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Aggregated Data Reporting by Designated Consumers

All the designated consumers incorporated under “The Companies Act 1956” are already reporting data regarding energy consumed and energy conservation measures taken by them. However, as per “The Energy Conservation Act,2001” the designated consumers will be required to submit details of energy consumption as per the format given by BEE. It will be really good if BEE could prevail upon all the concerned authorities to finalize a common reporting format so that the designated consumers will also not have to spend too much time in reporting the data to too many agencies. This will be a good “value addition” for them.

Dr Kaupp’s recommendations for reporting energy performance are very appropriate and as invited, I am giving below my contribution for Section 5, “Pop up explanations for change in consumption and costs” along with an appropriate graph for a real case of *Kamala Park Pump House* owned and operated by *Bhopal Municipal Corporation*. I am not sure whether municipal water supply works do come under the purview of “The Energy Conservation Act,2001”, but since the reported works had the contract demand of 1000 KVA and is considered as government owned establishment, I have included the case for consideration of BEE so that it could include municipal water works in the list of designated consumers and include large municipal corporations under the Act. As per the report of “Alliance to Save Energy”(www.ase.org), municipal water supply works account for about 2-3 % of electricity consumption and some of them are spending as much as 20% of their annual budget paying electricity bills for their water works.

Facility Description

Kamala Park Pump House is one of the pump houses in Bhopal City from where raw water is drawn from one of the water sources known as “Bada Talab” (Upper Lake) It is having a designed capacity of 5 MGD. There are four raw water horizontal split casing

pumps (224 kW each of which two are standby) installed that pump raw water to filtered water plant located at Arera Hills , a distance of about 3Km.

The power supply is from the grid with a contract demand of 880 KVA. The power supply (33 KV) is reduced to 440 Volts in a transformer for running the pumps and for lighting and other purposes.

Energy Consumption Pattern

The monthwise electricity consumption and water pumped are given in Fig.-1 and Fig-2 respectively for the period from April '02 to March '03

Suggestions for pop up explanations for change in consumption and costs

(In addition to the reasons mentioned in Dr Kaupp's recommendation)

a. Increased specific consumption or cost list

#.	Reasons of increased energy consumption /unit output	Reasons of increased costs Rs./unit output
1.	Poor quality of major raw material	Increased Contract Demand Charges
2.	Emergency use of higher capacity equipment	Penalty for low p.f.
3	Interruption in production due to accident at work place	Penalty for exceeding MD
4.	Reduced production due to cancellation of order	Power cut from SEB, increased self generation
5	Idle running of some new machines for performance testing.	Higher transportation charges for fuel oil
6	Use of rewind motor	Increased govt duties
7	Use of overhauled equipment	Non availability of fuel from contracted source due to force majeure reasons
8	Trial running for new product development	
9	Loss of fuel due to major leakage storage/ pipeline/ equipment	
10	Failure of control equipment to produce higher quality than needed	

b. Decreased specific consumption or cost list

#.	Reasons of decreased energy consumption/unit output	Reasons of decreased costs Rs./unit output
1	Installed Waste Heat Recovery System	Switched over to coal fired from oil fired boiler
2	Installed Solar Water Heater	Availed tax benefit for installing energy efficient equipment
3	Installed energy efficient furnace/boiler etc.	Improved p.f. to avoid penalty
4	Reduced process cycle time	Improved p.f. to get incentive
5	Reduced no of processing steps	Reduced Contract Demand
6	Avoided reheating /waiting in	Purchased power from renewable power producer
7	Water Table increased due to heavy rains	Installed Combined Heating, Cooling, and Power System
8		Water Pumping charges reduced

[Pop-up explanations for the case of Bhopal Municipal Corporation](#)

Reasons for increased energy consumption per Million Litre of Water Pumped

2,6,7 and 9

Reasons for increased cost per MLD of water pumped

#2 and 3

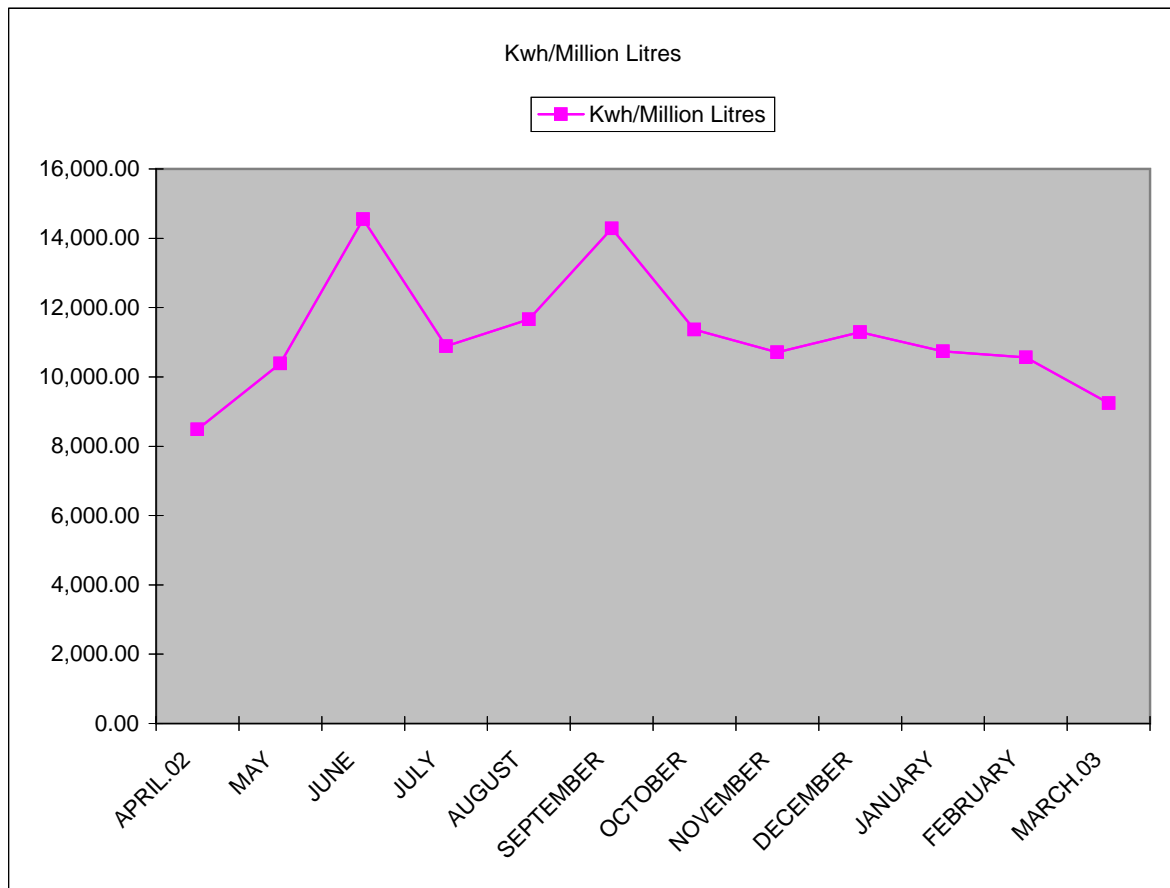
Reasons for reduced energy consumption per MLD of water pumped

#3,6 and 7

Reasons for reduced cost per MLD of water pumped

#3, 4 and 8

MONTH	Kwh/Million Litres	Rs/Million Litre
APRIL.02	8,482.52	22,270.34
MAY	10,389.97	27,279.47
JUNE	14,546.97	26,675.28
JULY	10,889.77	28,612.20
AUGUST	11,663.52	25,452.11
SEPTEMBER	14,283.37	33,313.32
OCTOBER	11,369.70	24,709.90
NOVEMBER	10,709.67	28,098.39
DECEMBER	11,289.08	29,434.82
JANUARY	10,735	27,659.55
FEBRUARY	10,563.16	30,276.82
MARCH.03	9,241.07	24,624.98



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