

Reserve Bank of India Central Office Building

(i) General Description of the Building

Reserve Bank of India Central Office building situated at Shahid Bhagat Singh Marg , Fort , Mumbai was constructed in a plot of 5436 sq.yards. The building was inaugurated by Shri R Venkatraman the Finance Minister on November 07,1981. The building has two basements , ground floor , Mezzanine and twenty seven floors of which the upper most two floors are service floors . The building has a total up built area of 35,316 sq. meters, carpet area of 25,093 sq. meters.

The office space in the building is fully air-conditioned by Central plant of capacity 900 TR. The building has 12 Nos. passenger lifts and one freight lift vertical transportation, smoke detection analogue addressable and fire alarm system, wet riser system for fire fighting , Diesel generator sets for emergency supply . Modern equipments for communication/data, security are in place in the building. Entry to the building is controlled by access control system. All the flush water is collected at sewage treatment plant and the treated water is used as circulating water in the cooling towers for the air- conditioning plant , gardening etc.

The building accommodates Central Office of various department of the bank. In the building ,about 2000 people work during office hours.

(ii) Energy Consumption

Electric power is mainly used in the building to meet the energy need of the building. LPG is used for cooking purpose in officer's lounge and staff canteen. Bank receives electric supply at 11 KV from BEST and the same is converted to 415 volts, by its own transformers installed at the basement of the building . An LT supply from BEST is also available for emergency. 2 Nos. of DG set each of 200 KVA has also been installed in the premises by the Bank to take care of the emergency load of the building . The electric energy is mainly used for lighting , air-conditioning/ventilation , lifts, water pumping, sewage treatment plant and other power loads in the building.

The contract demand of the building is 1750 KVA. The total connected load presently is about 2868KW. The total electric energy consumption of 45,95,840 units in 2004-05 (April –March)and further reduced to 44,76,940 units in 2005-06 and Consumptions for 2006-2007 increased to 45,61,460 units due to increased in central Air conditioning plant operation . The major energy saving was achieved in 2004-05 on account of replacing the old air-conditioning chiller package with energy efficient one. The Total Energy consumption bill for April 04 - March 05 of Rs.3,04,59900 and reduced to Rs. 2,94,31600 for April 05- March 06 and further reduced to Rs. 2,80,10899 . The distribution of total energy consumption in the building among various major load categories is as below- 50% for air-conditioning/ventilation,17% for lighting,23% for lifts, pumping and other power loads and 10% for computers/office equipments.

(iii) Energy Conservation Achievements

In the year 2004-05 Bank has replaced the old chiller package of the air-conditioning system with energy efficient centrifugal chiller package units. This resulted in substantial saving in energy in the year and the electric energy consumed thus reduced to 45,95,840 units. The reduction is about 7% compared to the previous year. The total cost of energy in 2004-05 was also undertaken by replacing conventional tube light fitting and lamps resulting a further saving of electric power consumption and the power in 2005-06 is 44,76,940 units and bringing the total energy costs to 2,94,31,600/- and further reduced in energy cost for 2006-2007 to Rs.2,80,10899/-

- 1) The major achievement in energy saving was in 2004-05 consequent on replacement of old chiller package with energy efficient chiller package. This resulted in
 - The IKW/TR of air-conditioning chiller package has been reduced from about 0.9Kw to 0.61 KW
 - An annual saving of Rs. 45 lakh in the energy bill
 - Environmental friendly refrigerant (R134a) has been introduced in the air-conditioning system.
 - The power factor has been improved by adding APFC panels and some manually adding controlled capacitor Bank's (From 0.950 to 0.982)
- 2) TL 5 fittings have been used in the staircases as replacement of FTL.
- 3) Timers have been installed in the staircases to control the energy use.
- 4) The existing FTL s are being replaced with retrofit solution using T5 lamps.
- 5) The timing of the operation of central AC plant has been restricted and also the temperature range is maintained within $24^{\circ} \text{c} \pm 2^{\circ} \text{c}$.

The following actions are initiated and are in progress-

- 1) The existing passenger lifts (12 Nos) are being replaced with new ones, based on VVVF technology.
- 2) The existing substation equipments are being replaced with new ones, including replacement of oil filled transformers (3Nos, 1250 KVA) with Dry type transformers (3Nos, 1250 KVA) and HT OCBs with VCBs . Additional APFC panels are also being added.
- 3) Hermetically sealed double glazed windows will be used while replacing existing windows during structural repairs and rehabilitation work, thereby reducing AC load.

The following actions are in planning stage-

- 1) Replacement of old water pumps with energy efficient new pumps.
- 2) Use of new more energy efficient lighting fixtures.

Bank has also conducted energy audit for the entire electrical installations in the building in 2006 through National Productivity Council and identified further measures for saving of energy on a continued and sustainable manner. Action has been initiated in the building to achieve the national goal of conservation of energy.

Whether any dispute pertaining to statutory requirements of safety and pollution control is pending with any Government Agency -NIL