

# **DECISION ON TRANSMISSION AND BULK SUPPLY TARIFFS**

---

**Effective from 1<sup>st</sup> July 2014**

## **DECISION ON BULK SUPPLY TARIFFS- JULY- DECEMBER 2014**

In exercising functions vested with the Public Utilities Commission of Sri Lanka (“the Commission”) under section 3(d) of the Sri Lanka Electricity Act No 20 of 2009 (the “Act”) “to regulate tariffs and other charges levied by licensees and other electricity undertakings, in order to ensure that the most economical and efficient service possible is provided to consumers”.

In accordance with Section 30(2)(a) of the Act, the Commission, on 15<sup>th</sup> July 2010, approved a cost-reflective Methodology for Tariffs (“the Methodology”) and subsequently issued the Methodology to the Transmission Licensee (TL) and to each Distribution Licensee (DLs).

In accordance with the methodology, the tariffs levied by the distribution licensee for the transmission and bulk sale of electricity (the transmission and bulk sale tariffs) and tariffs levied by the distribution licensee for the distribution and supply of electricity were approved by the Commission and requested licensees to implement with effect from 1st January 2011, issuing the decision document on electricity tariffs. The transmission and bulk sale tariffs was a forecasted tariffs issued to determine the end use customer tariffs. The forecasted transmission and bulk sale tariffs are calculated and filed once every six months by the transmission license following the procedure defined in the methodology.

The Commission reviewed the transmission and bulk supply tariffs filed by the transmission licensee for the period from July to December 2014, and hereby approved and requested the transmission licensee to implement the bulk supply tariffs effective from 1st of July 2014.

## List of Acronyms

BSOB	Bulk Supply and Operations Business
BST	Bulk Supply Tariffs
CAPEX	Capital Expenditure
CEB	Ceylon Electricity Board
DL	Distribution Licensee: Ceylon Electricity Board and Lanka Electricity Company (Pvt) Ltd
DL1	Distribution and Supply Licensee for CEB Distribution Region 1 holding license number EL/D/09-003
DL2	Distribution and Supply Licensee for CEB Distribution Region 2 holding license number EL/D/09-004
DL3	Distribution and Supply Licensee for CEB Distribution Region 3 holding license number EL/D/09-005
DL4	Distribution and Supply Licensee for CEB Distribution Region 4 holding license number EL/D/09-006
DL5	Distribution and Supply Licensee LECO holding license number EL/D/09-052
FSA	Fuel Supply Agreement
CEB GL	CEB Generation Licensee holding License number
GWh	Gigawatt hour
kVA	kilovolt ampere
kW	kilowatt
kWh	kilowatt hour
LECO	Lanka Electricity Company (Pvt) Ltd.
LKR	Sri Lanka Rupee
LV	Low Voltage
MV	Medium Voltage
MWh	Megawatt hour
NCRE	Non-Conventional Renewable Energy
O & M	Operations & Maintenance
OPEX	Operating Expenditure
PPA	Power Purchase Agreement
Single Buyer	A function of the BSOB
SPPs	Small Power Producers
T&D	Transmission and Distribution
TL	Transmission and Bulk Supply Licensee holding License number EL/T/09-002
TOU	Time of Use
WIP	Work-in-Progress

## 1. ALLOWED REVENUE OF THE TRANSMISSION LICENSEE

Consequent to the Tariffs Filing Completed in December 2010, the Decision Document on Electricity Tariffs was issued by the Commission to all licensees and requested to implement with effect from 1st of January 2011. Allowed revenues for TL and all the DLs are as per the *DECISION ON TRANSMISSION AND BULK SUPPLY TARIFFS*, Effective from 1st January 2014.

### 1.1 Adjusted approved variable revenue cap and retail service price cap

Shown below in the Table 1 are the approved variable revenue caps for the year 2014 as per the Table 13 of *DECISION ON TRANSMISSION AND BULK SUPPLY TARIFFS*, Effective from 1st January 2014.

**Table 1- Adjusted Approved Variable Revenue Cap**

Approved revenue caps for 2014 (LKR Million)						
Licensee	DL 1	DL 2	DL 3	DL 4	DL 5	TL
2014	8,246	8,757	4,092	3,490	2,963	7,762

Retail service price cap as per the Table 3 of *DECISION ON TRANSMISSION AND BULK SUPPLY TARIFFS*, Effective from 1st January 2014.

**Table 2- Adjusted Approved Retail Service Price Cap**

Retail service price cap (LKR/Customer)						BSOB Revenue (LKR Million)
Licensee	DL 1	DL 2	DL 3	DL 4	DL 5	TL
2014	520.03	653.12	481.30	522.91	714.51	141.49

## 2. APPROVED LOSSES FOR THE PERIOD (As per the Decision on Electricity Tariffs – 2011)

Approved network loss target as per Decision on Electricity Tariff 2011 for year 2014 are shown in Table 3 below.

**Table 3- Approved Network Loss For 2014**

Licensee	DL 1	DL 2	DL 3	DL 4	DL 5	TL
Approved loss	8.3%	10.4%	8.3%	9.2%	5.2%	3.0%

## 3. SHORT TERM DEBT LEVY

Repayment of short terms debts of Ceylon Electricity Board that were budgeted for the period July – December 2014 was allowed in this decision. The Commission has approved LKR 13,646 Million of short term debt repayment to be added to the capacity charge for the period.

#### 4. GENERATION COSTS

The approved generation dispatch for July - December 2014 is shown in Table 4 below.

**Table 4- Dispatch Approved By the Commission for July-December 2014**

Month	Code	Unit	Month of year 2014						Total
			Jul	Aug	Sep	Oct	Nov	Dec	
<b>Independent Power Producers (IPPs)</b>									
ASIA Power – 45 MW	DAPL	GWh	18.9	22.0	23.6	14.9	15.1	20.4	114.8
AES Kelanitissa – 165 MW	CAES	GWh	-	-	4.3	-	-	6.3	10.5
Barge – 60 MW	DCPL	GWh	40.1	41.1	39.8	40.1	37.0	26.1	224.2
Heladhanavi – Put. – 99 MW	DPUT	GWh	63.6	63.6	60.5	63.6	58.7	-	310.0
ACE – Embilipitiya – 99 MW	DEMB	GWh	46.0	47.4	49.5	48.7	43.2	45.5	280.1
Kerawalapitiya – 270 MW	CCKW	GWh	37.1	28.8	90.2	16.0	14.4	44.6	230.9
<b>TOTAL IPP</b>		<b>GWh</b>	<b>205.5</b>	<b>202.8</b>	<b>267.8</b>	<b>183.2</b>	<b>168.3</b>	<b>142.8</b>	<b>1,170.6</b>
<b>CEB GL's Thermal Generation</b>									
Sapu Old 4 x 18 MW	DSP1	GWh	31.7	31.7	31.1	-	-	-	94.5
Sapu Ext. 8 x 9 MW	DSP2	GWh	38.2	38.2	36.9	38.2	-	-	151.5
KPS GT 5 x 17 MW	GT16	GWh	-	-	-	-	-	-	-
KPS GT 1 x 115 MW	GT07	GWh	-	-	-	-	-	-	-
KPS Combined – 165 MW	CCKP	GWh	62.1	59.3	70.2	51.8	32.4	53.2	329.0
Coal – Puttlam 300 MW	CPUT	GWh	261.1	261.1	207.4	346.5	335.4	346.3	1,757.8
<b>Total CEB GL's Thermal Generation</b>		<b>GWh</b>	<b>393.0</b>	<b>390.3</b>	<b>345.6</b>	<b>436.5</b>	<b>367.8</b>	<b>399.5</b>	<b>2,332.8</b>
<b>Renewable energy</b>	<b>NCRE</b>	<b>GWh</b>	<b>74.4</b>	<b>67.4</b>	<b>75.4</b>	<b>75.4</b>	<b>81.4</b>	<b>89.4</b>	<b>463.4</b>
<b>Chunnakam</b>									
New Chunnakam	DNCHU	GWh	11.7	17.5	16.2	17.2	15.3	3.1	80.9
Northern Power	DNOR	GWh	7.1	9.6	9.2	4.9	4.8	0.2	35.6
<b>Total Northern generation</b>		<b>GWh</b>	<b>18.9</b>	<b>27.2</b>	<b>25.4</b>	<b>22.2</b>	<b>20.1</b>	<b>3.4</b>	<b>117.2</b>
<b>CEB GL's Hydropower Generation</b>									
		<b>GWh</b>	<b>359.1</b>	<b>357.1</b>	<b>316.5</b>	<b>333.3</b>	<b>367.6</b>	<b>406.2</b>	<b>2,139.8</b>
<b>Total Generation</b>		<b>GWh</b>	<b>1,050.9</b>	<b>1,044.8</b>	<b>1,030.8</b>	<b>1,050.7</b>	<b>1,005.3</b>	<b>1,041.3</b>	<b>6,223.8</b>

Forecast system coincident peak demand and the approved monthly capacity costs of each generation plant/ hydro scheme are shown in Table 5 below.

**Table 5- Approved Capacity payments to GL by TL for July-December 2014**

Item\Month	Unit	Jul	Aug	Sep	Oct	Nov	Dec
System Coincident Peak demand	MW	1966	1968	1987	1963	1922	1917

**Capacity Payment**

Plant\Month	Unit	Jul	Aug	Sep	Oct	Nov	Dec
Mahaweli	Mn. LKR	610.3	610.3	610.3	610.3	610.3	610.3
Laxapana	Mn. LKR	184.7	184.7	184.7	184.7	184.7	184.7
Other Hydro	Mn. LKR	190.3	190.3	190.3	190.3	190.3	190.3
GTSM	Mn. LKR	30.2	29.3	29.3	30.2	30.2	30.2
DSP	Mn. LKR	100.9	100.9	100.9	100.9	100.9	100.9
DSPX	Mn. LKR	113.5	113.5	113.5	113.5	113.5	113.5
DAPL	Mn. LKR	146.7	146.7	146.7	146.7	146.7	146.7
CCKP	Mn. LKR	268.1	268.1	268.1	268.1	268.1	268.1
CAES	Mn. LKR	42.6	42.6	41.3	42.6	41.3	42.6
DCPL	Mn. LKR	88.4	90.7	87.9	88.5	81.7	57.6
DPUT	Mn. LKR	116.9	116.9	116.9	116.9	116.9	116.9
DEMB	Mn. LKR	66.6	66.6	66.6	66.6	66.6	66.6
CCKW	Mn. LKR	616.9	683.0	660.9	683.0	660.9	660.9
CPUT	Mn. LKR	367.0	367.0	367.0	367.0	367.0	367.0
RENW	Mn. LKR	-	-	-	-	-	-
GT7	Mn. LKR	40.9	39.6	39.6	40.9	40.9	40.9
DCHU	Mn. LKR	7.2	7.2	7.2	7.2	7.2	7.2
DNOR	Mn. LKR	66.9	66.9	64.8	66.9	64.8	66.9
DNCHU	Mn. LKR	28.9	28.9	28.9	28.9	28.9	28.9
TOTAL	Mn. LKR	3,087.0	3,153.2	3,124.8	3,153.2	3,120.8	3,100.3
Depreciation Provision Excluded from CEB GL	Mn. LKR	947.44	947.44	947.44	947.44	947.44	947.44
Return of Equity allowed for CEB GL	Mn. LKR	189.49	189.49	189.49	189.49	189.49	189.49

**Generation Capacity cost**

	Unit	Jul	Aug	Sep	Oct	Nov	Dec
<b>Average Generation Capacity cost</b>	<b>LKR/MW</b>	1,184,617	1,217,398	1,190,986	1,220,090	1,229,503	1,221,897

Forecast monthly generation from each generation plant along with approved average cost LKR/kWh is shown in Table 6 below.

**Table 6- Approved Energy Payments to GL by TL for July-December 2014**

Plant\Month	Unit	Jul	Aug	Sep	Oct	Nov	Dec
Hydro	GWh	359.1	357.1	316.5	333.3	367.6	406.2
	LKR/kWh	-	-	-	-	-	-
GTSM	GWh	-	-	-	-	-	-
	LKR/kWh	-	-	-	-	-	-
DSP	GWh	31.7	31.7	31.1	-	-	-
	LKR/kWh	24.6	24.6	24.7	-	-	-
DSPX	GWh	38.2	38.2	36.9	38.2	-	-
	LKR/kWh	23.5	23.5	23.6	23.5	-	-
DAPL	GWh	18.9	22.0	23.6	14.9	15.1	20.4
	LKR/kWh	24.5	24.5	24.4	24.7	24.7	24.5
CCKP	GWh	62.1	59.3	70.2	51.8	32.4	53.2
	LKR/kWh	26.8	26.8	26.6	27.0	25.7	25.6
CAES	GWh	-	-	4.3	-	-	6.3
	LKR/kWh	-	-	36.6	-	-	26.7
DCPL	GWh	40.1	41.1	39.8	40.1	37.0	26.1
	LKR/kWh	23.0	23.0	23.0	23.0	23.0	23.1
DPUT	GWh	63.6	63.6	60.5	63.6	58.7	-
	LKR/kWh	21.1	21.1	21.1	21.1	21.2	-
DEMB	GWh	46.0	47.4	49.5	48.7	43.2	45.5
	LKR/kWh	24.0	24.0	24.0	24.0	24.1	24.0
CCKW	GWh	37.1	28.8	90.2	16.0	14.4	44.6
	LKR/kWh	27.2	28.3	25.0	32.1	33.0	26.0
CPUT	GWh	261.1	261.1	207.4	346.5	335.4	346.3
	LKR/kWh	6.1	6.1	6.2	6.1	6.1	6.1
RENW	GWh	74.4	67.4	75.4	75.4	81.4	89.4
	LKR/kWh	18.2	18.7	17.9	16.1	15.1	14.7
GT7	GWh	-	-	-	-	-	-
	LKR/kWh	-	-	-	-	-	-
DCHU	GWh	0.1	0.1	0.1	0.1	0.1	0.1
	LKR/kWh	58.7	58.7	58.7	58.7	58.7	58.7
DNOR	GWh	7.1	9.6	9.2	4.9	4.8	0.2
	LKR/kWh	26.0	25.6	25.6	26.7	26.7	92.5
DNCHU(Jaffna)	GWh	11.7	17.5	16.2	17.2	15.3	3.1
	LKR/kWh	24.0	22.9	23.1	23.0	23.3	32.8

<b>TOTAL generated energy</b>	GWh	1,050.9	1,044.8	1,030.8	1,050.7	1,005.3	1,041.3
-------------------------------	-----	---------	---------	---------	---------	---------	---------

<b>Monthly Energy Cost</b>	LKR Million	11,599	11,558	13,127	10,453	8,565	8,421
<b>Total Energy cost for six-months</b>	LKR Million	63,723					
<b>Total energy dispatch for six-months</b>	GWh	6,224					
<b>Six-month average energy cost</b>	LKR/kWh	10.24					

Above mentioned Generation Costs are based on the assumption of following fuel costs for electricity generation

**Table 7- Fuel Costs Relevant for the Period July-December 2014**

Fuel	Unit	Cost
Coal	LKR / kg	13.78
Diesel	LKR / L	121.00
Furnace Oil	LKR / L	90.00
Heavy Fuel	LKR / L	90.00
Furnace Oil (low Sulphur)	LKR / L	100.00
Naphtha	LKR / L	90.00

## 5. ENERGY COSTS IN EACH INTERVAL FOR TOU PRICING

Using the approved Methodology, the Commission has determined that the peak adjustment factors to be as given in Table 8 below.

**Table 8- Approved Peak Adjustment Factors**

Time interval for TOU pricing	Factor	Value
0530-1830	k1	1
1830-2230	k2	1.25
2230-0530	k3	0.75

The energy dispatches and costs in each interval are provided in table below. The Commission has assessed the energy dispatches in each interval using historic information on the load profile on typical weekdays, week-ends and holidays.

**Table 9- Monthly Energy Dispatches and Costs in the TOU Regime for July-December 2014**

Average Generation Energy cost in each month

	Unit	Jul	Aug	Sep	Oct	Nov	Dec
Generation Energy cost	LKR/kWh	11.04	11.06	12.73	9.95	8.52	8.09
Month 7 - TOU tariffs							
Interval	Energy dispatched (GWh)	k Factor (#)	Adjusted k Factor (#)	Charge (LKR/kWh)			
B1 (day)	597	1	0.99	10.98			
B2 (peak)	239	1.25	1.24	13.72			
B3 (off-peak)	215	0.75	0.75	8.23			

Month 8 - TOU tariffs				
Interval	Energy dispatched (GWh)	k Factor (#)	Adjusted k Factor (#)	Charge (LKR/kWh)
B1 (day)	593	1	0.99	11.00
B2 (peak)	237	1.25	1.24	13.75
B3 (off-peak)	214	0.75	0.75	8.25

Month 9 - TOU tariffs				
Interval	Energy dispatched (GWh)	k Factor (#)	Adjusted k Factor (#)	Charge (LKR/kWh)
B1 (day)	585	1	0.99	12.67
B2 (peak)	234	1.25	1.24	15.83
B3 (off-peak)	211	0.75	0.75	9.50



Month 10 - TOU tariffs				
Interval	Energy dispatched (GWh)	k Factor (#)	Adjusted k Factor (#)	Charge (LKR/kWh)
B1 (day)	597	1	0.99	9.89
B2 (peak)	239	1.25	1.24	12.37
B3 (off-peak)	215	0.75	0.75	7.42

Month 11 - TOU tariffs				
Interval	Energy dispatched (GWh)	k Factor (#)	Adjusted k Factor (#)	Charge (LKR/kWh)
B1 (day)	571	1	0.99	8.47
B2 (peak)	228	1.25	1.24	10.59
B3 (off-peak)	206	0.75	0.75	6.36

Month 12 - TOU tariffs				
Interval	Energy dispatched (GWh)	k Factor (#)	Adjusted k Factor (#)	Charge (LKR/kWh)
B1 (day)	591	1	0.99	8.04
B2 (peak)	236	1.25	1.24	10.05
B3 (off-peak)	213	0.75	0.75	6.03

## 6. COMBINED COSTS OF SINGLE BUYER, AND TRANSMISSION AND BSOB

The allowed capacity costs of generation and energy costs of generation have been combined with the allowed transmission and BSOB costs to calculate the Bulk Supply Tariffs (BST) for sales by the TL to DLs. The approved average BST in each month in each TOU interval is given below and provides the six-month average.

Table 10- Combined Transfer Price from TL to DLs for July-December 2014

### Capacity Charge

	Unit	Month					
		Jul	Aug	Sep	Oct	Nov	Dec
<b>Capacity Charge</b>							
Generation capacity	LKR/MW	1,184,617.34	1,217,398.10	1,190,986.15	1,220,089.82	1,229,503.06	1,221,897.16
Transmission	LKR/MW	329,000.50	328,751.29	325,482.80	329,483.16	336,582.24	337,427.64
Bulk Supply and Operations Business	LKR/MW	1,162,797.22	1,161,916.43	1,150,364.47	1,164,503.08	1,189,593.61	1,192,581.52
<b>BST (C)</b>	<b>LKR/MW</b>	<b>2,676,415.07</b>	<b>2,708,065.82</b>	<b>2,666,833.41</b>	<b>2,714,076.06</b>	<b>2,755,678.92</b>	<b>2,751,906.33</b>
<b>BST (C) 6-Month Weighted average</b>	<b>LKR/MW /month</b>	<b>2,711,748.58</b>					

### Energy Charge

	Unit	Month					
		Jul	Aug	Sep	Oct	Nov	Dec

#### Interval 1 (day)

Transmission Loss Factor B1	%	3.08%	3.08%	3.08%	3.08%	3.08%	3.08%
Generation energy Cost B1	LKR/kWh	10.98	11.00	12.67	9.89	8.47	8.04
<b>BST (E1)</b>	<b>LKR/kWh</b>	<b>11.31</b>	<b>11.34</b>	<b>13.06</b>	<b>10.20</b>	<b>8.73</b>	<b>8.29</b>

**Interval 2 (peak)**

Transmission Loss Factor B2	%	3.93%	3.93%	3.93%	3.93%	3.93%	3.93%
Generation energy Cost B2	LKR/kWh	13.72	13.75	15.83	12.37	10.59	10.05
<b>BST (E2)</b>	<b>LKR/kWh</b>	<b>14.26</b>	<b>14.29</b>	<b>16.45</b>	<b>12.86</b>	<b>11.01</b>	<b>10.45</b>

**Interval 3 (off-peak)**

Transmission Loss Factor B3	%	2.18%	2.18%	2.18%	2.18%	2.18%	2.18%
Generation energy Cost B3	LKR/kWh	8.23	8.25	9.50	7.42	6.36	6.03
<b>BST (E3)</b>	<b>LKR/kWh</b>	<b>8.41</b>	<b>8.43</b>	<b>9.71</b>	<b>7.58</b>	<b>6.49</b>	<b>6.16</b>

**Table 11- Approved Six-month Average Bulk Supply Tariffs for July-December 2014**

	Unit	BST (E)
<b>BST day (E1)</b>	<b>LKR/kWh</b>	<b>10.93</b>
<b>6-Month weighted average</b>		
<b>BST peak (E2)</b>	<b>LKR/kWh</b>	<b>13.76</b>
<b>6-Month weighted average</b>		
<b>BST off-peak (E3)</b>	<b>LKR/kWh</b>	<b>8.14</b>
<b>6-Month weighted average</b>		

BST = Bulk Supply Tariff, means the average transfer price from Transmission to Distribution Licensees

E1, E2, E3 refer to the energy delivered in the three time intervals in the time-of-use tariffs regime. ie 0530-1830, 1830-2230 and 2230-0530, respectively.

**7. APPROVED BST FROM TL TO EACH DL**

Owing to the requirement to maintain a Uniform National Tariff (UNT) and owing to the varying customer mix among Distribution Licensees, the BST to each DL was adjusted, to enable each Distribution Licensee to recover their full allowed revenues. The summary calculation as per section 5.2.1 of the tariff methodology, and the approved BSTs are shown in Table 12

The Transmission Licensee is hereby directed to invoice each Distribution Licensee at the rates shown in Table 12 as (i) Approved BST for payment on Coincident Maximum, and (ii) Approved BST for energy in each TOU interval. In addition, adjustment of sales to DL5 by DL2, DL3 and DL4 shall be done as per section 8.3 of the Decision on electricity Tariffs 2011.

**Table 12- Approved BST from Transmission to each Distribution Licensee**

Description	Units	DL1: CEB Region 1	DL2: CEB Region 2	DL3: CEB Region 3	DL4: CEB Region 4	DL5: LECO	Total
Sales to end-use customers (annual)	GWh	3,080	3,253	1,835	1,415	1,261	10,845
Revenue based on approved customer tariffs (annual, excluding FAC)	LKR Million	55,447	48,959	27,324	22,610	24,456	178,795
Coincident peak demand for purchases from Transmission	MW	523	572	385	276	218	

Approved BST for payment on Coincident Maximum Demand	LKR/MW /month	2,711,749	2,711,749	2,711,749	2,711,749	2,711,749	
Amount payable to Transmission on account of Demand (Jul-Dec)	LKR Million	8,514	9,308	6,261	4,488	3,551	32,121
Revenue to be recovered by Transmission through energy charges (Jul-Dec)	LKR Million	14,917	10,340	5,181	4,904	7,095	42,437
Energy sold from Transmission at MV (Jul-Dec)	GWh	1,709	1,844	1,014	788	691	6,046
<b>Approved BST for energy in each TOU interval</b>							
<b>Day (0530-1830)</b>	<b>LKR/kWh</b>	8.68	5.57	5.08	6.19	10.22	
<b>Peak (1830-2230)</b>	<b>LKR/kWh</b>	10.94	7.03	6.40	7.80	12.88	
<b>Off Peak (2230-0530)</b>	<b>LKR/kWh</b>	6.45	4.14	3.78	4.60	7.59	

Notes:

1. Loss adjustment for energy delivered to LECO is continue to done as per the section 8.3 of Decision on Electricity Tariffs - 2011
2. The generation prices from the Single Buyer are applicable only for the period July 2014 to December 2014, after which the correction mechanisms stated in the Methodology shall be applicable. Similarly, other corrections would be effective at the time intervals stated in the Methodology.