

DECISION ON TRANSMISSION AND BULK SUPPLY TARIFFS

Effective from 1st October 2017

DECISION ON BULK SUPPLY TARIFFS- Oct 2017 to Dec 2017

In exercising the powers and functions vested with the Public Utilities Commission of Sri Lanka (Commission) under section 3 (d) of the Sri Lanka Electricity Act, No. 20 of 2009 (SLEA) 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, and in accordance with section 30 (2) (a) of SLEA, the Commission has approved a Tariff Methodology.

In accordance with the methodology, the tariffs levied by the transmission 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 20th of June 2013, 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.

Since 2016, the tariff revision periods were from “October to March” and “April to September”. Starting from the year 2018, the bulk supply tariff periods will be changed back to the original periods of “January to June” and “July to December”.

Hence the bulk supply tariffs are filed only for the prevailing three months of the year 2017. The Commission reviewed the transmission and bulk supply tariffs filed by the transmission licensee for the period from October 2017 to December 2017, and hereby approved and requested the transmission licensee to implement the bulk supply tariffs effective from 1st of October 2017.

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

Approved Distribution Variable Revenue Cap and Approved Retail Services Price Cap of each distribution licensee as per the *DECISION ON TRANSMISSION AND BULK SUPPLY TARIFFS effective from 1st October 2016* are shown in Table 1 below.

Table 1: Approved Distribution Variable Revenue Cap and Approved Retail Services Price Cap for the year 2017

	Unit	DL1	DL2	DL3	DL4	DL5
(Revised) Approved Distribution Variable Revenue Cap	LKR million	10,152.5	13,045.5	7,440.1	6,944.1	3,816.7
Approved Retail Services price cap	LKR/customer	500.19	463.17	572.21	593.08	950.75

The revised Transmission and BSOB Revenue Caps mentioned in the *DECISION ON TRANSMISSION AND BULK SUPPLY TARIFFS effective from 1st April 2016* are shown in the Table 2 below.

Table 2: Transmission and BSOB Revenue Cap for the year 2017(revised)

Approved Revenue Cap	Unit	TL
Transmission Revenue Cap	LKR million	9,529.4
BSOB Revenue Cap	LKR million	1,299.0
Total allowed revenue	LKR million	10,828.3

2 APPROVED LOSSES FOR THE PERIOD

Approved network loss targets as per the *Revision of Network Loss Targets, effective from 24th May 2016*, are shown in Table 3 below.

Table 3- Approved Network Loss For 2017

Licensee	DL 1	DL 2	DL 3	DL 4	DL 5	TL
Loss target for 2017	7.41%	8.57%	7.64%	7.92%	4.81%	2.41%

3 GENERATION COSTS

The approved generation dispatch for Oct 2017 – Dec 2017 is shown in Table 4 below.

Table 4- Dispatch Approved By the Commission for Oct 2017 – Dec 2017

Month	Code	Unit	Month of year 2017			Total
			Oct	Nov	Dec	
<u>Independent Power Producers (IPPs)</u>						
ASIA Power – 51 MW	DAPL	GWh	2.3	2.3	11.8	16.4
Sojitz Kelanitissa – 165 MW	CAES	GWh	21.3	56.0	78.2	155.5
Kerawalapitiya – 270 MW	CCKW	GWh	104.6	138.8	167.4	410.8
ACE - Embilipitiya -99WW	DEMB	GWh	5.2	5.0	30.7	40.9
ACE - Matara - 20 MW	DMAT	GWh	1.2	1.2	5.4	7.8
TOTAL IPP		GWh	134.6	203.3	293.5	631.4
<u>CEB GL's Thermal Generation</u>						
Sapu Old 4 x 18 MW	DSP1	GWh	33.9	32.6	33.9	100.4
Sapu Ext. 8 x 9 MW	DSP2	GWh	38.2	36.9	38.2	113.3
KPS GT 4 x 17 MW	GT16	GWh	0.9	2.5	4.6	7.9
KPS GT 1 x 115 MW	GT07	GWh	5.7	3.0	12.8	21.5
KPS Combined – 165 MW	CCKP	GWh	93.4	96.1	102.7	292.3
Coal – Puttlam 300 MW	CPUT	GWh	344.5	333.4	344.5	1,022.4
Total CEB GL's Thermal Generation		GWh	516.6	504.5	536.7	1,557.8
<u>Renewable energy</u>						
	RENEW	GWh	171.4	159.9	145.6	476.8
<u>Chunnakam</u>						
New Chunnakam	DCHU	GWh	0.2	0.2	0.2	0.6
Northern Power	DNCHU	GWh	2.3	7.0	10.9	20.2
	DNOR	GWh	0	0	0	0
Total Northern generation		GWh	2.5	7.2	11.1	20.8
<u>CEB GL's Hydropower Generation</u>						
		GWh	468.7	354.4	285.5	1,108.5
Total Generation		GWh	1,293.8	1,229.3	1,272.3	3,795.4

Forecast system coincident peak generation demand and the approved monthly capacity costs of each generation plant/ hydro scheme are shown in Table 5 and Table 6 below.

The depreciation costs filed under each generator owned by CEB was removed and 20% of that cost was allowed as a Return on Equity, since the total debt and part of the equity for building of these plants were aided by the Government.

Table 5- Forecast system coincident peak demand for Oct 2017 – Dec 2017

	Unit	Oct-2017	Nov-2017	Dec-2017
System Coincidental Peak demand	MW	2,260.6	2,225.7	2,269.1

Table 6- Approved Capacity payments to GL by TL for Oct 2017 – Dec 2017

Plant\Month	Unit	Oct-2017	Nov-2017	Dec-2017
Mahaweli	LKR Million	613.8	613.8	613.8
Laxapana	LKR Million	257.3	257.3	257.3
Other Hydro	LKR Million	288.0	288.0	288.0
GTSM	LKR Million	55.8	55.8	55.8
DSP	LKR Million	152.9	152.9	152.9
DSPX	LKR Million	166.5	166.5	166.5
DAPL	LKR Million	164.5	164.5	164.5
CCKP	LKR Million	206.4	206.4	206.4
CAES	LKR Million	47.3	45.8	47.3
DEMB ¹	LKR Million	0.0	0.0	0.0
BARGE ¹	LKR Million	0.0	0.0	0.0
DMAT ¹	LKR Million	0.0	0.0	0.0
CCKW	LKR Million	736.0	712.3	736.0
CPUT	LKR Million	1,872.7	1,872.7	1,872.7
RENW	LKR Million	0.0	0.0	0.0
GT7	LKR Million	94.4	94.4	94.4
DCHU	LKR Million	9.2	9.2	9.2
DNOR ²	LKR Million	55.7	53.9	55.7
DNCHU	LKR Million	50.4	50.4	50.4
TOTAL	LKR Million	4,771.0	4,744.0	4,771.0
Depreciation Provision Excluded from CEB GL	LKR Million	1,159.8	1,159.8	1,159.8
Return of Equity allowed for CEB GL	LKR Million	232.0	232.0	232.0

¹ Capacity costs of Embilipitiya, Barge and ACE - Matara were removed

² Though Northern Power Pvt Ltd power plant is not operating as per a court order, capacity cost was allowed.

	Unit	Oct-2017	Nov-2017	Dec-2017
Generation Capacity cost	LKR /MW	1,700,080.60	1,714,620.30	1,693,701.49

Forecast monthly generation from each generation plant along with approved average cost (LKR/kWh) is shown in Table 7 below.

Table 7- Approved Energy Payments to GL by TL for Oct 2017 – Dec 2017

Plant\Month	Unit	Oct-2017	Nov-2017	Dec-2017
Mahaweli	Hydro	GWh	468.7	354.4
Laxapana		LKR /kWh	0.00	0.00
Other Hydro				
GTSM	GWh	0.9	2.5	4.6
	LKR /kWh	73.05	59.75	56.43
DSP	GWh	33.9	32.6	33.9
	LKR /kWh	23.00	23.13	23.00
DSPX	GWh	38.2	36.9	38.2
	LKR /kWh	20.40	20.44	20.40

DAPL	GWh	2.3	2.3	11.8
	LKR /kWh	25.79	25.93	23.28
CCKP	GWh	93.4	96.1	102.7
	LKR /kWh	26.47	26.49	26.55
CAES	GWh	21.3	56.0	78.2
	LKR /kWh	22.88	21.53	20.95
DMAT ³	GWh	1.2	1.2	5.4
	LKR /kWh	15.66	16.14	16.83
DEMB ³	GWh	5.2	5.0	30.7
	LKR /kWh	15.66	16.14	16.83
BARGE ⁴	GWh	0.0	0.0	0.0
	LKR /kWh	0.00	0.00	0.00
CCKW	GWh	104.6	138.8	167.4
	LKR /kWh	19.97	19.32	19.23
CPUT	GWh	344.5	333.4	344.5
	LKR /kWh	8.87	8.89	8.87
RENEW	GWh	171.4	159.9	145.6
	LKR /kWh	17.61	17.03	17.50
GT7	GWh	5.7	3.0	12.8
	LKR /kWh	47.30	51.91	44.49
DCHU	GWh	0.2	0.2	0.2
	LKR /kWh	33.94	33.94	33.94
DNOR	GWh	0.0	0.0	0.0
	LKR /kWh	0.00	0.00	0.00
DNCHU	GWh	2.3	7.0	10.9
	LKR /kWh	32.14	23.62	22.12

³ Energy cost of Embilipitiya and ACE - Matara were calculated by taking the weighted average energy cost of all thermal power plants

⁴ Energy generation of Barge was removed and added to Hydro

Total generated energy	GWh	1,293.8	1,229.3	1,272.3
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Monthly energy cost	LKR Million	13,256.0	14,264.8	16,701.8
Total energy cost for three-months	LKR Million	44,222.6		
Total energy dispatch for three -months	GWh	3,795.4		
Three -month average energy cost	LKR/kWh	11.94		

4 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	1.3
2230-0530	k3	0.6

The energy dispatches and costs in each interval are provided in Table 9 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 Oct 2017 – Dec 2017

	Unit	Oct-2017	Nov-2017	Dec-2017
Generation energy cost	LKR/kWh	10.25	11.60	13.13

Month 1 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (LKR/kWh)
B1(Day)	735	1	1.01	10.39
B2 (Peak)	294	1.3	1.32	13.51
B3 (Off Peak)	265	0.6	0.61	6.23

Month 2 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (LKR/kWh)
B1(Day)	698	1	1.01	11.77
B2 (Peak)	279	1.3	1.32	15.30
B3 (Off Peak)	252	0.6	0.61	7.06

Month 3 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (LKR/kWh)
B1(Day)	723	1	1.01	13.31
B2 (Peak)	289	1.3	1.32	17.31
B3 (Off Peak)	261	0.6	0.61	7.99

5 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.

Table 10- Combined Transfer Price from TL to DLs for Oct 2017 – Dec 2017

Capacity Charge				
	Unit	Oct-2017	Nov-2017	Dec-2017
Generation capacity	LKR /MW	1,700,080.60	1,714,620.30	1,693,701.49
Transmission	LKR /MW	355,330.06	360,910.06	353,996.78
Bulk Supply and Operation Business ⁵	LKR /MW	362,520.30	368,213.21	361,160.04
BST (C)	LKR /MW	2,417,930.96	2,443,743.56	2,408,858.31

BST (C)3-Months Weighted average	LKR/MW	2,423,387.79
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⁵ The short term loan Repayment of Transmission Division is included in the Bulk Supply and Operation Business cost.

The approved average BST in each month in each TOU interval is given below in the table 11 and the table 12 provides the three-month average.

Table 11- Approved Bulk Supply Tariffs in each month in each TOU for Oct 2017 – Dec 2017

Energy Charge				
Month	Unit	Oct-2017	Nov-2017	Dec-2017

Interval 1 (day)				
Transmission Loss Factor B1	%	2.47%	2.47%	2.47%
Generation energy Cost B1	LKR /kWh	10.39	11.77	13.31
BST (E1)	LKR/kWh	10.65	12.06	13.64

Interval 2 (peak)				
Transmission Loss Factor B2	%	3.16%	3.16%	3.16%
Generation energy Cost B2	LKR /kWh	13.51	15.30	17.31
BST (E2)	LKR/kWh	13.93	15.78	17.85

Interval 3 (off peak)				
Transmission Loss Factor B3	%	1.75%	1.75%	1.75%
Generation energy Cost B3	LKR /kWh	6.23	7.06	7.99
BST (E3)	LKR/kWh	6.34	7.18	8.13

Table 12- Approved Three-month Average Bulk Supply Tariffs for Oct 2017 – Dec 2017

	Unit	BST (E)
BST day (E1) 3-Month weighted average	LKR/kWh	12.11
BST peak (E2) 3-Month weighted average	LKR/kWh	15.85
BST off-peak (E3) 3-Month weighted average	LKR/kWh	7.21

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.

6 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 and the approved BSTs are shown in Table 13.

The Transmission Licensee is hereby directed to invoice each Distribution Licensee at the rates shown in Table 13 as (i) Approved BST for payment on Coincident Maximum, and (ii) Approved BST for energy in each TOU interval.

Table 13- Approved BST from Transmission to each Distribution Licensee for the period from October to December 2017

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 – 2017 (Jan-Dec)	GWh	3,616.0	3,911.0	2,227.0	1,733.0	1,507.0	12,994.0
Revenue based on approved customer tariffs – 2017 (Jan-Dec)	LKR Million	68,516.1	65,316.9	33,921.6	27,498.7	29,020.4	224,273.6
Coincident peak demand for purchases from Transmission	MW	596.8	652.5	438.9	314.6	248.9	-
Approved BST for payment on Coincident Maximum Demand	LKR/MW/month	2,423,387.79	2,423,387.79	2,423,387.79	2,423,387.79	2,423,387.79	-
Amount payable to Transmission on account of Demand (Oct-Dec 2017)	LKR Million	4,339.1	4,743.9	3,190.9	2,287.4	1,809.8	16,371.0
Allowed losses (2017)		7.41%	8.57%	7.64%	7.92%	4.81%	-
Revenue to be recovered by Transmission through energy charges (Oct-Dec 2017)	LKR Million	10,152.5	8,195.4	3,303.2	2,741.0	4,412.9	28,804.9
Energy sold from Transmission at MV (Oct-Dec 2017)	GWh	985.1	1,077.0	605.4	471.5	407.3	3,546.3
Approved BST for energy in each TOU interval							
Peak (1830-2230)	LKR/kWh	13.68	10.10	7.24	7.72	14.38	-
Off Peak (2230-0530)	LKR/kWh	6.23	4.60	3.30	3.51	6.55	-
Day (0530-1830)	LKR/kWh	10.45	7.72	5.53	5.90	10.99	-