

KERALA STATE ELECTRICITY BOARD

Vydyuthi Bhavanam, Pattom, Thiruvananthapuram

KSEB/TRAC/Tariff Rev 2012-13/ Domestic ToD

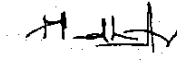
Dated: 04-01-2013

CIRCULAR

Sub: Billing procedures for raising the invoices for domestic consumers with monthly consumption above 500 units and having ToD meters- reg

Kerala State Electricity Regulatory Commission (KSERC) vide the order dated 25-07-2012 had ordered to implement ToD metering for all domestic consumers having monthly consumption above 500 units w.e.f 01-01-2013. As directed by the KSERC, Board has installed ToD meters at premises of all domestic consumers having previous six month average monthly consumption above 500 units.

The detailed billing procedures for raising the invoices for the domestic consumers installed with ToD meters w.e.f 01-01-2013 is enclosed as Annexure for strict compliance.



Secretary

Encl: As above

To

All Chief Engineers
All Deputy Chief Engineers
Director (IT) &SPIO,
Special officer (Revenue)
The Chief Internal Auditor,
The CVO, KSEB
TA to Chairman / Member (Trans & Gen (Opns.) /
Member (Distn.)/ Member (Gen Projects)
PA to Member (Finance), The Public Relations Officer
Sr.CA to Secretary
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Annexure
Billing procedures under TOD tariff
(Applicable to domestic consumers provided with ToD meters and having
monthly consumption above 500 units)

1. Normal Tariff (Prevailing as on 01-01-2013)

(a) Fixed charges

- (i) Single phase consumers - Rs 20.00/month
(ii) Three phase consumers - Rs 60.00/month

(b) Energy charges -

Normal period	Peak period	Off peak period
(06:00 hrs to 18:00 hrs) (time zone-T1)	(18:00 hrs to 22:00 hrs) (Time zone- T2)	(22:00 hrs to 06:00 hrs) (Time zone- T3)
Rs 6.50/unit (100% of normal rate)	Rs 7.80/unit (120% of the normal rate)	Rs 5.85/unit (90% of the normal rate)

2. **'Bi-monthly consumers' - Billing procedures for computing energy charges during the period from 01-01-2013 to 01-03-2013)**

Step-1. Check whether the consumers shall be billed under TOD tariff as follows.

- (i) Let the energy consumption from previous billing date and upto 00:00 hrs on 01-01-2013 = Q1 units
- (ii) Let the total energy consumption from 01-01-2013 and upto the present billing date = Q2 units
- (iii) Total energy consumption as on the present billing date =
 $Q1+Q2 = 'Q'$ units
- (iv) If the total bi-monthly consumption as on billing date 'Q' is less than or equal to 1000 units, the invoice including penalty for excess usage shall be strictly issued as per the 'billing procedures issued vide circulars dated 06-09-2012 & 27-12-2012.
- (v) If the total bi-monthly consumption as on billing date 'Q' is more than 1000 units, the energy bill shall be prepared for the consumption 'Q1' and 'Q2' separately as per the procedures detailed under **step-2 to step-13**

Step-2. Procedures for computing the energy charges for the consumption 'Q1'

- (i) Compute the energy charges for the consumption 'Q1'
$$'E1' = Q1 \times \text{Rs } 6.50/\text{unit}$$

Step-3 Procedures for computing the energy charges for the consumption 'Q2'

- (i) Take the zone wise consumption based on the ToD meter reading from 01-01-2013 to the billing date.

Energy consumption for the time zone T1 (06:00 hrs to 18:00 hrs)
$$= Q2_{(\text{zone-1})}$$

energy consumption for the time zone 'T2' (18:00 hrs to 22:00 hrs)
$$= Q2_{(\text{zone-2})}$$

energy consumption for the time zone 'T3' (22:00 hrs to 06:00 hrs)
$$= Q2_{(\text{zone-3})}$$

- (ii) Energy charges in each time zone shall be :

(a) in Time Zone 'T1', $E2_{(T1)}$ (Rs) = $Q2_{(\text{zone-1})} \times 6.50$

(b) in Time Zone 'T2', $E2_{(T2)}$ (Rs) = $Q2_{(\text{zone-2})} \times 7.80$

(c) in Time Zone 'T3', $E2_{(T3)}$ (Rs) = $Q2_{(\text{zone-1})} \times 5.85$

- (d) Total energy charges for consumption 'Q2'

$$E2 = E2_{(T1)} + E2_{(T2)} + E2_{(T3)}$$

Step-4

Total Energy charges for the entire consumption - Q units =
$$'E' \text{ (Rs)} = 'E1' + 'E2'$$

Step-5

Duty for the entire consumption $'D' = 10\% \times E$

Step-6

Fuel surcharge 'Fs' shall be levied as per the direction issued from this office from time to time.

Step-7

Fixed charges 'FC' shall be levied at the following rates

- Single phase consumers - Rs 20/month
- Three phase consumers - Rs 60/month

Step-8: Penalty for excess consumption above 300 units per month (600 units for two months)

- (i) Compute the excess consumption with penalty
$$Qp = (Q - 600) \times 'f1' \text{ from Annexure-1}$$

- (iii) Penalty for excess consumption $'Ep' = 'Qp' \times 6.50$

Steps-9

Total charges payable

(i)	Energy charges for consumption 'Q1'	= E1
(ii)	Energy charges for consumption 'Q2'	= E2
(iii)	Duty	= D
(iv)	Fixed charge	= FC
(v)	Fuel surcharge	= Fs
(vi)	Meter rent	= R
(vii)	Penalty for excess consumption	= Ep
(viii)	Any other charges	

Total (Rs) = XXXX.XX

3. Bi-monthly billed consumers- Billing procedures for the period from 02-03- 2013 onwards

Step-1

(i) Take the zone wise ToD meter reading as on the billing date.

(a) Energy consumption for the time zone T1 (06:00 hrs to 18:00 hrs)(units) = $Q_{(zone-1)}$,

(b) energy consumption for the time zone 'T2'(18:00 hrs to 22:00 hrs)(units) = $Q_{(zone-2)}$,

(c) energy consumption for the time zone 'T3' (22:00 hrs to 06:00 hrs) (units) = $Q_{(zone-3)}$

(d) Total energy consumption (units)
'Q' = $Q_{(zone-1)} + Q_{(zone-2)} + Q_{(zone-3)}$

Step-2

If the total monthly consumption ('Q'/2) is less than or equal to 500 units , the invoice including penalty for excess usages shall be prepared strictly as per the circular dated 06-09-2012 and 27-12-2012.

Step-3

(i) If the total monthly consumption ('Q'/2) more than 500 units, the invoice shall be prepared strictly as per the procedures detailed below.

(ii) Compute the Energy charges in each time zone as follows :

(a) Energy charges for consumption during Time Zone 'T1',
 $E_{(T1)} \text{ (Rs)} = Q_{(zone-1)} \times 6.50$

(b) Energy charges for consumption during Time Zone 'T2',

- (c) Energy charges for consumption during in Time Zone 'T3',
 $E_{(T2)} \text{ (Rs)} = Q_{(zone-2)} \times 7.80$
 $E_{(T3)} \text{ (Rs)} = Q_{(zone-3)} \times 5.85$
- (d) Total energy charges (Rs) = $E_{(T1)} + E_{(T2)} + E_{(T3)}$

Step-4

Compute the electricity duty payable 'D' = 10% of E

Step-5 Penalty for excess usage

- (i) Compute the excess consumption - 'Qp' units = 'Q'-600
 (ii) Penalty for excess usage (Rs) 'Ep' = 'Qp'x 6.50

Step-6

Fuel surcharge, meter rent and other levies any shall be collected at the prevailing rates

Step-7

Total charges payable

- | | |
|-------------------------------------|------|
| (i) Energy charges | = E1 |
| (ii) Duty | = D |
| (iii) Fixed charge | = FC |
| (iv) Fuel surcharge | = Fs |
| (v) Meter rent | = R |
| (vi) Penalty for excess consumption | = Ep |
| (vii) Any other charges | |

Total (Rs) = xxxx.xx

4. Monthly billed consumers- Billing procedures from January-2013 onwards

Step-1

- (i) Take the zone wise energy consumption ToD meter reading for each month from January-2013 onwards
- Energy consumption for the time zone T1 (06:00 hrs to 18:00 hrs)(units) = $Q_{(zone-1)}$,
 - energy consumption for the time zone 'T2'(18:00 hrs to 22:00 hrs)(units) = $Q_{(zone-2)}$,
 - energy consumption for the time zone 'T3' (22:00 hrs to 06:00 hrs) (units) = $Q_{(zone-3)}$
 - Total energy consumption (units)**
 $'Q' = Q_{(zone-1)} + Q_{(zone-2)} + Q_{(zone-3)}$

Step-2

If the total monthly consumption ('Q') is less than or equal to 500 units, the invoice including penalty for excess usages shall be prepared strictly as per the ready reckoner and circular dated 06-09-2012 and 27-12-2012.

Step-3

- (iii) If the total monthly consumption 'Q' is more than 500 units, the invoice shall be prepared strictly as per the procedures detailed below.
- (iv) Compute the Energy charges in each time zone as follows :
- (a) Energy charges for consumption during Time Zone 'T1',
$$E_{(T1)} \text{ (Rs)} = Q_{(zone-1)} \times 6.50$$
- (b) Energy charges for consumption during Time Zone 'T2',
$$E_{(T2)} \text{ (Rs)} = Q_{(zone-2)} \times 7.80$$
- (c) Energy charges for consumption during in Time Zone 'T3',
$$E_{(T3)} \text{ (Rs)} = Q_{(zone-3)} \times 5.85$$
- (d) Total energy charges (Rs) = $E_{(T1)} + E_{(T2)} + E_{(T3)}$

Step-4

Compute the electricity duty payable 'D' = 10% of E

Step-5 Penalty for excess usage

- (i) Compute the excess consumption - 'Qp' units = 'Q'-300
(ii) Penalty for excess usage (Rs) 'Ep' = 'Qp'x 6.50

Step-6

Fuel surcharge, meter rent and other levies any shall be collected at the prevailing rates

Steps-7

Total charges payable

- | | |
|---------------------------------------|------|
| (viii) Energy charges | = E1 |
| (ix) Duty | = D |
| (x) Fixed charge | = FC |
| (xi) Fuel surcharge | = Fs |
| (xii) Meter rent | = R |
| (xiii) Penalty for excess consumption | = Ep |
| (xiv) Any other charges | |

Total (Rs) = xxxx.xx

Illustration-1

Let the billing details of a Bi-monthly billed three phase domestic consumers installed with ToD meters is detailed below.

- (i) Billing date - 20-01-2013
- (ii) Previous billing date - 21-11-2012
- (iii) Energy consumption from 21-11-2012 to 31-12-2012 'Q1' = 720 units
- (iv) Zone wise energy consumption from 01-01-2013 to 20-01-2013
 - Q2 (zone-1) = 170 units
 - Q2 (zone-2) = 51 units
 - Q2 (zone-3) = 119 units

 - Total Q2 = 340 units
- (v) Total energy consumption from previous billing date to present billing Date = Q = Q1 + Q2 = 1060 units

The bills shall be prepared as follows.

- (1) Energy charges for consumption E1 for consumption 'Q1'
 - = 720 units x Rs 6.50 /unit
 - = Rs 4680/-
- (2) Zone wise energy charges for the consumption from 01-01-2013 to 20-01-2013
 - E2 (T1) = 170 units x Rs 6.50/unit
 - = Rs 1105/-
 - E2 (T2) = 51 units x Rs 7.80 per unit
 - = Rs 398/-
 - E2 (T3) = 119 unit x Rs 5.85 per unit
 - = Rs 696/-
 - Total E2 = Rs 1105.00+ Rs 398.00 + Rs 696.00
 - = Rs 2199/-
- (3) Total energy charges- E= 'E1' + 'E2' = Rs 4680/- + Rs 2100/-
- = Rs 6780/-
- (4) Electricity duty = 10% of 6780
- = Rs 678.00
- (5) Fixed charges = Rs 60 x 2
- = Rs 120/-
- (6) Penalty for excess consumption
 - Pro-rata excess consumption = (1060-600) x f1
 - = 460 x 0.633
 - = 291 units
 - Penalty for excess consumption = 291 x Rs 6.50 per unit
 - = Rs 1892/-
- (7) Fuel surcharge (as per the circular dated 31-12-2012)

	= 1060 units x 0.17 (factor from circular dated 31-12-2012)
	= Rs 180.00/-
Total charges payable	
Energy charges- E1	= Rs 4680/-
Energy charges - E2	= Rs 2100/-
Electricity duty 'D'	= Rs 678/-
Fixed charge	= Rs 120/-
Penalty for excess usage	= Rs 1892/-
Fuel surcharge	= Rs 180/-
 Total	 = Rs 9650/-

In addition to the above, meter rent and other levies if any shall be charged extra.

Illustration-2

Let the billing details of a 'Bi-monthly billed' three phase domestic consumers installed with ToD meters is detailed below.

(i) Billing date	- 15-03-2013
(ii) Previous billing date	- 14-01-2013
(iii) Zone wise energy consumption from 14-01-2013 to 15-03-2013	
$Q_{(zone-1)}$	= 715 units
$Q_{(zone-2)}$	= 205 units
$Q_{(zone-3)}$	= 480 units
Total Q	= 1400units

The bills shall be prepared as follows.

(1) Zone wise energy charges	
$E_{(T1)}$	= 715units x Rs 6.50/unit = Rs 4648.00/-
$E_{(T2)}$	= 205 units x Rs 7.80 per unit = Rs 1599/-
$E_{(T3)}$	= 480unit x Rs 5.85 per unit = Rs 2808/-
Total energy charges	= Rs 4648/-+ Rs 1599/-+ Rs 2808/- = Rs 9055/-
 (2) Electricity duty	 = 10% of 9055 = Rs 905.50
 (5) Fixed charges	 = Rs 60 x 2 = Rs 120/-
(6) <u>Penalty for excess consumption</u>	
Excess consumption	= (1400-600) = 800 units
Penalty for excess consumption	= 800 x Rs 6.50 per unit = Rs 5200/-

(7) Fuel surcharge (as per the circular dated 31-12-2012)
 = 1400 units x 0.10
 = Rs 140.00/-

Total charges payable
 Energy charges- E = Rs 9055/-
 Electricity duty 'D' = Rs 905.50/-
 Fixed charge = Rs 120/-
 Penalty for excess usage = Rs 5200/-
 Fuel surcharge = Rs 140/-
 Total = Rs 15,421/-

In addition to the above, meter rent and other levies if any shall be charged extra.

Illustration-3

Let the billing details of a 'Monthly billed' three phase domestic consumers installed with ToD meters is detailed below.

(a) Billing month - February-2013
 (b) Zone wise energy consumption for the month of February-2013

Q _(zone-1)	= 430 units
Q _(zone-2)	= 130 units
Q _(zone-3)	= 300 units
<u>Total Q</u>	<u>= 860 units</u>

The bills shall be prepared as follows.

(1) Zone wise energy charges

E _(T1)	= 430 units x Rs 6.50/unit
	= Rs 2795.00/-
E _(T2)	= 130 units x Rs 7.80 per unit
	= Rs 1014/-
E _(T3)	= 300 unit x Rs 5.85 per unit
	= Rs 1755/-
Total energy charges	= Rs 2795/-+ Rs 1014/-+ Rs 1755/-
	= Rs 5564/-

(2) Electricity duty = 10% of 5564
 = Rs 556.00

(5) Fixed charges = Rs 60/-

(6) Penalty for excess consumption
 Excess consumption = (860-300)
 = 560 units
 Penalty for excess consumption = 560 x Rs 6.50 per unit
 = Rs 3640/-

(7) Fuel surcharge (as per the circular dated 31-12-2012)
 = 860 units x 0.10
 = Rs 86.00/-

Total charges payable

Energy charges- E	= Rs 5564/-
Electricity duty 'D'	= Rs 556/-
Fixed charge	= Rs 60/-
Penalty for excess usage	= Rs 3640/-
<u>Fuel surcharge</u>	= Rs 86/-
Total	= Rs 9906/-

In addition to the above, meter rent and other levies if any shall be charged extra.

Annexure-1

Multiplication factor computing the penalty for excess consumption for Bi-monthly billed domestic consumers during the period from 01-01-2013 to 01-03-2013

Date	Multiplication factor 'f1'	Date	Multiplication factor 'f1'
1-Jan-2013	0.300	31-Jan-2013	0.800
2-Jan-2013	0.317	1-Feb-2013	0.817
3-Jan-2013	0.333	2-Feb-2013	0.833
4-Jan-2013	0.350	3-Feb-2013	0.850
5-Jan-2013	0.367	4-Feb-2013	0.867
6-Jan-2013	0.383	5-Feb-2013	0.883
7-Jan-2013	0.400	6-Feb-2013	0.900
8-Jan-2013	0.417	7-Feb-2013	0.917
9-Jan-2013	0.433	8-Feb-2013	0.933
10-Jan-2013	0.450	9-Feb-2013	0.950
11-Jan-2013	0.467	10-Feb-2013	0.967
12-Jan-2013	0.483	11-Feb-2013	0.983
13-Jan-2013	0.500	12-Feb-2013	1.000
14-Jan-2013	0.517	13-Feb-2013	1.000
15-Jan-2013	0.533	14-Feb-2013	1.000
16-Jan-2013	0.550	15-Feb-2013	1.000
17-Jan-2013	0.567	16-Feb-2013	1.000
18-Jan-2013	0.583	17-Feb-2013	1.000
19-Jan-2013	0.600	18-Feb-2013	1.000
20-Jan-2013	0.617	19-Feb-2013	1.000
21-Jan-2013	0.633	20-Feb-2013	1.000
22-Jan-2013	0.650	21-Feb-2013	1.000
23-Jan-2013	0.667	22-Feb-2013	1.000
24-Jan-2013	0.683	23-Feb-2013	1.000
25-Jan-2013	0.700	24-Feb-2013	1.000
26-Jan-2013	0.717	25-Feb-2013	1.000
27-Jan-2013	0.733	26-Feb-2013	1.000
28-Jan-2013	0.750	27-Feb-2013	1.000
29-Jan-2013	0.767	28-Feb-2013	1.000
30-Jan-2013	0.783	1-Mar-2013	1.000