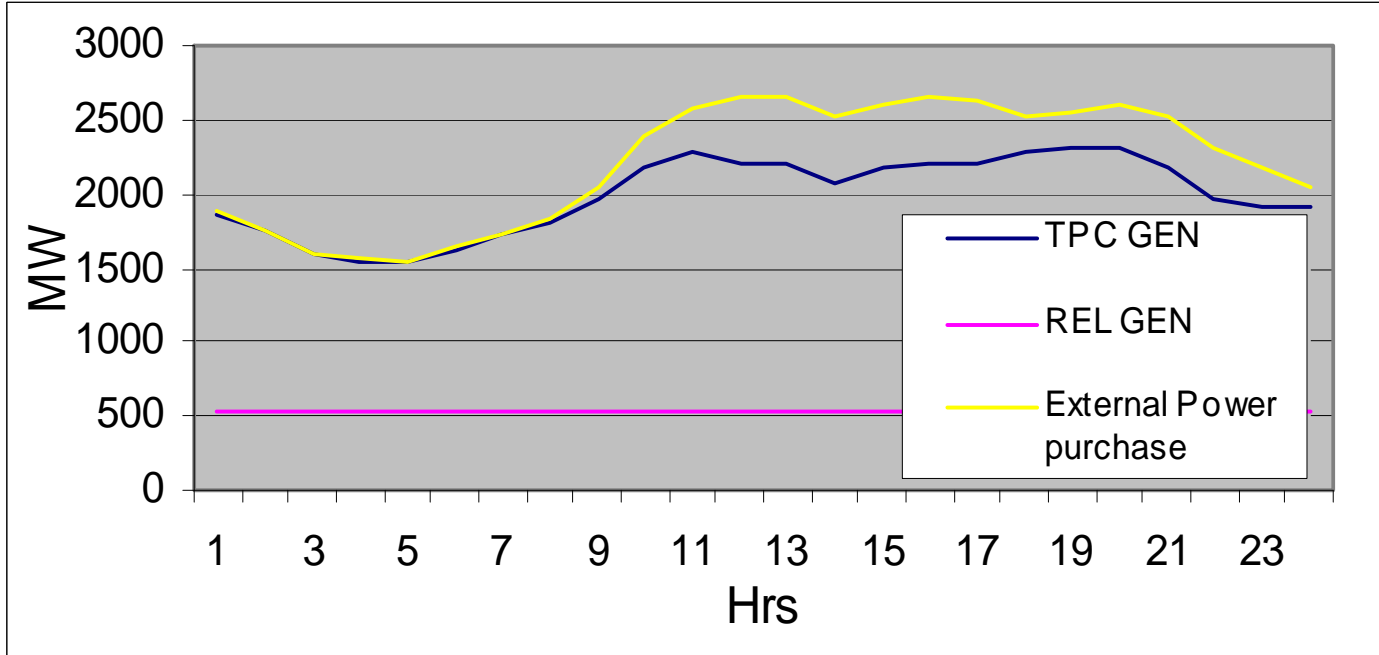


## Background of Challenges

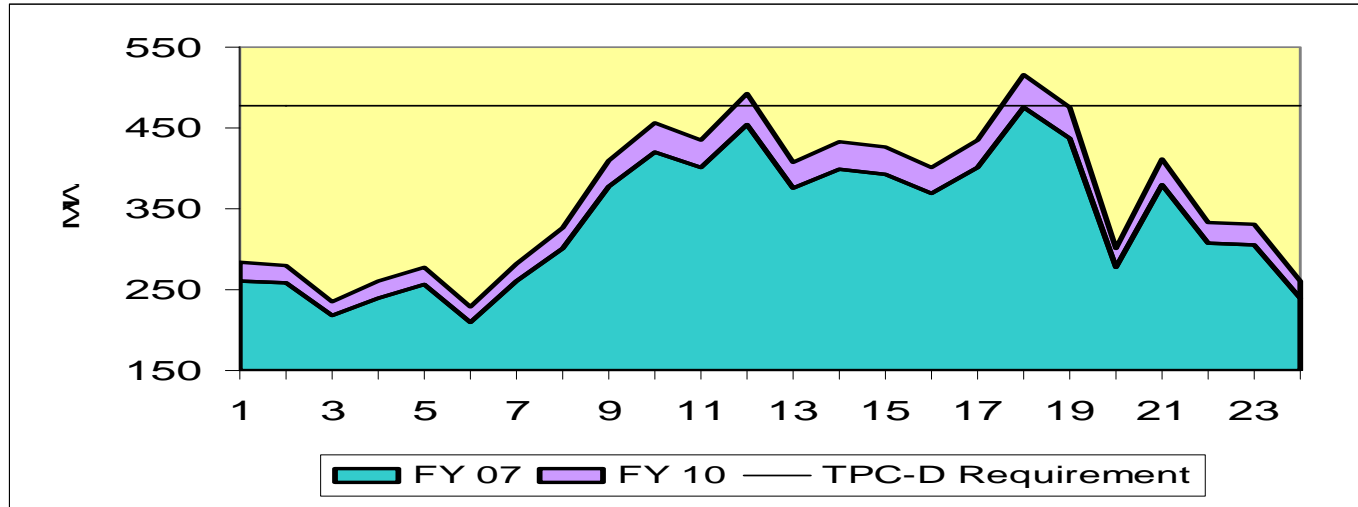
- Maharashtra Regulatory Commission is the first to recognize need for Demand Side Management.
- Power Purchase has been around 1200 MUs & 600 MW in FY08 for Mumbai.
- Off Peak is 50 % of Peak load for Mumbai.
- Energy Efficiency is still an **alien** word for people.
- Concept of 'Energy Efficiency Pays' still to be understood.



### Mumbai Load curve

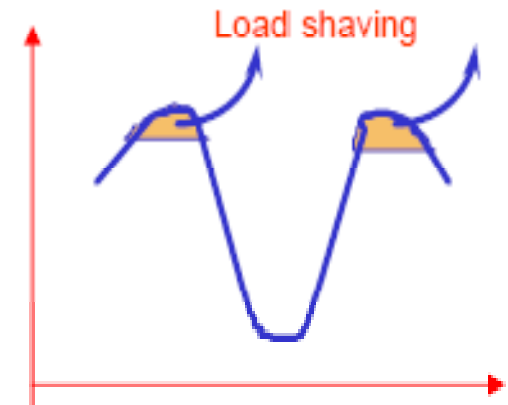
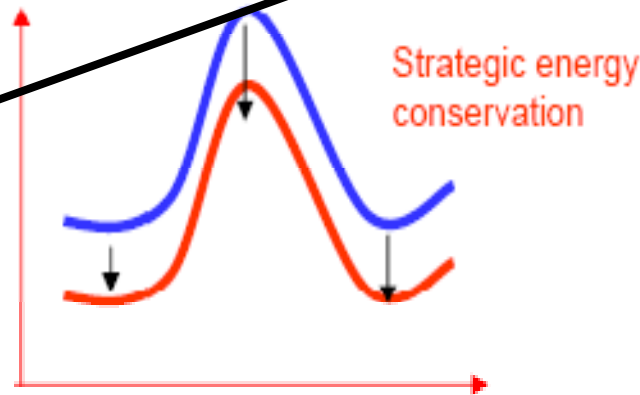
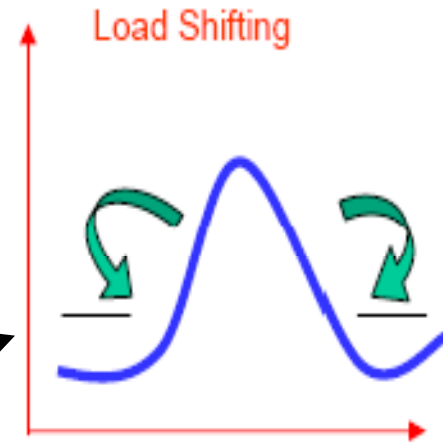
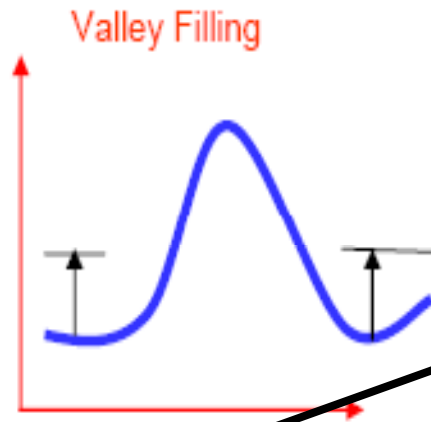
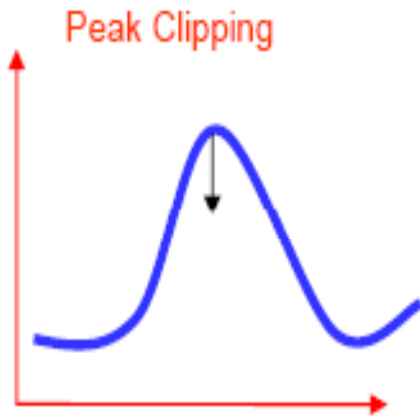


### TPC -D Load Curve



# Demand Side Management

## Demand Side Strategies



Most suitable for Mumbai



## Challenges for Utilities

### Mindset

- The utility mindset : Will DSM cause loss of revenue / Returns ?
- What difference DSM Program will make to people materially ?
- No compulsion to utility under EA 2003.

### Issues

- Load research is still to mature & still in preliminary stages
- Can not provide schemes selectively for willing customers.
- Shortage of ESCOs. (*Energy Services Company*)
- Filling valleys or shifting the demand.
- Large scale metering replacement required for TOD tariff.

### Way forward

- Motivation for load shifting by tariff structure
- Facilitating the utility by regulation for investing in DSM programs.
- Load Research – Customer segment & Feeder wise.
- Involving large users & Equipment manufacturers.
- Energy Audits & Measurement to demonstrate the results.
- Efficiency based incentives.
- Technology innovation.
- Govt. Policies – To encourage suitable/balanced industrial load



# Demand Side Management

## Attributes required for Successful Implementation

### Costing

- Measurable and verifiable results
- Cost-effective

### Sustainability

- Sustainable over the long term
- Reliable
- Well-suited to target customers
- Benefit to customers.
- Asset Utilisation.



# Demand Side Management



## Action Plan

### Immediate

Small Steps :

- T8 to T5 tube light promotion scheme
- Energy conservations within the organization

### Medium term

- Programs for Air conditioners and Refrigeration in consumer premises.
- Program design for malls , call centers and multiplexes.
- Program design for bulk users.
- Program design for large industries.

### Long term

- Thermal Storage
- Demand response programs
- TOD tariff / Incentives / Disincentives etc.



# Demand Side Management

## Programs underway at Tata Power

- Energy saving through use of CFL , T5 tube lights.
- Use Energy Efficient Air conditioners & systems.
- Automation of Switchyard lights and Street lights.
- Installation of power savers in A.C circuits.
- Training seminars to educate customers
- Awareness programs in Schools.
  
- Reduction of 7.2 % in Aux. Consumption of T&D division of Tata Power





**Thank you !!!**

