

[Legal Notice No. 75]

**ELECTRICITY ACT
(Cap. 128)**

**ELECTRICITY TARIFF (BASE TARIFF AND
TARIFF ADJUSTMENTS) REGULATIONS 2016**

I, HON. DAVID DAY PACHA, Minister for Mines, Energy and Rural Electrification, under sections 21 and 55 of the Electricity Act (Cap.128), on the recommendation of the Authority, make the following Regulations:

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| Citation | 1. These Regulations may be cited as the Electricity Tariff (Base Tariff and Tariff Adjustments) Regulations 2016. |
| Commencement | 2. These Regulations commence on 1 January 2017. |
| Repeal | 3. The Electricity (Tariff) (Automatic Base Tariff and Fuel Price Adjustment) Regulations 2005 (Legal Notice NO. 108 of 2005) is repealed. |
| Tariffs | 4. The tariffs for the supply of electricity are fixed in accordance with the Schedule on the recommendation of the Authority. |

Schedule

SCHEDULE

PART 1 INTERPRETATION

Interpretation

1. In these Regulations:

“**cashpower meter**” means an electricity billing meter that operates on a pre-pay basis;

“**Central Bank**” means the Central Bank of Solomon Islands referred to under section 3 of the Central Bank of Solomon Islands Act 2012;

“**commercial category**” has the meaning set out under paragraph 15;

“**demand charge**” has the meaning set out under paragraph 11;

“**Director**” means the Director responsible for matters concerning energy in the Ministry;

“**domestic category**” has the meaning set out under paragraph 14;

“**exchange rate**” means the monthly average exchange rate for Solomon Islands Dollar into United States of America Dollar

published by the Central Bank of Solomon Islands;

“**fuel**” means distillate, liquefied natural gas, coconut oil, palm oil or any other fuel used for purposes of generating electricity;

“**fuel charge**” has the meaning set out under paragraph 12;

“**generation facility**” means a connected generator including solar farm, battery storage to generate electricity;

“**heat rate**” means the total heat rate measured in litres per kilowatt hour;

“**industrial category**” has the meaning set out under paragraph 16;

“**kilowatt meter**” means an electricity billing meter that operates on a postpay basis;

“**Minister**” means the Minister responsible for matters concerning mines, energy and rural electrification;

“**Ministry**” means the Ministry responsible for matters concerning mines, energy and rural electrification;

“**monthly consumption range**” has the meaning set out under paragraph 17;

“**Network Access Charge**” has the meaning set out under paragraph 9;

“**Non-Fuel Adjustment Index**” means the Index produced by the Authority according to the formula set out under paragraph 18(2);

“**non-fuel base review**” is a re-calculation of the non-fuel base tariff for each customer category;

“**non-fuel base tariff**” means a tariff for the supply of electricity calculated for the relevant customer category;

“**non-fuel revenue requirement**” has the meaning set out under paragraph 4;

“**non-fuel variable charge**” has the meaning set out under paragraph 10;

“**non-regular customer**” means a customer who owns a generation facility and is connected through a kilowatt meter;

“**regular customer**” means a customer who does not own a generation facility and is connected either through a kilowatt meter or a cashpower meter;

“**capital recovery factor**” has the meaning defined in paragraph

- 6;
- “customer category”** has the meaning set out under paragraph 13;
- “Producer Price Index” (“PPI”)** means the index of changes in the Producer Price Index for the United States of America compiled by the Bureau of Labor Statistics of the United States of America and published monthly at <http://data.bls.gov/cgi-bin/srgate> (Code WPSFD4);
- “Power Purchase Agreement” (“PPA”)** means an agreement under which electricity is purchased by the Authority;
- “Consumer Price Index” (“UCPI”)** means the index of changes in the Retail Price Index for Honiara compiled by the Statistician of the Solomon Islands Government and published quarterly by the Central Bank of Solomon Islands;
- “Regulatory Asset Base”** has the meaning defined in paragraph 5;
- “SBD”** means Solomon Bokolo Dollar;
- “weighted average cost of capital”** means the rate fixed by the Minister to determine tariffs.

PART 2 TARIFFS & REVIEWS

2. Non-Fuel Base Tariff

- (1) The Authority must charge a non-fuel base tariff as calculated over a 5-year period by using the tables under Part 4.
- (2) The non-fuel base tariff for a regular customer consists of a Network Access Charge and the Non-Fuel Variable Charge.
- (3) The non-fuel base tariff for a non-regular customer consists of a Network Access Charge and Demand Charge.

3. Non-Fuel Base Review

- (1) The Authority must, no later than 1 October 2020 and on each succeeding fifth anniversary of 1 October 2020, submit an application for the non-fuel base tariff review to the Director.
- (2) This application, over a 5-year period, must include:
 - (a) an annual non-fuel revenue requirement; and
 - (b) specific non-fuel base tariff rates similar to the rates set out under Part 4.
- (3) A non-fuel base review must consider all the necessary

studies:

- (a) demand forecasting;
- (b) load characterization;
- (c) technical and non-technical losses;
- (d) product and technical service quality;
- (e) energy and power balance construction;
- (f) asset valuation and investment plan;
- (g) operating cost;
- (h) long-term marginal cost determination;
- (i) analysis to determine the best alternative service option that Solomon Islands electricity customers can utilise.

PART 3 NON-FUEL REVENUE REQUIREMENT

4. Non-Fuel revenue requirement

- (1) A non-fuel revenue requirement must be calculated using the following formula:

Non-Fuel Revenue Requirement = Non-fuel operating costs + (Regulatory asset base x Capital recovery factor)

- (a) **Regulatory asset base & capital recovery factor:**

Regulatory asset base x Capital recovery factor: this revenue requirement component allows determination of the cost of capital the Authority must recover via the tariff in order to:

- i. meet the asset depreciation which is the annual amount needed to replace capital goods at the end of its life;
- ii. meet the capital cost of opportunity, which is the addition of all payments due to the use of the capital (third party interests and benefits for shareholders) which would have had in its best alternative opportunity of similar risk;
- iii. meet the revenue tax related cost.

- (b) **Capital recovery factor**

The capital recovery factor (CRF) is calculated according to the following formula:

$$CRF = [(WACC/100) / \{1 - 1 / (1 + (WACC/100))^n\}]$$

Where:

WACC = Weighted Average Cost of Capital

n: weighted average useful life of the regulatory asset base in years

\wedge = to the power of

- (2) The formula of a non-fuel revenue requirement must reflect the following components:
- (a) the regulatory asset base;
 - (b) the capital recovery factor;
 - (c) efficient non-fuel operating costs, depreciation expenses, taxes, and a fair return on investment.

5. Regulatory Asset Base

- (1) The Regulatory Asset Base is calculated by using the physical capital or new replacement value.
- (2) The Authority must re-calculate its regulatory asset base in each 5-year tariff period.
- (3) Assets must be differentiated based upon the appropriate rate of depreciation.
- (4) The regulatory asset base established for the base year set in each tariff review must evolve until the last year of the tariff year
- (5) The regulatory asset base must include an investment plan addressing the following matters:
 - (a) meeting the system expansion (horizontal and vertical);
 - (b) improving the quality of the service delivered;
 - (c) standardisation of non-technical losses;
 - (d) avoiding the consideration of replacement investments due to the method used in the cost of capital calculation.
- (6) In this regulation, “new replacement value” means the cost incurred in building the works and physical goods with the technology available in the market in order to deliver the same service.

6. Capital recovery factor

- (1) The calculation for the capital recovery factor is set out under paragraph 4.

- (2) The capital recovery factor must reflect the weighted average cost of capital.
- (3) In calculating the capital recovery factor, the Authority must consider the following:
 - (a) the cost of capital must be determined as the constant annuity resulting from applying the Capital recovery factor to the regulatory asset base;
 - (b) the Weighted Average Cost of Capital must be based on the actual capital structure or an appropriately adjusted capital structure which considers and balances the interests of the consumers and investors;
 - (c) rate to be applied must be an actual rate before taxes are deducted so that the cost of capital includes:
 - (i) the return expected by the Authority's shareholders; and
 - (ii) the debt interest of the creditors and tax liabilities given by the income tax payable by the Authority.

PART 4 CHARGES

7. Types of Charges

The four types of charges are:

- (a) Network Access Charge;
- (b) Non-Fuel Variable Charge;
- (c) Demand Charge; and
- (d) Fuel Charge.

8. Charges for customers

- (1) The total charge for a regular customer with a kilowatt meter is the sum of Network Access Charge, Non-Fuel Variable Charge and the Fuel Charge.
- (2) The total charge for a regular customer with a cashpower meter is the sum of Non-Fuel Variable Charge and the Fuel Charge.
- (3) The total charge for a non-regular customer is the sum of the Network Access Charge, Demand Charge and the Fuel Charge.

9. Network Access Charge

- (1) The Network Access Charge is a fixed monthly fee charged to each customer based on the customer category and their monthly consumption range.
- (2) The Network Access Charge is converted to an equivalent variable charge for Cashpower customers.
- (3) The Network Access Charge for a regular customer with a cashpower meter is included in their Non-Fuel Variable Charge at an average SBD/kilowatt-hour according to the relevant customer category.
- (4) The Network Access Charge is determined by customer category according to the following table:

Network Access Charge by customer category and monthly consumption range

Expressed in SBO of 31 December 2014

Customer Category	Monthly Consumption Range	Network Access Charge (SBD/Month)	
		Regular Customer	Non-Regular Customer
Domestic	D1 <50 kilowatt-hour	15.00	100.00
	D2 02 50-200 kilowatt-hour	50.00	
	D3 200-500 kilowatt-hour	100.00	
	D4 >500 kilowatt-hour	200.00	
Commercial	C1 <250 kilowatt-hour	40.00	400.00
	C2 250-600 kilowatt-hour	100.00	
	C3 600-1300 Kilowatt-hour	200.00	
	C4 1300-2500 Kilowatt-hour	400.00	
	C5 <2500 kilowatt-hour	1500.00	
Industrial	I1 <1300 kilowatt-hour	100.00	400.00
	I2 1300-6000 kilowatt-hour	400.00	
	I3 >6000 kilowatt-hour	3000.00	

10. Non-Fuel Variable Charge

- (1) The Non-Fuel Variable Charge only applies to regular customers based upon their kilowatt-hour consumption and their monthly consumption range.
- (2) A Non-Fuel Variable charge must be calculated in proportional

to the kilowatt-hour consumed.

- (3) The Non-Fuel Variable Charge for regular customers with kilowatt meters is determined according to the following table:

**Non-Fuel Variable Charge
(for regular customers with kilowatt meters)**

Expressed in SBO of 31 December 2014

Customer Category	Monthly Consumption Range	Non-Fuel Variable Charge (SBD/kilowatt-hour)	Definition
Domestic	<50 kilowatt-hours	3.17	This charge is paid for every kilowatt-hour of consumption up to the first 50 kilowatt-hour
	50-200 kilowatt-hour	3.23	This charge is paid for every kilowatt-hour of consumption from 50 kilowatt-hours and up to 200 kilowatt-hours.
	200-500 kilowatt-hour	3.30	This charge is paid for every kilowatt-hour of consumption from 200 kilowatt-hours and up to 500 kilowatt-hours.
	>500 kilowatt-hour	3.72	This charge is paid for every kilowatt-hour of consumption over 500 kilowatt-hour
Commercial	<250 kilowatt-hour	3.79	This charge is paid for every kilowatt-hour of consumption up to the first 250 kilowatt-hour
	250-600 kilowatt-hour	3.41	This charge is paid for every kilowatt-hour of consumption from 250 kilowatt-hours and up to 600 kilowatt-hours
	600-1300 kilowatt-hour	3.41	This charge is paid for every kilowatt-hour of consumption from 600 kilowatt-hours and up to 1300 kilowatt-hours
	1300-2500 kilowatt-hour	2.82	This charge is paid for every kilowatt-hour of consumption from 1300 kilowatt-hours and up to 2500 kilowatt-hours

	>2500 kilowatt-hour	2.68	This charge is paid for every kilowatt-hour of consumption over 2500 kilowatt-hours
Industrial	<1300 kilowatt-hour	3.47	This charge is paid for every kilowatt-hour of consumption up to the first 1300 kilowatt-hours
	1300-6000 kilowatt-hour	2.99	This charge is paid for every kilowatt-hour of consumption from 1300 kilowatt-hours and up to 6000 kilowatt-hours
	>6000 kilowatt-hour	2.66	This charge is paid for every kilowatt-hour of consumption over 6000 kilowatt-hours

- (4) The Non-Fuel Variable Charge for regular customers with cashpower meters is determined according to the following table:

**Non-Fuel Variable Charge
(for regular customers with cashpower meters)**

Expressed in SBD of 31 December 2014

Customer Category	Monthly Consumption Range	Non-Fuel Variable Charge (SBD/kilowatt-hour)	Definition
Domestic	<50 kilowatt-hours	3.54	This charge is paid for every kilowatt-hour of consumption up to the first 50 kilowatt-hour
	50-200 kilowatt-hour	3.59	This charge is paid for every kilowatt-hour of consumption from 50 kilowatt-hours and up to 200 kilowatt-hours.
	200-500 kilowatt-hour	3.61	This charge is paid for every kilowatt-hour of consumption from 200 kilowatt-hours and up to 500 kilowatt-hours.
	>500 kilowatt-hour	4.13	This charge is paid for every kilowatt-hour of consumption over 500 kilowatt-hour

Commercial	<250 kilowatt-hour	4.04	This charge is paid for every kilowatt-hour of consumption up to the first 250 kilowatt-hour
	250-600 kilowatt-hour	3.67	This charge is paid for every kilowatt-hour of consumption from 250 kilowatt-hours and up to 600 kilowatt-hours
	600-1300 kilowatt-hour	3.39	This charge is paid for every kilowatt-hour of consumption from 600 kilowatt-hours and up to 1300 kilowatt-hours
	1300-2500 kilowatt-hour	3.27	This charge is paid for every kilowatt-hour of consumption from 1300 kilowatt-hours and up to 2500 kilowatt-hours
	>2500 kilowatt-hour	2.88	This charge is paid for every kilowatt-hour of consumption over 2500 kilowatt-hours
Industrial	<1300 kilowatt-hour	3.93	This charge is paid for every kilowatt-hour of consumption up to the first 1300 kilowatt-hours
	1300-6000 kilowatt-hour	3.86	This charge is paid for every kilowatt-hour of consumption from 1300 kilowatt-hours and up to 6000 kilowatt-hours
	>6000 kilowatt-hour	2.82	This charge is paid for every kilowatt-hour of consumption over 6000 kilowatt-hours

(a) The billing system of the Authority will reset to zero the kilowatt-hour bought by a customer of any customer category during a particular month at the end of that month.

(b) During the next month the billing system of the Authority will keep a record of energy purchases to allow a correct billing per kilowatt-hour according to the accumulated consumption in that month.

11. Demand Charge

- (1) The Demand charge is a fixed monthly charge that only applies to non-regular customers.

- (2) The Demand Charge is determined as a billing demand based on the maximum metered demand of the last twelve months prior to the meter reading date.
- (3) The Demand Charge is determined according to the following table:

Demand Charge

Expressed in SBO of 31 December 2014

Category	Demand Charge (SBD/kW/Month)
Domestic	547.71
Commercial	899.63
Industrial	757.13

12. Fuel Charge

- (1) The fuel charge is determined and adjusted on a monthly basis.
- (2) The fuel cost to be passed through (fuel cost pass-through) is expressed as fuel charge with efficiency modifications for heat rate and system losses.
- (3) The efficiency factor to be applied to the fuel cost pass-through must operate according to the following formula:

$$FPT = AFC \frac{THR}{AHR} \times \frac{1 - \%AL}{1 - \%TL} \quad (1)$$

Where:

- FPT = Fuel Pass-Through (SBO)
- AFC = Actual Fuel Costs (SBD) plus Power Purchase Agreement (PPA) costs
- THR = Targeted Heat Rate equal to 0.2700litres/kilowatt-hours
- AHR = Actual Heat Rate (litres/kilowatt-hours)
- %AL = Percentage of actual energy losses measured from the Power Station gate
- %TL = Percentage of targeted energy losses measured from the Power Station gate equal to 23%

- (4) The Fuel Charge is then given by the following formula, applied on a monthly basis:

$$FC = \frac{FPT}{AHR} \quad (2)$$

Where:

FC = Fuel Charge (SBD/kilowatt-hours)

FPT = Fuel Pass-Through (SBD)

TS = Total monthly sales (kilowatt-hours)

- (5) Considering that the Authority must communicate in advance the tariff charges for each subsequent month, in order that users are informed and can take their decisions, the adjustment procedure and transfer to the users of the fuel cost is given in the following way:

Consider month m for which the Fuel Charge should be established.

The Authority is transiting month **$m-1$** .

The most recent month concluded for which the actual fuel costs incurred are known accurately is the month **$m-2$** .

- (6) The Authority should then proceed to calculate the fuel cost to be applied in month m , based on the cost incurred in month **$m-2$** .

$$FPT_{m-2} = AFC_{m-2} \times \frac{THR}{AHR_{m-2}} \times \frac{1-\%AL_{m-2}}{1-\%TL} \quad (3)$$

- (7) For the Fuel Charge calculation, the Authority should consider the energy sales (TS) that occurred in month $m-2$. Thus the Fuel Charge to be applied during month m is as follows:

$$FC_m = \frac{FPT_{m-2}}{TS_{m-2}} \quad (4)$$

Actual energy sales for month m will differ from TS_{m-2} . Therefore, the Authority will have recovered in more or less the fuel cost spent in the month **$m-2$** .

Hence, the formula to calculate the fuel cost to transfer to tariff requires a term that captures the deviations which have occurred during each month.

Therefore, the generic formula which calculates the fuel cost is the following:

$$FPT_{m-2} = AFC_{m-2} \times \frac{THR}{AHR_{m-2}} \times \frac{1-\%AL_{m-2}}{1-\%TL} + \Delta FPT_{m-4} \quad (5)$$

Where:

$$\Delta\text{FPT}_{m-4} = \text{FC}_{m-2} \times (\text{TS}_{m-4} - \text{TS}_{m-2}) \quad (6)$$

PART 5 CUSTOMER CATEGORIES AND MONTHLY CONSUMPTION RANGE

13. Customer category

The of customer categories are:

- (a) Domestic category;
- (b) Commercial category; and
- (c) Industrial Category.

14. Domestic Category

A domestic category applies to a customer who consumes electricity from his or her private residence.

15. Commercial Category

A commercial category applies to a customer who operates business in a public place.

16. Industrial category

An industrial category applies to a customer who:

- (a) is a business enterprise; and
- (b) operates a transformer exclusively for the purpose of the business.

17. Monthly consumption range

- (1) A monthly consumption range is used to determine the Network Access Charge for Regular Customers with kilowatt meters and the rates to apply for the calculation of the Non-Fuel Variable Charge.
- (2) A monthly consumption range is determined based on a 12-month moving average energy consumption.
- (3) The monthly consumption ranges for each customer category are set out in the following table:

CUSTOMER CATEGORY	MONTHLY CONSUMPTION RANGE
Domestic Category	D1 <50 kilowatt-hours D2 50-200 kilowatt-hours D3 200-500 kilowatt-hours D4 >500 kilowatt-hours
Commercial Category	C1 <250 kilowatt-hours C2 200-600 kilowatt-hours C3 600-1300 kilowatt-hours C4 1300-2500 kilowatt-hours C5 >2500 kilowatt-hours
Industrial Category	I1 <1300 kilowatt-hours I2 1300-6000 kilowatt-hours I3 6000 kilowatt-hours

PART 6 NON-FUEL ADJUSTMENT INDEX

18. (1) Non-fuel charges or base tariffs containing costs for activities performed by the Authority must be indexed every month.

(2) The Non-Fuel Adjustment Index is determined according to the following formula:

$$\text{NFAI} = \text{NFAF} \pm X \pm Z$$

Where:

- (a) NFAI = Non-Fuel Adjustment Index
 - (b) X = X-factor
 - (c) Z = the allowed rate of price adjustment for special reasons.
 - (d) NFAF = Non-Fuel adjustment factor
- (3) The X-factor represents the next five-year period based on a total factor productivity study used in determining the appropriate level of the X-factor. Currently the X factor is zero.
 - (4) The allowed rate of price adjustment for special reasons that are not captured by other components of the formula (i.e. natural disasters).
 - (5) The Z component in the formula requires the Authority to make a special application to the Minister for his or her approval.
 - (6) NFAF is a monthly adjustment to take into account the inflation and devaluation and is calculated as follows:

$$\text{NFAF}_m = \Delta\text{CPI}_{m-7} \times A + \frac{\text{EXC}_{m-7}}{\text{EXC}_0} \times \Delta\text{PPI}_{m-7} \times B$$

Where:

- (a) The NFAF index represents the monthly rate of change in non-fuel electricity prices.
 - (b) CPI_0 = Base CPI rate which is the CPI rate in December 2014. The appropriate table is Table 1-30 “Honiara Retail Price Index” -All items
 - (c) $\Delta\text{CPI}_{m-7} = \text{CPI}_{m-7} / \text{CPI}_0$: Solomon inflation rate variation to be applied in month *m*. The CPI_{m-7} corresponds to the inflation which occurred seven months prior to the month for which the tariff is being adjusted.
 - (d) A: Incidence of costs affected by the local inflation which is 39.1%.
 - (e) PPI_0 = Base PPI rate which is the PPI rate in December 2014.
 - (f) $\Delta\text{PPI}_{m-7} = \text{PPI}_{m-7} / \text{PPI}_0$: US inflation rate variation to be applied in month *m*. The PPI_{m-7} corresponds to US inflation which occurred seven months prior to the month in which the tariff is being adjusted.
 - (g) EXC_0 = Base exchange rate which is the exchange rate in December 2014.
 - (h) EXC_{m-7} = This exchange rate corresponds to the exchange rate which occurred seven months prior to the month in which the tariff is being adjusted.
 - (i) B: Incidence of costs affected by the international inflation which is 60.9%.
- U) $A+B=1$
- (7) The NFAF formula of the tariff charges applies to each of the charges set for the different categories and consumption ranges.
 - (8) Parameters A and B must be updated in each tariff review every five years.

MADE IN HONIARA this twelfth day of December, 2016.

HON. DAVID DAY PACHA
MINISTER FOR MINES, ENERGY & RURAL ELECTRIFICATION

[Legal Notice No. 76]

TOWN AND COUNTRY PLANNING ACT
(Cap. 154)

CHOISEUL BAY TOWNSHIP LOCAL PLANNING SCHEME 2016

I, HON. MOSES GARU, Minister for Lands, Housing and Survey, under section 11(4)