

DECISION ON TRANSMISSION AND BULK SUPPLY TARIFFS

Effective from 1st April 2016

DECISION ON BULK SUPPLY TARIFFS- April – September 2016

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.

The Commission reviewed the transmission and bulk supply tariffs filed by the transmission licensee for the period from April to September 2016, and hereby approved and requested the transmission licensee to implement the bulk supply tariffs effective from 1st of April 2016.

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 REVENUE CAPS AND BULK SUPPLY TARIFFS 2016-2020 are shown in Table 1 below.

Table 1: Approved Distribution Variable Revenue Cap and Approved Retail Services Price Cap

	Unit	DL1	DL2	DL3	DL4	DL5
Approved Distribution Variable Revenue Cap	LKR million	10,214	13,324	7,581	6,243	3,348
Approved Retail Services price cap	LKR/customer	548.49	436.94	595.47	634.68	896.92

Transmission and BSOB Revenue Caps as per the DECISION ON REVENUE CAPS AND BULK SUPPLY TARIFFS 2016-2020 are shown in Table 2 below.

Table 2: Transmission and BSOB Revenue Cap

Approved Revenue Cap		TL
Transmission Revenue Cap	LKR million	11,973
BSOB Revenue Cap	LKR million	1,225
Total allowed revenue	LKR million	13,199

2 APPROVED LOSSES FOR THE PERIOD

Approved network loss targets as per *PERFORMANCE REPORT OF DISTRIBUTION LICENSEES 2014* are shown in Table 3 below.

Table 3- Approved Network Loss For 2016

Licensee	DL 1	DL 2	DL 3	DL 4	DL 5
Approved loss	9.40%	9.40%	7.10%	9.40%	4.20%

3 GENERATION COSTS

The approved generation dispatch for April – September 2016 is shown in Table 4 below.

Table 4- Dispatch Approved By the Commission for April-September 2016

Month	Code	Unit	Month of year 2016						Total
			April	May	June	July	Aug	Sept	
<u>Independent Power Producers (IPPs)</u>									
ASIA Power – 51 MW	DAPL	GWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AES Kelanitissa – 165 MW	CAES	GWh	88.0	100.3	0.0	3.4	9.1	49.0	249.8
Kerawalapitiya – 270 MW	CCKW	GWh	99.2	41.0	0.0	0.0	0.0	18.1	158.3
TOTAL IPP		GWh	187.2	141.3	0.0	3.4	9.1	67.1	408.1
<u>CEB GL's Thermal Generation</u>									
Sapu Old 4 x 18 MW	DSP1	GWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sapu Ext. 8 x 9 MW	DSP2	GWh	36.9	38.2	35.6	0.0	0.0	0.0	110.7
KPS GT 1 x 115 MW	GT07	GWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
KPS Combined – 165 MW	CCKP	GWh	84.5	86.9	0.0	50.4	0.0	0.0	221.8
Coal – Puttlam 300 MW	CPUT	GWh	509.1	350.7	509.6	516.7	490.7	337.2	2714.0
Total CEB GL's Thermal Generation		GWh	630.5	475.8	545.2	567.1	490.7	337.2	3046.5
Renewable energy	NCRE	GWh	98.9	152.3	180.6	170.8	172.0	162.3	936.9
<u>Chunnakam</u>									
New Chunnakam	DCHU	GWh	0.2	0.2	0.2	0.2	0.2	0.2	1.2
Northern Power	DNCHU	GWh	14.7	14.4	1.1	11.1	1.3	6.2	48.8
	DNOR	GWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Northern generation		GWh	14.9	14.6	1.3	11.3	1.5	6.4	50.0
CEB GL's Hydropower Generation		GWh	180.6	394.9	356.9	376.3	448.9	523.3	2280.9
Total Generation		GWh	1112.2	1178.9	1084.0	1129.4	1123.2	1097.2	6725.0

Forecast system coincident peak generation 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 April-September 2016

Item\Month	Unit	April	May	June	July	August	September
System Coincidental Peak demand	MW	2109	2068	1879	1930	1914	1944
Capacity Payment							
Plant\Month	Unit	April	May	June	July	August	September
Mahaweli	Mn. SLR	748	748	748	748	748	748
Laxapana	Mn. SLR	395	395	395	395	395	395
Other Hydro	Mn. SLR	284	284	284	284	284	284
GTSM	Mn. SLR	78	78	78	78	78	78
DSP	Mn. SLR	159	159	159	159	159	159
DSPX	Mn. SLR	152	152	152	179	179	179
DAPL	Mn. SLR	169	169	169	169	169	169
CCKP	Mn. SLR	226	226	242	226	242	242
CAES	Mn. SLR	45	47	47	47	47	45
BARGE	Mn. SLR	0	0	0	0	0	0

CCKW	Mn. SLR	650	729	706	729	729	706
CPUT	Mn. SLR	1,734	1,734	1,734	1,734	1,734	1,734
RENEW	Mn. SLR	0	0	0	0	0	0
GT7	Mn. SLR	106	106	106	106	106	106
DCHU	Mn. SLR	11	11	11	11	11	11
DNOR	Mn. SLR	72	74	72	74	74	72
DNCHU	Mn. SLR	66	66	66	66	66	66
TOTAL	Mn. SLR	4894	4978	4969	5005	5021	4994
Depreciation Provision Excluded from CEB GL	Mn. LKR	1160	1160	1160	1160	1160	1160
Return of Equity allowed for CEB GL	Mn. LKR	232	232	232	232	232	232
	Unit	April	May	June	July	August	September
Average Generation Capacity cost	LKR/MW	1,880,968	1,958,818	2,150,404	2,113,128	2,138,941	2,091,945

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 April - September 2016

Plant\Month	Unit	April	May	June	July	August	September
Hydro	GWh	180.6	394.9	356.9	376.3	448.9	523.3
	SLR/kWh	0.00	0.00	0.00	0.00	0.00	0.00
GTSM	GWh	0.0	0.0	0.0	0.0	0.0	0.0
	SLR/kWh	0.00	0.00	0.00	0.00	0.00	0.00
DSP	GWh	0.0	0.0	0.0	0.0	0.0	0.0
	SLR/kWh	0.00	0.00	0.00	0.00	0.00	0.00
DSPX	GWh	36.9	38.2	35.6	0.0	0.0	0.0
	SLR/kWh	19.52	19.59	19.69	0.00	0.00	0.00
DAPL	GWh	0.0	0.0	0.0	0.0	0.0	0.0
	SLR/kWh	0.00	0.00	0.00	0.00	0.00	0.00
CCKP	GWh	84.5	86.9	0.0	50.4	0.0	0.0
	SLR/kWh	21.27	21.25	0.00	21.79	0.00	0.00
CAES	GWh	88.0	100.3	0.0	3.4	9.1	49.0
	SLR/kWh	22.39	22.39	22.39	24.03	22.03	21.11
CCKW	GWh	99.2	41.0	0.0	0.0	0.0	18.1
	SLR/kWh	24.98	25.37	0.00	0.00	0.00	26.66
CPUT	GWh	509.1	350.7	509.6	516.7	490.7	337.2
	SLR/kWh	5.58	5.76	5.57	5.57	5.59	5.78
RENEW	GWh	98.9	152.3	180.6	170.8	172.0	162.3
	SLR/kWh	20.14	20.16	20.05	20.12	20.22	19.82
GT7	GWh	0.0	0.0	0.0	0.0	0.0	0.0
	SLR/kWh	0.00	0.00	0.00	0.00	0.00	0.00
DCHU	GWh	0.2	0.2	0.2	0.2	0.2	0.2
	SLR/kWh	32.10	32.10	32.10	32.10	32.10	32.10
DNOR	GWh	0.0	0.0	0.0	0.0	0.0	0.0
	SLR/kWh	0.00	0.00	0.00	0.00	0.00	0.00
DNCHU	GWh	14.7	14.4	1.1	11.1	1.3	6.2
	SLR/kWh	20.61	20.65	44.54	21.27	41.86	23.38

TOTAL generated energy	GWh	1,112.2	1,178.9	1,084.0	1,129.4	1,123.2	1,097.2
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Monthly Energy Cost	LKR Million	12,108	11,273	7,249	7,769	6,525	6,875
Total Energy cost for six-months	LKR Million	51,798					
Total energy dispatch for six-months	GWh	6,725.0					
Six-month average energy cost	LKR/kWh	7.94					

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 7 below.

Table 7- 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 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 8- Monthly Energy Dispatches and Costs in the TOU Regime for April-September 2016

		Average Generation Energy cost					
	Unit	April	May	June	July	August	September
Generation Energy cost	SLR/kWh	10.89	9.56	6.69	6.88	5.81	6.27

Month 1 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (SLR/kWh)
B1 (day)	632	1	1.01	11.04
B2 (peak)	252	1.3	1.32	14.35
B3 (off-peak)	228	0.6	0.61	6.62

Month 2 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (SLR/kWh)
B1 (day)	670	1	1.01	9.70
B2 (peak)	268	1.3	1.32	12.61
B3 (off-peak)	242	0.6	0.61	5.82

Month 3 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (SLR/kWh)
B1 (day)	616	1	1.01	6.78
B2 (peak)	246	1.3	1.32	8.82
B3 (off-peak)	222	0.6	0.61	4.07

Month 4 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (SLR/kWh)
B1 (day)	642	1	1.01	6.98
B2 (peak)	256	1.3	1.32	9.07
B3 (off-peak)	232	0.6	0.61	4.19

Month 5 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (SLR/kWh)
B1 (day)	638	1	1.01	5.89
B2 (peak)	255	1.3	1.32	7.66
B3 (off-peak)	230	0.6	0.61	3.53

Month 6 - Block tariffs				
Block	Energy generated (GWh)	Block Factor (#)	Adjusted Factor (#)	Charge (SLR/kWh)
B1 (day)	623	1	1.01	6.35
B2 (peak)	249	1.3	1.32	8.26
B3 (off-peak)	225	0.6	0.61	3.81

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. The approved average BST in each month in each TOU interval is given below and provides the six-month average.

Table 9- Combined Transfer Price from TL to DLs for April-September 2016

Capacity Charge

Month	Unit	Month					
		April	May	June	July	August	September
Capacity Charge							
Generation capacity	LKR/MW	1,880,967.95	1,958,817.75	2,150,403.58	2,113,128.21	2,138,941.43	2,091,944.81
Transmission	LKR/MW	473,147.51	482,584.83	530,990.04	517,077.48	521,371.00	513,353.29
Bulk Supply and Operation Business	LKR/MW	424,510.60	432,977.82	476,407.24	463,924.82	467,776.99	460,583.45
BST (C)	LKR/MW	2,778,626.05	2,874,380.40	3,157,800.85	3,094,130.51	3,128,089.41	3,065,881.55
BST (C) 6-Month Weighed average	LKR/MW.month	3,010,536.66					

Energy Charge

Month	Unit	April	May	June	July	August	September
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Interval 1 (day)

Transmission Loss Factor B1	%	3.08%	3.08%	3.08%	3.08%	3.08%	3.08%
Generation energy Cost B1	SLR/kWh	11.04	9.70	6.78	6.98	5.89	6.35
BST (E1)	SLR/kWh	11.38	10.00	6.99	7.19	6.07	6.55

Interval 2 (peak)

Transmission Loss Factor B2	%	3.93%	3.93%	3.93%	3.93%	3.93%	3.93%
Generation energy Cost B2	SLR/kWh	14.35	12.61	8.82	9.07	7.66	8.26
BST (E2)	SLR/kWh	14.92	13.10	9.16	9.43	7.96	8.59

Interval 3 (off-peak)

Transmission Loss Factor B3	%	2.18%	2.18%	2.18%	2.18%	2.18%	2.18%
Generation energy Cost B3	SLR/kWh	6.62	5.82	4.07	4.19	3.53	3.81
BST (E3)	SLR/kWh	6.77	5.95	4.16	4.28	3.61	3.90

Table 10- Approved Six-month Average Bulk Supply Tariffs for April-September 2016

	Unit	BST (E)
BST day (E1) 6-Month weighted average	LKR/kWh	8.05
BST peak (E2) 6-Month weighted average	LKR/kWh	10.55
BST off-peak (E3) 6-Month weighted average	LKR/kWh	4.79

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 as per section 5.2.1 of the tariff methodology, and the approved BSTs are shown in Table 11.

The Transmission Licensee is hereby directed to invoice each Distribution Licensee at the rates shown in Table 11 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 8.1 of the Decision on Revenue Caps and Bulk Supply Tariffs 2016-2020.

Table 11- 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	GWh	3,258	3,728	2,061	1,606	1,332	11,985
Revenue based on approved customer tariffs (Jan-Dec),(excluding Fuel Adjustment Charge)	LKR Million	59,121	62,279	30,770	25,471	25,590	203,232
Coincident peak demand for purchases from Transmission	MW	523	572	385	276	218	
Approved BST for payment on Coincident Maximum Demand	LKR/MW/ month	3,010,537	3,010,537	3,010,537	3,010,537	3,010,537	
Amount payable to Transmission on account of Demand (April- September)	LKR Million	9,449	10,331	6,949	4,981	3,941	35,652

Allowed losses (April-September)		9.40%	9.40%	7.10%	9.40%	4.20%	
Revenue to be recovered by Transmission through energy charges (April-September)	LKR Million	14,546	13,782	4,288	4,335	6,938	43,888
Energy sold from Transmission at MV	GWh	1,796	2,052	1,103	880	708	6,539
Approved BST for energy in each TOU interval							
Peak (1830-2230)	LKR/kWh	10.76	8.93	5.17	6.55	13.02	
Off Peak (2230-0530)	LKR/kWh	4.88	4.05	2.34	2.97	5.91	
Day (0530-1830)	LKR/kWh	8.21	6.81	3.94	5.00	9.93	