

For perusal
Secretary
Member/T
Member/F
To
Chairman
The Secretary,



ITC Limited
PAPERBOARDS & SPECIALTY PAPERS DIVISION
Divisional Headquarters : ITC Bhadrachalam House
106, Sardar Patel Road,
Secunderabad - 500 003, Telangana, India.
Telephone : 91- 40 - 27846566 - 73, 27814216
Fax : 91- 40 27842997, 27810009 Exports : 27810034
91- 40 27849509, 27896048

Telangana State Electricity Regulatory Commission.
5th Floor, 11-4-660, Singareni Bhavan,
Red Hills,
HYDERABAD - 500 004.

Lr.Ref. : Objections/ARR&Tariff/ 2016-17/ TS NPDCL&SPDCL/01, Dt. 29-03-2016

Sirs,

ARR & Tariff for FY 2016-2017
OP No 6 & 7 of 2016 filed by TSNPDCL and TSSPDCL

Objections

The Objections on behalf of the Objector are attached herewith and the same may be placed before the Hon'ble Commission.

The Objector desires to be heard by the Hon'ble Commission in person or through counsel.

For ITC Limited – Paperboards & Specialty Papers Division,

(Lakshmi Kumar V)
Deputy Manager – Projects.

TSERC, HYDERABAD
INWARD
29 MAR 2016
No. 481
Signature

MEMBER (T) PESHI
No : 316
DATE : 30/3/16

Copy to

1. Chief General Manager (IPC & RAC), TSNPDCL, 2-5-31/2, Vidyut Bhavan, Nakkalgutta, Hanamkonda 506001 by Courier and by email at cgmciar@tsnprdcl.in
2. Chief General Manager (Commercial & RAC), TSSPDCL, Corporate Office Ground Floor, Mint Compund, Hyderabad 500063 and by email

MEMBER (F) PESHI
No : 324
DATE : 30/3/16

CHAIRMAN PESHI
No : 370
DATE : 31/3/16

**OP No 6 & 7 of 2016
ARR & FPT OF TSNPDCL AND TSSPDCL**

OBJECTIONS

On behalf of

ITC Ltd

1. The Objector desires to be heard in person or through counsel.
2. In the objections hereafter, the Objector has sought for information, clarifications and explanations necessary for the Objector to more fully and effectively make submissions before the Hon'ble Commission, and the summary / list of the same are set out hereunder for ready reference and compliance :-
 - (a) Details of the allocation of each line item of the ARR to different categories and the basis thereof including the coincidence factors and the load factors considered and the details of the computation of the cost of service to each consumer category.
 - (b) Detailed calculations for the Average Realisations stated in the FPT by each of them for each category together with the specific data used and the reference / link to the data in their respective tariff filings. Further, they may explain the reasons for the variations and the abnormalities that are ex-facie apparent.
 - (c) Detailed calculation as to how the wheeling charges mentioned in the table of proposed cross subsidy surcharges are arrived at together with references to the relevant orders which are the basis of the charge.
 - (d) Detailed calculation as to how the applicable loss is 11.75%, 7.85% and 4.01% for 11, 33 and 132 kV (TSNPDCL), and 11.99%, 7.84% and 4.01% (TSSPDCL).

- (e) Explanation for variance between average PP cost as shown in the CSS calculations and as shown in the Form 1.4 for 2016-17.
 - (f) Explanation of how the average realisation per kVAh is adjusted with respect to average PP cost in kWh.
3. The Objector is an HT-I consumer of TSNPDCL with HT Service at its factory at Sarapaka, Khammam District.
- The Objector has also set up a 46 MW wind farm in Ananthapur District, Andhra Pradesh to meet the captive power requirements of its factories at Chirala and Anaparti in Andhra Pradesh and at Bhadrachalam in Telangana.
4. The increase in tariff sought by the Discoms are not reasonable or justified. The write up and the data filed are not of a standard and/or satisfactory enough to comprehend the basis of the projections.

TARIFF PROPOSALS

Cost of Service

5. The write up on the cost of service filed does not sufficiently explain the methodology. The data filed does not show how each line item of the ARR is allocated to different categories of consumers and the basis thereof and how the cost of service of each category has been computed. The Discoms may provide the information.

Cross-subsidy included in tariff

6. Clearly, the cross subsidies in the tariff for HT-I categories exceed 20% of the cost of supply which is contrary to the Tariff Policy and also excessive and unreasonable.

Netting-Off of Open Access Demand

7. The concept of minimum billing demand is tantamount to double charging when open access is availed and transmission / wheeling charges are paid. To the extent that open access is availed, the demand charges already include for the transmission / wheeling costs for the CMD. In addition, the transmission and wheeling charges paid is a charge for the second time. It is unjust and arbitrary.

It is therefore necessary to provide that, where open access is availed, the demand attributable to open access shall be set off against the billing demand (whether it is 80% of CMD or the recorded demand) and the demand charges shall be applied only to the balance of the billing demand.

Monthly minimum energy charges

8. Under the previous tariff orders a minimum energy charge is payable by HT-I(A) consumers on 50 units per kVA of contracted demand irrespective of whether that energy was consumed or not.

Where consumers have renewable energy captive power plants and when the seasonal generation from such plants is sufficient to meet the entire electricity requirement or even in excess of such requirement, the minimum energy charges is nevertheless to be paid.

Further, in practice, the energy to the extent of minimum energy is treated as Discom supply; but at the same time the equivalent energy is not added to the banked energy. Thus, the energy consumed from the captive source but not set off against the minimum energy is lost to the captive consumer and taken away by the Discom.

It is submitted that there is no need for any minimum energy charges and there is no reason or rationale to continue with such charge. The demand charges are already at a high level. Therefore the requirement for a minimum energy charge should be removed.

Levy of Penal Energy Charges when CMD exceeded

9. Penal charges on energy are presently being levied when the Recorded Demand exceeds the CMD by over 20%. It appears that the Discoms intend that this continue in the current year also. The levy of penal charges on energy when demand is exceeded is unlawful. The Hon'ble High Court had held in Vishnu Cements case [2009 (3) ALD 29] that demand and energy were two separate components and unrelated and that therefore the penal energy charges for exceeding the CMD was set aside. That was also referred and followed by the Hon'ble High Court in respect of the penal energy charges sought to be levied for 2009-2010 also in WP 15410 of 2009 and batch..

It is therefore submitted that the provisions in the tariff for levy of penal energy charges for exceeding contracted demand be dropped.

Time of Day (TOD) Tariff

10. The cost of service for the TOD periods of 0600 to 1000 hrs and 1800 to 2200 hrs is not shown to be any different from the cost of service during the rest of the period. In the circumstances there is no valid reason or justification for continuing with the TOD tariff at a higher level.
11. It is therefore submitted that the TOD tariff be deleted and all the energy round the clock be at the same tariff.

Revision of Bills to reflect open access transactions

12. The practice of the licensees is to issue the bill for the current month considering the entire energy consumed as supplied by the Discom without giving effect to the open access energy. This entire amount is required to be paid on the due date on pain of coercive measures and threat of disconnection. The open access transactions are reflected only in a revised bill issued some 3 to 4 months later. This practice is causing undue hardship and burden to the consumer.

13. It is submitted that the Licensees be directed to issue current consumption bills taking into account the open access transactions in the first instance itself; and where this is not done for any reason the revised bill should be issue no later than 15 days from the date of the original bill. If the adjustment for the open access transaction is not reflected by the time the original bill is due for payment, the consumer should be entitled to make payment of only the balance after deducting for the open access transactions under intimation to the licensee.

CROSS SUBSIDY SURCHARGE PROPOSALS

14. In their ARR/FPT proposals for FY 2016-2017, being O.P.Nos 6 & 7 of 2016, the Respondents have both proposed cross subsidy surcharge based on the National Tariff Policy 2016 Methodology.

There is no specific proposal for additional surcharge, and there is only a vague and tentative reference to it.

Legislative mandate for promotion of renewable energy sources

15. Insofar as the electricity generated from renewable sources of energy is concerned, the provisions of the Act contained in the preamble, section 61(h) and 86(1)(e) requiring promotion of such sources of energy has to be given due consideration. There has to be special consideration shown by way of exemption from cross subsidy surcharges and additional surcharges in respect of such energy.

RPPO obligation is imposed upon various categories of obligated entities including licensees, captive consumers and open access consumers. The fulfillment of such obligation cannot be unreasonably coupled with the burden of cross subsidy surcharge. There is no justification in imposing an RPPO obligation on the one hand and mulcting the discharge of such obligation by cross subsidy surcharge.

All electricity from renewable energy sources ought to be exempted from cross subsidy surcharge.

Proposal for CSS on NTP Methodology

16. The Discoms have proposed to follow the National Tariff Policy 2016 notified by the Central Government under section 3 of the Act.

With respect to the cross subsidy surcharge proposed as per the NTP, the Objector submits as follows, notwithstanding the submission that renewable sources ought to be exempted.

17. The NTP requires that the tariff payable by the relevant category of consumers is to be taken in account for the factor "T" which is the tariff payable by the relevant category of consumers. The average realisation considered by the licensee is incorrect and not in conformity with the Policy.
18. Without prejudice to the submission that the average realisation is not the proper consideration, It is not at all clear as how the Average Realization for each consumer category has been worked out. The values are quite abnormal. Nowhere is the method made transparent or explained.

In the case of TSNPDCL, the average revenue from HT-I is stated to be Rs 8.70, 6.86 and 6.71 per unit for 11, 33 and 132 kV respectively. This is astonishing, inconsistent and clearly improbable. It indicates an average load factor of only between 23% which does not typically pertain to any kind of HT consumer, much less a consumer that could and may opt for open access. There is seriously something wrong. For HT-II category also, the realisation is seriously inconsistent and improbable.

In the case of TSSPDCL also, the average revenue from HT-I stated to be Rs 8.31, 7.32 and 6.62 per unit for 11, 33 and 132 kV respectively are astonishing, inconsistent and clearly improbable. The load factor for the 11 kV at 23% is vitiated.

There are also variations in the average realisation between the two DISCOMs which is not comprehensible.

The average cost of realisation of a consumer category does not define reasonably any particular consumer, and it could well be that there is no such consumer that contributes cross subsidy to the extent of the proposed cross subsidy surcharge.

It is therefore necessary for the two Discoms to give the detailed calculations for the Average Realisations stated in the FPT by each of them for each category together with the specific data used and the reference / link to the data in their respective tariff filings. Further, they may explain the reasons for the variations and the abnormalities that are ex-facie apparent.

19. The average realisation is per kVAh, whereas the PP cost is per kWh, and it is not clear as to whether the adjustment has been made and how.
20. For the purpose of computing the proposed cross subsidy surcharge, the TSNPDCL has stated the wheeling charges to be 74p, 18p and 16p per unit for 11, 33 and 132 kV respectively, and the TSSPDCL has stated the wheeling charges to be respectively 52p, 19p and 16p. There is no explanation as to how these figures were calculated.

It is therefore necessary that the Discoms give the detailed calculation as to how they have arrived at the wheeling charges mentioned in the table of proposed cross subsidy surcharges together with references to the relevant orders which are the basis of the charge.

In the table of the proposed cross subsidy surcharge, the TSNPDCL has stated the applicable loss to be 11.75%, 7.85% and 4.01% for 11, 33 and 132 kV respectively, and the TSSPDCL has stated the applicable loss to be respectively 11.99%, 7.84% and 4.01%. There is no explanation as to how these figures were calculated, or their basis. The calculations for arriving at this may be provided.

21. The cross subsidy surcharge calculations show the average power purchase costs for TSNPDCL & TSSPDCL as 4.11 and 4.19 respectively as against the average PP cost shown in Form 1.4 for 2016-17 as 4.20 and 4.30 respectively. This need to be explained.
22. The Objector reserves the right, and requests the Hon'ble Commission to permit the Objector to make further submissions after the necessary details, explanations and clarifications are furnished by the Discoms.

Legislative mandate on Open Access & Policy Guidelines

Section 42(2), read with the 5th proviso of the Act provide for a mandatory introduction of open access in phases considering all relevant factors including cross subsidies.

The facility of open access itself is a cornerstone policy of the Act to promote competition as is evident from the preamble to the Act and as observed by the Hon'ble Supreme Court in the PTC case.

It is implicit therefore that the mandate requires that the surcharges should not be so onerous as to inhibit competition. When the Act mandates that the State Commission shall introduce open access within a specific time frame, it necessarily follows that the open access so introduced shall be workable. Open access cannot be defeated indirectly by raising prohibitive tariff barriers by determining cross subsidy surcharge at onerous, unreasonable and impractical levels. If the magnitude or the unreasonableness of such surcharge is such as to defeat open access and to restrict competition and to make open access a mere illusion, it will be undermining the objects, purposes and the mandate of the Act.

23. Whatever be the methodology adopted for determining the surcharges, the resulting quantum of surcharge and the applicability or otherwise to different sources of energy and to different types of consumers must eventually be tested on the touchstone as to whether such surcharge enable a generating company to carry on business and without being so onerous as to be

prohibitive and subversive of the spirit of the legislative policy. The consumer is not expected, by legislative policy, to be deprived of a choice of the source of energy merely by reason of any prohibitive or excessive surcharges.

24. It has long been considered that the avoided cost methodology balances the twin objectives of safeguarding the financial viability of the licensee and the promotion of competition.
25. Para 5.8.3 of the National Electricity Policy and para 8.5.1 of the National Tariff Policy clearly bring out the caution that the surcharge should not be so onerous that it eliminates competition that is intended to be fostered in generation and supply of power directly to consumers through the provision of Open Access.
26. While the National Tariff Policy 2016 is notified, the Hon'ble Commission needs to eventually examine and make necessary adjustments as may be required for good and sufficient reason having regard to all eventual effects and consequences on competition and consumer choice in the circumstances in the State and ensure that the legislative policy of the Act is not impaired or frustrated.

Analysis of the effect of Cross subsidy surcharge on Open Access

27. This analysis is presented, by way of illustration, only for HT-I on the tariff and cross subsidy surcharge as proposed by the Discoms based on their working on the basis of the NTP. The same workings for HT-II would illustrate an even more dismal picture.
28. Tables 1-A, 1-B and 1-C annexed show the maximum generation cost at which HT-I consumers of TSNPDCL with varying load factors and voltage of supply which would realistically provide a choice of sources of electricity. Tables 1-D, 1-E and 1-F relate to HT-I consumers of TSSPDCL.

29. It is also necessary to keep in mind that different consumers with varying load factors would have an actual cost for the electricity supply taken from the distribution licensee which would be greatly varying. Depending on their load factors, consumers contribute differently towards cross subsidy which is already included in the notified tariffs.
30. It shows that alternate source of energy would hardly be available at the price necessary to afford any option to the consumer to source energy from other than the licensee if the cross subsidy is levied at the proposed rates. It is, in reality, prohibitive of open access; and furthermore it is designed and calculated to defeat open access and competition.

It may be seen that, if a consumer suffers a cross subsidy surcharge at the proposed level(s) and also incurs the transmission and wheeling charges and loss compensation, the consumer will have to source electricity at a very low rate depending upon the load factor. Therefore, if the proposed rate of cross subsidy surcharge is levied, the open access will be totally frustrated and rendered merely illusory.

The Hon'ble Commission needs to carefully analyse these aspects.

Reality of the cross subsidy actually included and consequential effect

31. A further careful and diligent analysis is necessary. Consumers with 40%, 60% and 80% load factors would be contributing a lesser amount as cross subsidy to the distribution licensee at the notified tariffs than the amount of surcharge proposed. Therefore, for availing open access from a different source, such consumers would actually be paying much more towards cross subsidy than they would have paid as cross subsidy had they taken the energy from the distribution licensee.
32. It is interesting to consider the maximum price at which a distribution licensee will have to source its energy in order to maintain the per-unit revenue without getting any amount towards cross-subsidy. The illustrations

in the Tables 2-A, 2-B and 2-C annexed in respect of TSNPDCL and 2-D, 2-E and 2-F in respect of TSSPDCL may be seen.

For instance, consider the case of a 11 kV consumer of TSNPDCL (Table 2-A), with 80% load factor. It shows that if the Discom purchases energy at Rs 5.68 per kWh, it would incur a cost for the supply of electricity to the consumer which would match the per unit revenue from that consumer; and in such a case there would obviously be no question of the Discom recovering anything towards cross subsidy.

If the purchase is at Rs 5.22 (which is the marginal power purchase rate indicated by the TSNPDCL), the real recovery towards cross subsidy surcharge would be only Re 0.46 from the 80% LF consumer. That is far less than the 1.37 proposed.

A consumer who contributes a cross subsidy of only 0.46p while availing supply from the energy cannot be asked to contribute more if he chooses open access. That would not be compensatory or equitable; on the contrary it is a penalty which is not permissible.

It is to be borne in mind that consumers with low load factors are not likely to move to open access because of the rigour of scheduling in small time blocks and consequent costs and risks. It is the 80% and higher load factor consumers that are likely to consider open access, and they should be considered as more relevant.

Such consideration is apart from the need to exempt renewable sources of energy altogether

33. There is no wisdom in a cross subsidy surcharge that makes open access impossible, makes open access illusory, defeats and frustrates generation from renewable sources of energy, and inflicts wholly unjustified and warranted costs in complying with RPPO obligations by obligated entities.

Particularly in the context of generation from renewable sources and the legislative mandate to promote such generation, a regulatory environment that inflicts unbearable costs on the sale of renewable energy through open access or under pre-existing arrangements otherwise than under open access is not justified.

34. This Hon'ble Commission may therefore decide that the cross subsidy surcharge at NIL, and in any case, it ought to be determined as NIL for renewable energy.

Additional Surcharge

35. There is no specific proposal at all for any additional surcharge. There is only a vague statement. The licensees have not demonstrably shown that there is any fixed cost that would be definitely stranded.
36. The proper consideration would be that an additional surcharge may be considered if, and only if and when, the licensee shows clearly and indisputably that some costs arising out of its obligation to supply is left stranded. That is an onerous burden of evidence on the licensee and no additional surcharge may be imposed by mere surmise or merely because a charge under this head may be levied. Even then, the charge would be for a limited period, not exceeding 3 months, and cease after release of additional or new loads such that the costs are no longer stranded.

Reservation

37. The Objector would make such further submissions as may be necessary after the response of the Discoms are received, and in particular after the Discoms have furnished the additional information sought hereinabove.

On Behalf of the Objector

TABLE 1-AAssuming 11 kV HT-I Industrial Consumer of TSNPDCL with 1000 kVA CMD

A	Load Factor	40%	60%	80%
B	Billing Demand @ 80% minimum as per tariff	800	800	800
C	Demand Charges at billing demand (Rs) $B \times 398$	318400	318400	318400
D	Energy consumed at the Load factor (kVAh) $1000 \text{ kVA} \times A \times 720$	288000	432000	576000
E	Energy Charges @ 6.45/7.45 per kVAh (Rs) $\{D \times 6.45 \times 16 / 24\} + \{D \times 7.45 \times 8 / 24\}$	1953600	2930400	3907200
F	Total Billing Amount (Rs) $C + E$	2272000	3248800	4225600
G	Per kWh cost to consumer (Rs) F / D	7.89	7.52	7.34
H	Less : Cross Subsidy Surcharge 1.74 Wheeling charges 0.74	2.48	2.48	2.48
I	Generation rate w/o adjustment for losses (per kWh) $(G - H) \times 0.95$	5.14	4.79	4.61
J	Max Generation Rate at Generating Station (per kWh) adjusted for losses – $I \times ((1 - 0.1175/100)$	4.53	4.23	4.07

TABLE 1-BAssuming **33 kV HT-I Industrial Consumer** of **TSNPDCL** with **5000 kVA** CMD

A	Load Factor	40%	60%	80%
B	Billing Demand @ 80% minimum as per tariff	4000	4000	4000
C	Demand Charges at billing demand (Rs) $B \times 398$	1592000	1592000	1592000
D	Energy consumed at the Load factor (kVAh) $5000 \text{ kVA} \times A \times 720$	1440000	2160000	2880000
E	Energy Charges @ 6.02/7.02 per kVAh (Rs) $\{D \times 6.02 \times 16 / 24\} + \{D \times 7.02 \times 8 / 24\}$	9148800	13723200	18297600
F	Total Billing Amount (Rs) $C + E$	10740800	15315200	19889600
G	Per kWh cost to consumer (Rs) F / D	7.46	7.09	6.91
H	Less : Cross Subsidy Surcharge 1.37 Wheeling Charges 0.18	1.55	1.55	1.55
I	Generation rate w/o adjustment for losses (per kWh) $(G - H) \times 0.95$	5.61	5.26	5.09
J	Max Generation Rate at Generating Station (per kWh) adjusted for losses – $I \times ((1 - 0.0785)/100)$	5.17	4.85	4.69

TABLE 1-CAssuming **132 kV HT-I Industrial Consumer** of **TSNPDCL** with **10,000 kVA** CMD

A	Load Factor	60%	80%
B	Billing Demand @ 80% minimum as per tariff	8000	8000
C	Demand Charges at billing demand (Rs) $B \times 398$	3184000	3184000
D	Energy consumed at the Load factor (kVAh) $10000 \text{ kVA} \times A \times 720$	4320000	5760000
E	Energy Charges @ 5.49/6.49 per kVAh (Rs) $\{D \times 5.49 \times 16 / 24\} + \{D \times 6.49 \times 8 / 24\}$	2910960 0	3881280 0
F	Total Billing Amount (Rs) $C + E$	3229360 0	4199680 0
G	Per kWh cost to consumer (Rs) F / D	7.48	7.29
H	Less : Cross Subsidy Surcharge 1.34 Transmission charges 0.16	1.50	1.50
I	Generation rate w/o adjustment for losses $(G - H) \times 0.95$	5.68	5.50
J	Max Generation Rate at Generating Station adjusted for losses $- I \times ((1 - 0.0401)/100)$	5.45	5.28

TABLE 2-AAssuming **11 kV HT-I Industrial Consumer** of **TSNPDCL** with **1000 kVA** CMD

A	Load Factor	40%	60%	80%
K	Per kWh cost to consumer (Rs) = per kVAh revenue to Discom - From G in earlier Table	7.89	7.52	7.34
L	Less : Wheeling charges	0.74	0.74	0.74
M	Max procurement price w/o adjustment for losses (K – L) x 0.95	6.79	6.44	6.27
N	Max procurement price adjusted for losses $M \times ((1 - 0.1175/100))$	5.99	5.68	5.53

TABLE 2-BAssuming **33 kV HT-I Industrial Consumer** of **TSNPDCL** with **5000 kVA** CMD

A	Load Factor	40%	60%	80%
K	Per kWh cost to consumer (Rs) = per kVAh revenue to Discom - From G in earlier Table	7.46	7.09	6.91
L	Less : Wheeling charges	0.18	0.18	0.18
M	Max procurement price w/o adjustment for losses (K – L) x 0.95	6.91	6.56	6.39
N	Max procurement price adjusted for losses $M \times (((1 - 0.0785)/100))$	6.37	6.05	5.89

TABLE 2-CAssuming **132 kV HT-I Industrial Consumer** of **TSNPDCL** with **10,000 kVA** CMD

A	Load Factor	60%	80%
K	Per kWh cost to consumer (Rs) = per kWh revenue to Discom - From G in Table above	7.48	7.29
L	Less : Transmission charges	0.16	0.16
M	Max procurement price w/o adjustment for losses (K – L) x 0.95	6.95	6.77
N	Max procurement price adjusted for losses $M \times ((1 - 0.0401)/100)$	6.67	6.50

TABLE 1-DAssuming 11 kV HT-I Industrial Consumer of TSSPDCL with 1000 kVA CMD

A	Load Factor	40%	60%	80%
B	Billing Demand @ 80% minimum as per tariff	800	800	800
C	Demand Charges at billing demand (Rs) $B \times 398$	318400	318400	318400
D	Energy consumed at the Load factor (kVAh) $1000 \text{ kVA} \times A \times 720$	288000	432000	576000
E	Energy Charges @ 6.45/7.45 per kVAh (Rs) $\{D \times 6.45 \times 16 / 24\} + \{D \times 7.45 \times 8 / 24\}$	1953600	2930400	3907200
F	Total Billing Amount (Rs) $C + E$	2272000	3248800	4225600
G	Per kWh cost to consumer (Rs) F / D	7.89	7.52	7.34
H	Less : Cross Subsidy Surcharge 1.66 Wheeling charges 0.52	2.18	2.18	2.18
I	Generation rate w/o adjustment for losses (per kWh) $(G - H) \times 0.95$	5.42	5.07	4.90
J	Max Generation Rate at Generating Station (per kWh) adjusted for losses – $I \times ((1 - 0.1199)/100)$	4.77	4.47	4.31

TABLE 1-EAssuming **33 kV HT-I Industrial Consumer** of **TSSPDCL** with **5000 kVA** CMD

A	Load Factor	40%	60%	80%
B	Billing Demand @ 80% minimum as per tariff	4000	4000	4000
C	Demand Charges at billing demand (Rs) $B \times 398$	1592000	1592000	1592000
D	Energy consumed at the Load factor (kVAh) $5000 \text{ kVA} \times A \times 720$	1440000	2160000	2880000
E	Energy Charges @ 6.02//7.02 per kVAh (Rs) $\{D \times 6.02 \times 16 / 24\} + \{D \times 7.02 \times 8 / 24\}$	9148800	13723200	18297600
F	Total Billing Amount (Rs) $C + E$	10740800	15315200	19889600
G	Per kWh cost to consumer (Rs) F / D	7.46	7.09	6.91
H	Less : Cross Subsidy Surcharge 1.46 Wheeling charges 0.19	1.65	0.00	0.00
I	Generation rate w/o adjustment for losses (per kWh) $(G - H) \times 0.95$	5.52	6.74	6.56
J	Max Generation Rate at Generating Station (per kWh) adjusted for losses – $I \times (1 - 0.0784/100)$	5.09	6.21	6.05

TABLE 1-F

Assuming **132 kV HT-I Industrial Consumer** of **TSSPDCL** with **10,000 kVA** CMD

A	Load Factor	60%	80%
B	Billing Demand @ 80% minimum as per tariff	8000	8000
C	Demand Charges at billing demand (Rs) $B \times 398$	3088000	3088000
D	Energy consumed at the Load factor (kVAh) $10000 \text{ kVA} \times A \times 720$	4320000	5760000
E	Energy Charges @ 5.49/6.49 per kVAh (Rs) $\{D \times 5.49 \times 16 / 24\} + \{D \times 6.49 \times 8 / 24\}$	2515680 0	3354240 0
F	Total Billing Amount (Rs) $C + E$	2824480 0	3663040 0
G	Per kWh cost to consumer (Rs) F / D	6.54	6.36
H	Less : Cross Subsidy Surcharge 1.32 Wheeling Charges 0.16	1.48	1.48
I	Generation rate w/o adjustment for losses $(G - H) \times 0.95$	4.81	4.64
J	Max Generation Rate at Generating Station adjusted for losses $- I \times ((1 - 0.0401)/100)$	4.61	4.45

TABLE 2-DAssuming **11 kV HT-I Industrial Consumer** of **TSSPDCL** with **1000 kVA CMD**

A	Load Factor	40%	60%	80%
K	Per kWh cost to consumer (Rs) = per kVAh revenue to Discom - From G in earlier Table	7.89	7.52	7.34
L	Less : Wheeling charges	0.52	0.52	0.52
M	Max procurement price w/o adjustment for losses (K – L) x 0.95	7.00	6.65	6.48
N	Max procurement price adjusted for losses $M \times ((1 - 0.1199)/100)$	6.16	5.85	5.70

TABLE 2-EAssuming **33 kV HT-I Industrial Consumer** of **TSSPDCL** with **5000 kVA CMD**

A	Load Factor	40%	60%	80%
K	Per kWh cost to consumer (Rs) = per kVAh revenue to Discom - From G in earlier Table	7.46	7.09	6.91
L	Less : Wheeling charges	0.19	0.19	0.19
M	Max procurement price w/o adjustment for losses (K – L) x 0.95	6.91	6.56	6.38
N	Max procurement price adjusted for losses $M \times ((1 - 0.0784)/100)$	6.36	6.04	5.88

TABLE 2-FAssuming **132 kV HT-I Industrial Consumer** of **TSSPDCL** with **10,000 kVA CMD**

A	Load Factor	60%	80%
K	Per kWh cost to consumer (Rs) = per kWh revenue to Discom - From G in Table above	6.54	6.36
L	Less : Wheeling charges	0.16	0.16
M	Max procurement price w/o adjustment for losses (K – L) x 0.95	6.06	5.89
N	Max procurement price adjusted for losses $M \times ((1 - 0.0401)/100)$	5.82	5.65