BEFORE THE ELECTRICITY OMBUDSMAN (MUMBAI)

(Appointed by the Maharashtra Electricity Regulatory Commission under Section 42(6) of the Electricity Act, 2003)

REPRESENTATION NO. 30 OF 2025

In the matter of excessive billing of kVAh and Contract Demand

V/s.

Appearances:

Appellant : Dnyaneshwar Anandrao Bhamre

Respondent : 1. Pratap Machiye, Executive Engineer (O), Dhule Circle

2. Mahendra Chavan, Asst. Engineer

Coram: Vandana Krishna [IAS (Retd.)]

Date of hearing: 1st August 2025

Date of Order: 5th September 2025

ORDER

This Representation was filed on 13th May 2025 under Regulation 19.1 of the Maharashtra Electricity Regulatory Commission (Consumer Grievance Redressal Forum and Electricity Ombudsman) Regulations, 2020 (CGRF & EO Regulations 2020) against the order dated 11th April 2025 in Case No. 263 of 2024 passed by the Consumer Grievance Redressal Forum, Nashik Zone (the Forum). The Forum by its order rejected the grievance of the Appellant.



Preamble:

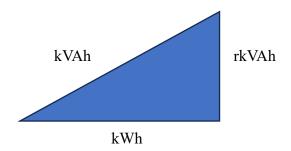
Up to 31.03.2020, the HT consumer billing was based on kWh readings and Power Factor (PF). The PF computation was done as per the methodology given below:

Where the average Power Factor measurement is not possible through the installed meter, the following formula for calculating the average Power Factor during the billing period was applied:

Average Power Factor
$$= \frac{Total(kWH)}{Total(kVAh)}$$

Wherein the kVAh is
$$= \sqrt{\sum (kWh)^2 + \sum (RkVAh)^2}$$

(i.e., Square Root of the summation of the squares of kWh and RkVAh)



Power Factor Incentive

Whenever the average Power Factor is more than 0.95 lag and up to 1, an incentive shall be given at the rate of the following percentages of the amount of the monthly electricity bill, excluding Taxes and Duties:

Sr. No.	Range of Power Factor	Power Factor Level	Incentive
1	0.951 to 0.954	0.95	0%
2	0.955 to 0.964	0.96	0.50%
3	0.965 to 0.974	0.97	1.00%
4	0.975 to 0.984	0.98	1.50%
5	0.985 to 0.994	0.99	2.50%
6	0.995 to 0.968	1	3.50%

Power Factor Penalty

(Dilip Dumbre)
Secretary
Electricity Ombudsman Mumbai



Whenever the average PF is less than 0.9 (lag or lead), penal charges shall be levied at the rate of the following percentages of the amount of the monthly electricity bill, excluding Taxes and Duties:

Sr.	Range of Power	Power	Penalty		
No.	Factor	Factor Level	Гепану		
1	0.0.895 to 0.900	0.9	0%		
2	0.885 to 0.894	0.89	1.00%		
3	0.875 to 0.884	0.88	1.50%		
4	0.865 to 0.874	0.87	2.00%		
5	0.855 to 0.864	0.86	2.50%		
6	0.845 to 0.854	0.85	3.00%		
7	0.835 to 0.844	0.84	3.50%		
8	0.825 to 0.834	0.83	4.00%		
9	0.815 to 0.0.824	0.82	4.50%		
10	The same logic extends further				

Introduction of kVAh billing to HT Consumers – MERC Tariff Order Case No. 322 of 2019 (Dated 30.03.2020) w.e.f. 01.04.2020:

1. Objective and Concept

- The Commission introduced kVAh-based billing for all HT consumer categories of MSEDCL from FY 2020-21 onwards, in line with earlier directions in Case No.195 of 2017.
- For LT consumers with contract demand/sanctioned load above 20 kW, kVAh billing is to be introduced at the time of Mid-Term Review (MTR).

2. MSEDCL's Submissions Abstract:

Section 2.7.12 – kVAh billing will:

- Encourage consumers to maintain near-unity Power Factor (PF).
- Achieve loss reduction, improve system stability, voltage profile, and power quality.
- Reduce consumer demand and corresponding kVAh bills due to improved PF.
- Lower power purchase expenditure, thereby benefiting consumers through reduced tariffs.

Section 2.7.15 –

• Tariffs in kVAh already factor in PF penalties/incentives.



- No separate impact on consumers; if kVAh billing was not considered, tariffs would have been higher by 2%–3%.
- Hence, kVAh tariff is effectively lower than kWh tariff by the average PF.

3. Technical Basis of kVAh Billing (Section 8.10)

- Electric power has two components:
 - o Active/Real Power (kW) consumed for useful work (heat, light, motion).
 - o **Reactive Power (kVAR)** required for electromagnetic fields in inductive/capacitive loads.
- **kVAh** = **Active** + **Reactive component** (vectorially).
- kVAh billing serves as a commercial inducement to reduce reactive drawl and promotes installation of capacitors/efficient devices.
- Forum of Regulators (FoR, 2009 Report on Metering Issues) recommended kVAh billing as a global best practice.

4. Regulatory & Policy Provisions

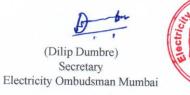
- MERC MYT Regulations, 2019 Regulation 73.2: Provides for kVAh billing.
- National policies emphasize energy efficiency, DSM, and conservation kVAh billing aligns with these objectives.
- PF incentive earlier available has been duly factored in while re-designing tariff structure.

TARIFF PHILOSOPHY, TARIFF DESIGN AND CATEGORY-WISE TARIFFS FROM FY 2020-21 TO FY 2024-25:-

8.1.0: The Commission has introduced kVAh based metering/billing for HT consumer categories in the 4th Control Period. For LT consumers with contract demand/sanctioned load more than 20 kW, kVAh based metering/billing is expected to be introduced at the time of MTR. ...

5. Key Benefits of kVAh Billing (Sections 8.10.9 – 8.10.10)

- Reduces losses and improves voltage profile.
- Drives consumers toward unity PF.
- Acts as an inbuilt incentive/disincentive system without the need for separate PF penalties/rebates.



• Ultimately results in reduced consumer bills and lower overall system costs.

6. Legal & Regulatory provisions:

A) Relevant APTEL judgements in the subject matter: 8.10.11The Appellate Tribunal for Electricity, New Delhi in the matter of Prime Ispat Ltd., Mahamaya Steel Industries Limited and Chhattisgarh State Electricity Regulatory Commission, in its judgement dated 10th April 2015 in appeal No.263/2014 had observed advantages of high-power factor and kVAh billing. 8.10.12The relevant extracts of the same are reproduced below:

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- ➤ Higher the power factor, lower is the load current and thereby technical losses of the transmission lines i.e. I2R losses will be reduced considerably.
- ➤ Due to increase of power factor (nearer to one), the consumer's demand charges will be reduced and also the kVAh billing will also be correspondingly reduced.
- ➤ The higher power factor will reduce the demand on the system and improve the system voltage.
- ➤ Increases the available transmission and distribution system capacity.
- The improvement in power factor will reduce the licensee's expenditure on power purchase and thereby the consumers will be benefited with lower tariff.......

 Further, the power factor surcharge/rebate will not be there in kVAh billing. Thus, the kVAh based billing will drive the consumers to reach unity power factor and thereby the system performance will be improved and also reactive power drawl from the system will be minimised and thereby better system voltages for the tail end consumers also...."

In Mathematical Format: -

- PF = kWh / kVAh
- At unity $PF \rightarrow kWh = kVAh$.
- If PF < 1 → recorded kVAh > kWh → higher billing drives consumers to improve PF.
- Thus, kVAh billing improves overall system performance and reduces reactive power drawal.

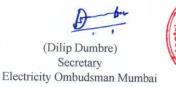


- 2. Aggrieved by the order of the Forum, the Appellant has filed this Representation. A physical hearing was held on 1st August 2025 where both the parties were heard at length. The Respondent's submissions and arguments are as below. [The Electricity Ombudsman's observations and comments are recorded under 'Notes' where needed.]
 - (i) The Appellant is an HT consumer (Cons. No. 096729004880) of seasonal tariff category since 29.10.2005. The details of the Appellant's address, sanctioned load, contract demand, and other relevant particulars are summarized in Table 1. The Appellant runs a seasonal business of ginning and pressing of cotton and his factory is kept closed during the off-season, roughly from June to October each year.

Table 1:

Name	Consumer No.	Address	S.L./C.D.	Date of Supply	Unusual Bill for August 2024	Billing Parameters
Keshranand Ginning & Pressing	096729004880	Gat No 526,	400 KW/	29.10.2005	Rs 4,28,430/- of	kWh Consumption: 3580 Units
		Village Bhamne,			Aug. 2024 having	kVAh Consumption: 36233 Units
		Tal-			KVAH Consumption:	rKVAh Lag: 0 Units
		Shindkheda,	325 KVA		36233 Units & 75	rKVAh Lead: 35773 Units
		DistDhule			KVA MD (May to	KVA MD: 75 KVA
					Oct Off Season)	Avg. PF Recorded: 0.098

- (ii) The declared seasonal months for the consumer are November, December, January, February, March, and April. A printout from the HT Billing System indicating the seasonal months is kept on record.
- (iii) An energy meter of Secure make (Sr. No. X1093845) was installed at the premises on 12.09.2019. The e-Bill for the month of August 2024 was generated on 04.09.2024 based on meter readings received via the MDAS (Meter Data Acquisition System) through AMR (Automated Meter Reading). There was unusually high consumption for this off-season month. The bill amount was Rs. 4,28,430/-. The meter reading sheet from MDAS is kept on record.
- (iv) On 06.09.2024, M/s Keshranand Ginning & Pressing submitted a complaint to the office of the Superintending Engineer, Dhule Circle, alleging that the bill amount of Rs. 4,28,430/- was excessive, as their unit was not operational during that period. They also requested a meter accuracy check.
- (v) Accordingly, the Executive Engineer, Testing Division, Dhule, inspected the premises on 13.09.2024. The meter was tested in the presence of Shri Shivraj D.





- Bhamare (Consumer Representative) and was found to be accurate with an error of (+0.01%). A copy of the spot inspection and meter testing report is kept on record.
- (vi) As the consumer failed to pay the bill for August 2024 within the due date, a Disconnection Notice under Section 56(1) of the Electricity Act, 2003 was issued. On 23.09.2024, M/s Keshranand Ginning & Pressing again wrote to the Superintending Engineer, Dhule Circle, requesting withdrawal of the disconnection notice and revision of the bill. They explained that the excessive bill was due to the capacitor bank remaining switched ON, although the main unit was non-operational.
- (vii) To verify the facts, data from the MDAS was analyzed. The billing parameters recorded were as follows:
 - (a) kWh Consumption: 3,580 units, (b) kVAh Consumption: 36,233 units, (c) rkVAh (Lag): 0 units, (d) rkVAh (Lead): 35,773 units, (e) rkVAh (Lead): 35,773 units (f) Maximum Demand (kVA): 75 (g) Average Power Factor: 0.098.
- (viii) From the above parameters, it is evident that keeping the capacitor bank ON without load resulted in a leading power factor, which led to an increase in rkVAh (Lead) and consequently kVAh consumption. Since kVAh is calculated as: $kVAh = \sqrt{[\Sigma(kWh)^2 + \Sigma(RKVAh \ Lag + RKVAh \ Lead)^2]}$ the presence of high RKVAh Lead values caused the kVAh to increase abnormally.
- (ix) The bill for August 2024 was generated based on the actual data recorded by the meter, and not influenced by whether the month falls in the seasonal period or not.
- (x) The consumer was informed through letter dated 30.09.2024 via email that the bill is correct and they were advised to make the payment. A copy of the letter and email is kept on record.
- (xi) Vide Commercial Circular No. 323 dated 03.04.2020, kVAh-based billing has been implemented and the consumer is well aware of the same, as it has been in force since April 2020. Hence, the bill for August 2024 was issued as per the prevailing tariff order and is correct.
- (xii) The Appellant filed a grievance application in the Forum on 17.12.2024. The Forum by its order rightly rejected the grievance of the Appellant. The Forum observed that the Appellant is billed as per actual consumption and kVAH billing recorded.

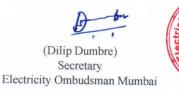


- (xiii) Due to non-payment of arrears, the Appellant's electricity supply was temporarily disconnected on 28.03.2025. Since the arrears continued to remain unpaid, a permanent disconnection notice was issued to the Appellant vide letter dated 08.04.2025. As no payment was made within the stipulated notice period, the supply was permanently disconnected on 23.05.2025.
- (xiv) The Respondent submitted that the Appellant first raised a complaint regarding the electricity bill for August 2024 after receiving it in the first week of September 2024. The complaint was made through a personal visit and written communication addressed to the <u>Superintending Engineer</u>, <u>Dhule Circle</u>, dated 06.09.2024. In this letter, the Appellant requested meter verification and withdrawal of the allegedly inflated bill of Rs. 4,28,430/- for August 2024.

Subsequently, the Appellant again approached the Superintending Engineer through a personal visit and letter dated 23.09.2024, making reference to the earlier letter dated 06.09.2024. In this communication, the Appellant contended that the factory was non-operational during the relevant period and reiterated the request for cancellation of the said bill and withdrawal of the disconnection notice dated 19.09.2024.

The Appellant never submitted any request for disconnection of supply to the Section Office, Bhamne on 18.06.2024, as is now being claimed. [Note: The Respondent is implying that this 'imaginary' letter is being created post-facto to show that the Appellant had requested for total disconnection much before the high bill of Aug. 2024.] The said letter was never referred to or relied upon in any of the Appellant's previous correspondence or representations. Being aware that only the Circle Office holds jurisdiction over HT consumer matters, the Appellant, a well-known personality with direct access to higher offices, chose to communicate only with the Sub-Division office.

It is pertinent to note that the Appellant, for the first time, referred to the letter dated 18.06.2024 in the grievance application filed before the Forum on 17.12.2024. The Forum, after due consideration, has rightly rejected the grievance filed by the Appellant. The Forum observed that the Respondent had raised the bill based on the



(xv)



- actual kVAh consumption and the Maximum Demand (MD) recorded in the meter, and there was no discrepancy in billing as per the meter data.
- (xvi) As the Appellant is an HT consumer, he had made his own internal arrangement to isolate the electrical supply beyond the metering point. It is important to note that under prevailing regulations, there is no provision for temporary disconnection of supply for HT consumers beyond the "point of supply," which is defined in Section 2(t) of the Electricity Act, 2003. As per this provision:

"Point of Supply" means the point at the outgoing terminals of the Distribution Licensee's cut-outs fixed in the premises the of consumer. *In the case of HT consumers, the point of supply is at the outgoing terminals of* metering cubicle placed before the consumer's apparatus. In the absence of a metering cubicle, or where metering is on the LT side, it shall be the incoming terminals of the HT consumer's main switchgear.

- (xvii) The present representation filed by the Appellant is vague, without merit, and lacks any justifiable cause under the CGRF & EO Regulations, 2020.
- (xviii) In view of the above facts and circumstances, the Respondent prays that the representation made by the Appellant be dismissed and that the Appellant be directed to pay the outstanding dues of Rs. 4,28,430/- of August 2024, along with applicable interest and delayed payment charges as per the prevailing rules.
- 3. The Appellant's submissions and arguments are as below.
- (i) The Appellant is a High Tension (HT) consumer (Consumer No. 096729004880) under the seasonal tariff category since 29.10.2005. The relevant details regarding the Appellant's address, sanctioned load, contract demand, etc. are summarized in Table 1. The Appellant operates a manufacturing unit in Dhule engaged in cotton ginning, pressing, and oil extraction from cotton seeds.
- (ii) On 18.06.2024, the Appellant submitted a written request to the Section Office, Bhamne, seeking immediate disconnection of power supply, as the factory operations had been completely stopped. Despite this request, the Respondent failed to act upon it and did not disconnect the supply. [Note: The Respondent denies receiving such a letter.]



- (iii) In the first week of September 2024, the Appellant received an electricity bill of Rs. 4,28,430/- for the month of August 2024. This was unexpected and shocking, as the factory had remained completely non-operational from June 2024 onwards, and the Appellant was categorized as a seasonal consumer.
- (iv) The Appellant personally approached the office of the Superintending Engineer, Dhule and submitted a letter dated 06.09.2024, requesting immediate withdrawal of the alleged fictitious bill of Rs.4,28,430/- for August 2024, highlighting that the normal off-season bill typically ranges between Rs.10,000/- to Rs.14,000/-.
- (v) Instead of addressing the issue, the Respondent, by its letter dated 19.09.2024, issued a notice threatening disconnection of supply. In response, the Appellant again submitted a letter dated 23.09.2024, reiterating the request for bill revision and urging not to proceed with the disconnection. The Appellant also visited the Circle Office, Dhule in person for resolution.
- (vi) It is important to note that on previous occasions as well, vide letters dated 01.03.2021, 26.05.2022, and 25.08.2023, the Appellant had duly informed MSEDCL about the cessation of operations during the off-season and had requested temporary disconnection of supply. It was also assured that a request for restoration would be made when operations resumed. [Note: MSEDCL denies receiving any such letters for disconnecting supply in the off-seasonal months.]
- (vii) Further, the Appellant, through email dated 30.09.2024, once again requested revision of the bill for August 2024. However, the Respondent did not take any corrective action.
- (viii) As no relief was granted, the Appellant filed a grievance application before the Forum on 17.12.2024. The Forum, however, rejected the grievance. The Forum failed to appreciate the fact that the factory was non-operational from June 2024 onwards and that a formal request for disconnection was made on 18.06.2024. The bill issued for August 2024, therefore, appears fictitious and unjustified.
- (ix) In view of the above facts, the Appellant prays that the Respondent be directed to withdraw the bill of Rs.4,28,430/- for the month of August 2024 along with interest and delayed payment charges levied thereon.



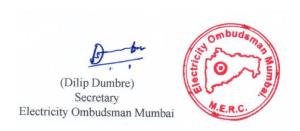
4. During the hearing, the Respondent was directed to submit three years' consumption pattern of the Appellant for further analysis in the following format. This data was received on 11th August 2025 as follows:

Consumtion Pattern of Cons. No.							
096729004880 M/s. Kesharanad							
Ginning & Pressing							
Year							
	KVAH	KVAH	KVAH	KVAH			
Month	UNIT	UNIT	UNIT	UNIT			
Apr	25123	34843	21135	TD			
May	4460	30918	24640	698			
Jun	5515	18300	8935	PD			
Jul	5333	9895	155	PD			
Aug	7068	7550	36233	PD			
Sep	7855	5195	10228	PD			
Oct	30023	10705	3388	PD			
Nov	59103	24993	9018	PD			
Dec	30563	22913	23825	PD			
Jan	42093	24710	69060	PD			
Feb	40465	28753	31440	PD			
Mar	50723	20520	23430	PD			
Total	308324	239295	261487	698			
Avg/	25694	19941	21791	698			
Month							
Max	59103	34843	69060	698			
Min	7068	5195	155	698			

[Note: This data indicates that even during the off-season period of previous years, consumption was never zero. Consumption was quite high in May to October 2022 and 2023, and even in 2024 except for the month of July 2024.]

Analysis and Ruling

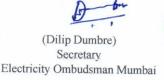
5. Heard the parties and perused the documents on record. The Appellant is a HT seasonal consumer (No.096729004880) from 29.10.2005. The relevant details are tabulated in Table 1.



- The declared seasonal months for the consumer are November to April, and the billing 6. records confirm this. A Secure make meter (Sr. No. X1093845) was installed which facilitates remote and accurate readings, and for August 2024, an unusually high bill of Rs.4,28,430/- was generated on 04.09.2024 through AMR/MDAS, despite it being an off-season month. The Testing Division, Dhule, inspected the premises on 13.09.2024 in the presence of the consumer's representative, and the meter was found accurate with an error of only (+0.01%). MDAS analysis showed kWh of 3,580, kVAh of 36,233, RKVAh (Lead) of 35,773, Maximum Demand of 75 kVA and Power Factor of 0.098, confirming that a high leading power factor inflated kVAh consumption. As per Commercial Circular No. 323 dated 03.04.2020, kVAhbased billing is in force since April 2020, and the bill was raised strictly as per recorded parameters and tariff order. The consumer was informed by letter dated 30.09.2024 that the bill is correct. Due to continued non-payment, supply was temporarily disconnected on 28.03.2025 and permanently disconnected on 23.05.2025. The consumer's claim of a disconnection request dated 18.06.2024 was never raised earlier and is an afterthought. The Respondent also clarified that for HT consumers there is no provision for temporary disconnection beyond the "point of supply" as defined under Section 2(t) of the Electricity Act, 2003, and the consumer had made his own internal arrangements to isolate supply.
- 7. The Appellant contended that he requested disconnection of supply as the factory had stopped operations, though the Respondent denies receipt of such letter. In September 2024, an unusually high bill of Rs.4,28,430/- for August 2024 was received, despite the unit being non-operational and typical off-season bills ranging only between Rs.10,000/- to Rs.14,000/-. The Appellant immediately approached the Superintending Engineer on 06.09.2024 for withdrawal of the bill, and again on 23.09.2024 after receiving a disconnection notice dated 19.09.2024. Similar requests for disconnection during off-seasons had been made earlier through letters dated 01.03.2021, 26.05.2022, and 25.08.2023, and it was always assured that restoration would be sought once operations resumed. [Note: However, we note that in previous years too, consumption even during the off-season months continued to be in the range of 4460 to 30918 kVAh.] An additional request for revision of the August bill was made by email on 30.09.2024, but no action was taken. The Appellant therefore prays that the bill of Rs.4,28,430/- for August 2024 along with interest and charges be withdrawn as it is fictitious and unjustified.



- 8. We have examined how a disproportionately high bill was raised for August 2024, although the factory's principal operations were stated to be closed during that period. The billing parameters recorded were kVAh consumption of 36,233 units, kWh consumption of 3,580 units, and an average Power Factor of 0.098, as reflected in Table 1. From the above, it is evident that the unusually low (leading) power factor was primarily on account of the capacitor panel having been kept in operation even when the load was not in use. This condition resulted in excessive kVAh consumption being recorded by the meter.
- 9. It is further noted that the Appellant has sought to attribute responsibility to the Respondent by contending that the supply ought to have been disconnected pursuant to its letter dated 18.06.2024. The Respondent, however, has categorically denied receipt of such a letter. Moreover, the Respondent has clarified that even if such a request had been received, disconnection would not have been carried out, as it is not the normal practice to disconnect supply to seasonal HT consumers. The Respondent has explained that several cotton ginning factories in Dhule operate on a seasonal basis, yet their supply remains connected during the off-season to facilitate basic requirements such as security lighting, etc.
- 10. On examining the past billing records, it is observed that even during earlier off-season periods (when the Appellant claims to have submitted similar requests for disconnection), supply was never disconnected, and lower but non-zero consumption was consistently recorded. For example in the previous year 2023, consumption during the off-season months was in the range of 5195 to 30918 kVAh. The Appellant himself has admitted that off-season bills typically ranged between Rs.10,000/- to Rs.14,000/-. This would not have been possible had the supply been totally disconnected, since fixed charges alone would have been lower than these amounts.
- 11. Accordingly, it is evident that while the main factory operations were closed, a minimum level of consumption continued during the off-season, and in August 2024 the abnormal increase was solely on account of the extremely low (leading) power factor.



Therefore, the contention of the Appellant that the Respondent was obliged to disconnect supply during the off-season is devoid of merit.

- 12. The Forum's conclusion upholding the Respondent's action is correct. The Representation of the Appellant is principally rejected; however, in order to provide some relief to the Appellant, the order is modified to the extent below:
 - a) The Respondent is directed to waive the interest and delayed payment charges (DPC) on the electricity bill amount of Rs. 4,28,230/- from August 2024 up to the date of this order.
 - b) The Appellant shall be allowed to pay the revised bill amount in 12 equal monthly instalments, without any interest or delayed payment charges. In the event of default in payment of any installment, proportionate interest shall accrue on the defaulted amount, and the Respondent shall be at liberty to proceed in accordance with the law.
 - c) The electricity supply of the Appellant shall be restored upon payment of the first installment, subject to completion of all applicable statutory formalities.
 - d) The Respondent shall submit compliance of this order within **two months** from the date of this order.
 - e) All other prayers made by the Appellant stand rejected.
 - f) The Representation is disposed of accordingly.
- 13. The Appellant is advised to install an Automatic Power Factor Control (APFC) System, which is designed to maintain the desired power factor by automatically switching capacitor banks in and out of the circuit as required. The system continuously monitors the power factor in real time. When it falls below a set threshold (e.g., 0.95), the controller switches ON the capacitor banks to provide the necessary reactive power (kVAR). Conversely, when the power factor improves beyond the desired range, the capacitors are switched OFF to prevent a leading power factor. This ensures that the power factor remains close to unity without manual intervention.
- 14. The secretariat of this office is directed to refund the amount of Rs.25,000/- taken as deposit to the Respondent to adjust in the Appellant's ensuing bill.



15. This Representation is disposed of accordingly.

Sd/ (Vandana Krishna) Electricity Ombudsman (Mumbai)

(Dilip Dumbre)
Secretary
Electricity Ombudsman Mumbai

