

Republic of the Philippines
ENERGY REGULATORY COMMISSION
San Miguel Avenue, Pasig City



**IN THE MATTER OF THE
PETITION FOR THE
ADOPTION OF THE PROPOSED
RULES TO GOVERN THE
SETTING OF REGULATED
SOLAR HOME SYSTEM TARIFF
FOR THE PROVISION OF
ELECTRICITY SERVICE FOR
RURAL ELECTRIFICATION BY
ELECTRIC COOPERATIVES,**

ERC CASE NO. 2014-003 RM

**PHILIPPINE RURAL ELECTRIC
COOPERATIVES
ASSOCIATION, INC.
(PHILRECA),**

Applicant.

X-----X

D O C K E T E D
Date: SEP 06 2017
By: [Signature]

DECISION

Before the Commission for resolution is the prayer for the approval of the proposed initial Solar Home System (SHS) Benchmark Tariff contained in the Supplemental Petition dated 26 May 2014 (Supplemental Petition) filed on 27 May 2014 by Philippine Rural Electric Cooperatives Association, Inc. (PHILRECA). This is in connection with PHILRECA's Petition to Initiate Rule-Making dated 14 April 2014 (Petition) filed on 24 April 2014, for the adoption of its proposed rules to govern the setting of regulated SHS Benchmark Tariff for the provision of electricity service for rural electrification by electric cooperatives (Proposed Rule).

FACTS

PHILRECA is a non-stock, non-profit association organized and existing under and by virtue of Philippine laws, with principal office address at 4/F Casman Building, 1198 Quezon Avenue, Quezon City. It is the national association of the Electric Cooperatives (ECs) organized and operating under P.D. 269, as amended.

The Department of Energy (DOE) in its Household Electrification Development Plan (HEDP) for 2013-2017, established among others, the SHS mainstreaming program to support the HEDP activities being undertaken by ECs under their universal service obligation.

To achieve the goals of the HEDP, the DOE in partnership with NEA and other government agencies and industry stakeholders, committed to implement the rural and household electrification program of the Government in a holistic and sustainable manner, which includes among others, intensification program in energized areas including sitio electrification, barangay line enhancement program, rationalization of tariff and subsidy policy, opening up areas that were waived by DUs to alternative electric service providers such as Qualified Third Parties (QTPs), among others.

The instant Petition was filed pursuant to the ERC Rules of Practice and Procedure¹, to put in place a fair, transparent and efficient process for charging consumers in remote rural and island communities the cost of providing electricity service using SHS, to ensure the financial and operating viability of ECs providing such electricity service, and provide safeguards in the accounting and management of the amounts collected. The said Petition was filed to seek the adoption of the proposed rules to govern the setting of regulated SHS Tariff for the provision of electricity service for rural electrification by electric cooperatives. On the other hand, the Supplemental Petition was filed to incorporate in the draft Proposed Rules the bases and parameters as well as the formulae for calculating the SHS benchmark tariff.

Having found the Petition and Supplemental Petition sufficient in form and in substance, with the required fees having been paid, an Order and a Notice of Public Consultation, both dated 16 June 2014 (Order) (Notice of Public Consultation), were issued setting the case for initial hearing on 07 July 2014 in Pasig City, 24 July 2014 in Cebu City and on 01 August 2014 in Davao City.

In the same Order, PHILRECA was directed to cause the publication of the Notice of Public Consultation, at its own expense, once in a newspaper of general circulation in the Philippines, with the date of the last publication to be made not later than ten (10) days before the date of the scheduled initial hearing. It was also directed to inform all member-consumers of the ECs by any other means available and appropriate, of the filing of the Petition and

¹ Rule 21, Sections 1 and 2 of the ERC Rules of Practice and Procedure.

Supplemental Petition, its reasons therefor and of the scheduled hearing thereon.

The hearings and public consultation took place on the above dates. During the said hearings, PHILRECA presented proof of its compliance with the requirement of publication and notification of its member-consumers. Likewise, PHILRECA presented an overview of the purpose, scope and basis of the Proposed Rule. Several questions and comments were raised by the Commission and the stakeholders present during the hearing.

Thereafter, on 03 July 2014, the Department of Energy (DOE) issued Department Circular No. DC2014-007-0012 entitled "*Accelerating Household Electrification in Off-grid and Isolated Areas through Supply of Regulated Solar Home Systems*", which included SHS with 30Wp capacity in the SHS program. In view of the said circular, it became necessary that the computation for the bench tariff of SHS with 30Wp capacity be included in the instant Petition. Thus, on 11 September 2014, PHILRECA filed a Manifestation and Motion dated 10 September 2014 (Manifestation and Motion) requesting for the inclusion of the 30Wp SHS and prayed that a public consultation be set to present said inclusion.

Meanwhile, inasmuch as in the course of the public consultations, the Commission directed PHILRECA to submit additional documents to aid the Commission in the drafting of the Proposed Rule and in the setting of the initial SHS Benchmark Tariff, on 24 September 2014, PHILRECA filed its Compliance dated 23 September 2014, with the documents required by the Commission attached thereto.

Thereafter, finding the Manifestation and Motion to be meritorious, an Order with Notice of Proposed Rule-Making was issued by the Commission on 20 October 2015 setting the hearing and public consultation on the inclusion of 30Wp SHS in the Proposed Rule on 25 November 2015. PHILRECA was likewise directed to cause the publication of the Notice of Public Hearing for the 25 November 2015 Hearing, at its own expense, once (1x) in a newspaper of general circulation in the Philippines, with the date of the last publication to be made not later than ten (10) days before the date of the scheduled hearing. It was also directed to inform all member-consumers of the ECs by any other means available and appropriate, of the inclusion of 30Wp SHS in the Proposed Rule, its reasons therefor, and of the scheduled hearing thereon.

Said Public Consultation was held in the main office of the Commission on 25 November 2015. During the said hearing, PHILRECA presented proof of its compliance with the Commission's publication and notice requirements. Thereafter, it conducted the presentation on the inclusion of 30 Wp SHS in the Proposed Rule.

In the course of the hearing, PHILRECA was again directed to submit additional information and data necessary for the Commission's evaluation of the Proposed Rule and setting of the initial SHS Benchmark Tariff. Hence, on 16 December 2015, PHILRECA filed its *Compliance* dated 14 December 2015 attaching thereto the documents and data required by the Commission. Moreover, on 04 January 2016, PHILRECA filed its *Submission of Additional Proof of Public Information Dissemination Re: Public Consultation* dated 25 November 2015.

Subsequently, the Commission issued an Order dated 23 March 2016 ordering PHILRECA to submit its revised Proposed Rules considering the various issues and comments raised relative to the Proposed Rules as originally drafted. In compliance to said directive, PHILRECA filed a *Compliance* dated 14 April 2016 with the attached revised Proposed Rule for the evaluation and consideration of the Commission.

On 25 October 2016, the Commission decided to adopt the Proposed Rule entitled "***Rules Governing the Setting of Regulated Solar Home System (SHS) Tariff for the Provision of Electricity Service for Rural Electrification by Electric Cooperatives (ECs)***." Notably, the proposed rule was revised by the Commission to make it general in nature and applicable all throughout the implementation of the SHS program. As such, Section 1, Article V thereof states that the Commission shall approve a Benchmark SHS Tariff that shall be the maximum or cap that an EC may charge to its SHS customers, to wit:

Section 1. Benchmark SHS Tariff. The Benchmark SHS Tariff shall be subject to the approval of the Commission and shall include costs and be calculated in accordance with Article III and IV of these Rules.

The approved Benchmark SHS Tariff shall be the maximum or cap that the EC may charge to its SHS customers.

Thus, the instant Decision pertains only to the approval of the Benchmark SHS Tariff as contained in the Supplemental Petition and

PHILRECA's subsequent submissions, the merits of which were heard and evaluated together with the Proposed Rules.

PHILRECA's Proposed SHS Benchmark Tariff

PHILRECA submitted a calculation of a benchmark SHS tariff to be charged to its customers as a fixed monthly charge. PHILRECA proposed the imposition of tariffs depending on the availed capacity of the customer (50Wp or 30Wp) and the cost zone (3 cost zones were proposed) where the customer is located. The cost components and assumptions used by PHILRECA are as follows:

Parameter	Value
Ave. No. of Customer/Site	52
No. of Sites	17
Total No. of SHS Customers	884
No. of Working Days/year	228
No. of Visits, Scheduled	4
No. of Visits, Unscheduled	1
No. of Days of Visit per Visit, Zone A	2
No. of Days of Visit per Visit, Zone B	3
No. of Days of Visit per Visit, Zone C	4
Salary, Engineer (PHP/month)	19,111.00
Salary, Senior Technician (PHP/month)	14,036.50
Salary, Junior Technician (PHP/month)	13,579.00
Annual Benefits, Engineer (PHP/year)	9,625.18
Annual Benefits, Senior Technician (PHP/year)	7,712.23
Annual Benefits, Junior Technician (PHP/year)	7,375.63
Per Diem (PHP/day)	361.50
Distance to Site from EC Office, Zone A (km)	40
Distance to Site from EC Office, Zone B (km)	45
Distance to Site from EC Office, Zone C (km)	55
Distance within the Site (km)	5.2
Utility Vehicle Investment Cost, Motorcycle (PHP)	65,000.00
Utility Vehicle Economic Life, Years	5
Utility Vehicle Annual Maintenance Cost (% of AIC)	27%
Fuel Economy (km/Li)	50
Cost of Fuel, Gasoline(PHP/Li)	59.83
Fuel Cost per km (PHP/km)	1.20
No. of Vehicles	2

Investment Cost, Solar Panel, 50 Wp (PHP)	8,500.00
Investment Cost, Solar Panel, 30 Wp (PHP)	5,000.00
Investment Cost, Battery, 65-70 Ah (PHP)	6,840.00
Investment Cost, Battery, 40-50 Ah (PHP)	3,990.00
Investment Cost, Controller, 5-10 A (PHP)	2,445.00
Economic Life, Solar Panel (Years)	25
Economic Life, Battery (Years)	8
Economic Life, Controller (Years)	5
Repayment Period, OBA Loan (Years)	2
Interest Rate per annum (%)	6.00%

From the above, PHILRECA computed the following tariff:

	Zone A	Zone B	Zone C
50Wp SHS	249.00	257.00	264.00
30Wp SHS	205.00	213.00	220.00

However, in its submission on 14 April 2016, PHILRECA updated the parameters used in its tariff computation. The Commission noted that instead of computing for the equipment maintenance fund for the solar panel based on the full cost, PHILRECA alleged that only 20% of cost will be needed to replace/maintain the solar panel. Hence the proposed tariffs were lowered. The revised proposed tariffs are as follows:

	Zone A	Zone B	Zone C
50Wp SHS	227.00	234.00	241.00
30Wp SHS	192.00	199.00	207.00

ISSUE

Thus, the Commission is confronted with the issue of whether or not PHILRECA's SHS benchmark tariff as computed above will be approved.

DISCUSSION

On 25 October 2016, the Commission deliberated and decided the instant Petition. However, due to supervening events³, the Decision could no longer be promulgated without undergoing

³ The Chairman was placed on preventive suspension as per Order of the Office of the President (OP-DC Case No. 17-D-094) dated 2 May 2017 and received on 04 May 2017.

reconfirmation by the Commission *En Banc*. Thus, the Commission resolved to reconfirm the Decision on 18 July 2017.

The Commission evaluated the cost components of the SHS tariff as computed by PHILRECA. As alleged, these costs are based on the Pilot ECs that DOE tapped to implement the SHS program.

I. Base Operating Cost

The base operating cost is composed of the following:

- Salaries and *Per Diem* of one Engineer and two technicians;
- Transportation Cost;
- Insurance; and
- Overhead Cost.

The Salaries utilized in PHILRECA's computation of the tariff were based on the operating cost of Pilot ECs⁴ which implemented the SHS program in their area thru the DOE. On the other hand, the *per diem* were computed using four scheduled (quarterly) and one unscheduled visit, with each cost zone having a different number of days each visit in consideration of its distance from the EC head office. The Commission notes that such costs are within range of the allowed salaries and *per diems* of EC personnel. Hence, the Commission utilized the same cost in its computation.

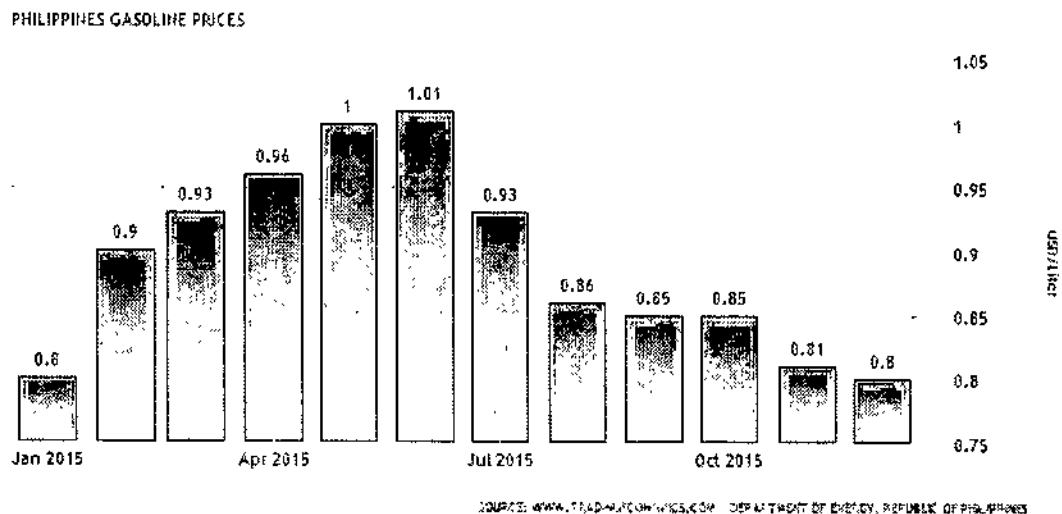
Transportation Cost is composed of the cost of two (2) motor vehicles to be used by the technician and engineers in conducting visits in the area. A motor vehicle is considered as the easiest means of transportation since the areas to be serviced are far-flung areas. The cost of the motor vehicle was set at PhP65,000.00 each plus interest of 6%. PHILRECA then computed an annuity amount for 5 years (assumed economic life) and divided the same on the number of SHS customers. The Commission adopts this computation to enable the EC to recover its cost including the interest the EC will incur in acquiring the motor vehicle.

The Transportation Cost also includes maintenance cost which was set at 27% of the vehicle cost by PHILRECA. While this cost is a necessary component, the Commission deems that this should be set at a lower cost. With the assumption that the economic life of the

⁴ Bohol Electric Cooperative, Inc. II (BOHECO II), Bantayan Electric Cooperative, Inc. (BANELCO), Cebu Electric Cooperative, Inc. II (CEBECO II), Negros Occidental Electric Cooperative (NOCECO), and VMC Rural Electric Service Cooperative, Inc. (VRESKO).

vehicle is 5 years, then it can be inferred that its value/usefulness diminishes by 20% (100%/5). Hence, the Commission sets the maintenance cost at 20%.

Another cost component of Transportation Cost is the fuel cost. The fuel cost was computed on the basis of 50km/liter consumption and a cost of PhP59.83/liter, resulting to PhP1.20PhP/km cost. To validate this cost, the Commission looked into the oil prices in year 2014 and found out that the gas price reached PhP54.9045/liter⁵, an amount lower than what the applicant used. However, considering that the areas to be serviced are isolated provinces, gas price is expected to be higher. Moreover, the Commission is of the position that due to recent movements in gas prices the cost should be updated. The graph below shows the trend in gas prices for Year 2015:



As the above graph shows, for 2015, the gas price reached as low as US\$0.80/liter (around PhP35-38) and as high as US\$1.01/liter (around PhP45.43). To take into consideration the current trend in gas prices, the Commission deems it necessary to lower the gas price to be utilized in the computation to PhP45.43/liter or the highest cost in 2015. The Commission opted for this cost so as to be comparable to that used by PHILRECA (highest in 2014) and also to consider the premium added due to the geographical location of the areas to be serviced and the fluctuation of prices. Considering all the foregoing, the Commission shall utilize the updated fuel cost of PhP0.91/km.

Insurance Cost is set at 0.30% of the capital cost of the equipment. The Commission believes that this is also necessary for the maintenance of SHS equipment so that it will be covered for damages not caused by its usual wear and tear.

⁵ <http://www.tradingeconomics.com/philippines/gasoline-prices>.

PHILRECA also included Overhead Cost computed from the ratio of SHS customer to on-grid customers of the EC multiplied by the ECs overhead cost. The Commission, however, deems it appropriate to disallow this cost inasmuch as costs relative to the personnel involved in the SHS operation are already covered, while billing and collection is coursed through a collecting agent. Moreover, overhead costs of ECs are already covered by its approved Distribution Supply and Metering charges. It should also be noted that even though this is a government-related project, electrification of the franchise areas are covered by the EC's mandate.

II. Capital Cost

Since the procurement of the SHS shall be subsidized by DOE, the EC will not be entitled to recovery of the capital cost. However, PHILRECA's computation provided for a recovery of interest expense, which assumes a 6% interest rate per annum and a two (2) year repayment period. Thus, the Commission finds it necessary to disallow this cost in the computation of the tariff. As discussed and provided in the Rules, the DOE shall procure the SHS through competitive bidding, to be delivered and installed by the PV supplier to the SHS customers of the participating EC, hence this shall be at no cost to the EC.

It must be noted that in the case of an EC who opts to continue or initiate the SHS Program, the capital expenditure relative to this shall be subject to separate approval.

III. Equipment Fund

As discussed above, the capital cost of the SHS shall be subsidized by DOE, hence the EC will not be entitled to a capital recovery fee. The ownership shall only transfer after its installation, and the EC shall be responsible for the maintenance and subsequent replacement of all major components of the SHS. With this, the costs of replacement will be covered by a separate and ring-fenced Equipment Fund (EF).

The EF contains the following components:

Component	50Wp	30Wp	Economic life	Other Details
Solar Panel Capacity(WP)	8,500.00	5,000.00	25	Only 20% of the cost shall be needed to replace/maintain the solar panel. ECs further assumed that after the 25 year life, the customer

				shall be connected to a conventional or micro-grid system
Battery (Ah)	6,840.00	3,990.00	8	Cost is based on 95% supplier listed price and assumes 80% of the 10 year design life
Controller (A)	2,445.00	2,445.00	5	

The Commission finds that this cost is necessary for the SHS project to be sustainable. It should be noted that the above cost is reflective of the cost of the ECs where DOE implemented the pilot SHS programs.

As to the assumption that only 20% of the cost will be needed to maintain or replace solar panels, the Commission compared the said value with the maintenance cost under the Solar Feed-in-Tariff (FIT). With the equipment cost at US\$1586 Million (1 unit of 10 MW capacity), the corresponding maintenance cost is at US\$530 Thousand (per unit/year), resulting to a 33% ratio. Considering this, the Commission adopts the 20% maintenance cost as proposed.

With regard to the battery, the Commission approves the proposed costing, however, the Commission deems it proper to use the economic life of 10 years to compute for the battery's Equipment Fund (EF) inasmuch as the 10 year life is already the minimum life capacity of said batteries as designed by manufacturers.

IV. Agent Collection Fees

As alleged by PHILRECA, a collecting agent will be hired as this is more practical than the EC headquarter doing the billing and collection because of the proximity of the target areas. PHILRECA proposed a fixed fee of PhP20.00/month. To validate this cost, the Commission compared the fixed fee with the Supply and Metering Charges of the Pilot ECs. The Commission assumed that each customer will use the SHS for 10-12 hours per day (30 days a month). The following table shows the resulting consumption and the average Supply and Metering charges using the data of the pilot ECs:

Capacity (Wp)	Hours	Consumption (kWh)	Average Supply and Metering Charge (PhP/month)
50	10	15	20.00
	12	18	23.00
30	10	9	13.00
	12	11	15.00

As shown above, the proposed monthly agent collection fee is within range of the supply and metering charges, hence is considered reasonable.

V. Cost Zones and Adjustment

PHILRECA filed for different tariffs depending on the cost zone that the customer will fall into. The formula to compute the tariff adjusts the allocation of the salary and *per diem* of the personnel. This is to take into account the distance to be travelled and the number of days to service the area, while other components of the tariff remains equal among the cost zones.

VI. Approved Tariff

Considering all the foregoing, the Commission arrived at the following tariff computation:⁶

Particulars	50Wp SHS			30Wp SHS		
	Zone A	Zone B	Zone C	Zone A	Zone B	Zone C
Base Operating Costs						
Salary						
Engineer	24.33	24.33	24.33	24.33	24.33	24.33
Technician 1	17.93	17.93	17.93	17.93	17.93	17.93
Technician 2	17.34	17.34	17.34	17.34	17.34	17.34
Per Diem						
Engineer	2.90	4.34	5.79	2.90	4.34	5.79
Technician 1	5.79	8.69	11.59	5.79	8.69	11.59
Technician 2	5.79	8.69	11.59	5.79	8.69	11.59
Total Payroll	74.08	81.32	88.56	74.08	81.32	88.56
Transportation Cost						
Investment Cost	2.91	2.91	2.91	2.91	2.91	2.91
Maintenance Cost	1.23	1.23	1.23	1.23	1.23	1.23
Fuel Cost	1.24	1.39	1.68	1.24	1.39	1.68
Total Transportation Cost	5.38	5.52	5.81	5.38	5.52	5.81
Insurance	4.45	4.45	4.45	2.86	2.86	2.86
Total Operating Cost	83.90	91.28	98.82	82.31	89.70	97.23
Equipment Fund						
Solar Panel Capacity(WP)	5.67	5.67	5.67	3.33	3.33	3.33
Battery (Ah)	57.00	57.00	57.00	33.25	33.25	33.25
Controller (A)	40.75	40.75	40.75	40.75	40.75	40.75
Total EF	103.42	103.42	103.42	77.33	77.33	77.33

⁶ A comparison of the proposed and revised parameters attached as Annex "A".

Agent Collection Fee	20.00	20.00	20.00	20.00	20.00	20.00
Total SHS Tariff	207.31	214.70	222.23	179.64	187.03	194.56
Rounded-off Figures	207.00	215.00	222.00	180.00	187.00	195.00

The Commission, thus, approves the rounded-off values appearing above as the regulated tariff for the SHS program funded by the DOE. The said tariff shall be the maximum or cap that the EC may charge to its SHS customers. It should be noted, however, that in case of an EC-funded SHS program, the EC shall apply for a separate application for Capital Expenditure (CapEx).

The following table shows the comparison between the approved and proposed tariff:

Particulars	50Wp SHS			30Wp SHS		
	Zone A	Zone B	Zone C	Zone A	Zone B	Zone C
Approved	207.00	215.00	222.00	180.00	187.00	195.00
Proposed	227.00	234.00	241.00	192.00	199.00	207.00
Variance	(20.00)	(19.00)	(19.00)	(12.00)	(12.00)	(12.00)

WHEREFORE, the foregoing premises considered, the prayer for the approval of the proposed initial Solar Home System (SHS) Benchmark Tariff contained in the Supplemental Petition dated 26 May 2014 (Supplemental Petition) filed on 27 May 2014 by Philippine Rural Electric Cooperatives Association, Inc. (PHILRECA) in connection with its Petition to Initiate Rule-Making dated 14 April 2014 (Petition) filed on 24 April 2014 is hereby **APPROVED with modification**.

The Benchmark SHS tariff to be adopted by the implementing Electric Cooperatives (ECs) shall be:

SHS Capacity	Zone A	Zone B	Zone C
50Wp	207.00	215.00	222.00
30Wp	180.00	187.00	195.00

The foregoing approved Benchmark SHS Tariff shall be the maximum or cap that the EC may charge to its SHS customers.

SO ORDERED.

Pasig City, 18 July 2017.

JOSE VICENTE B. SALAZAR*
Chairman and CEO


ALFREDO J. NON
Commissioner


GLORIA VICTORIA C. YAP-TARUC
Commissioner


JOSEFINA PATRICIA A. MAGPALE-ASIRIT
Commissioner


GERONIMO D. STA. ANA
Commissioner


ROS: AMDB/AJMO/FED  LS: ACA/ARG/CLS/APV

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4. **All Electric Cooperatives**
5. **Office of the Solicitor General**
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6. **Commission on Audit**
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GSIS Building, Roxas Boulevard, Pasay City 1308

* The Chairman was placed on preventive suspension as per Order of the Office of the President (OP-DC Case No. 17-D-094) dated 2 May 2017 and received on 04 May 2017.

8. **House Committee on Energy**
Batasan Hills, Quezon City 1126

9. **Philippine Chamber of Commerce and Industry (PCCI)**
3rd Floor, Chamber and Industry Plaza (CIP)
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Taguig City 1634

Annex "A"

Parameter	Proposed	Approved
Ave. No. of Customer/Site	52	52
No. of Sites	17	17
Total No. of SHS Customers	884	884
No. of Working Days/year	228	228
No. of Visits, Scheduled	4	4
No. of Visits, Unscheduled	1	1
No. of Days of Visit per Visit, Zone A	2	2
No. of Days of Visit per Visit, Zone B	3	3
No. of Days of Visit per Visit, Zone C	4	4
Salary, Engineer (PHP/month)	19,111.00	19,111.00
Salary, Senior Technician (PHP/month)	14,036.50	14,036.50
Salary, Junior Technician (PHP/month)	13,579.00	13,579.00
Annual Benefits, Engineer (PHP/year)	9,625.18	9,625.18
Annual Benefits, Senior Technician (PHP/year)	7,712.23	7,712.23
Annual Benefits, Junior Technician (PHP/year)	7,375.63	7,375.63
Per Diem (PHP/day)	361.50	361.50
Distance to Site from EC Office, Zone A (km)	40	40
Distance to Site from EC Office, Zone B (km)	45	45
Distance to Site from EC Office, Zone C (km)	55	55
Distance within the Site (km)	5.2	5.2
Utility Vehicle Investment Cost, Motorcycle (PHP)	65,000.00	65,000.00
Utility Vehicle Economic Life, Years	5	5
Utility Vehicle Annual Maintenance Cost (% of AIC)	27%	20%
Fuel Economy (km/Li)	50	50
Cost of Fuel, Gasoline(PHP/Li)	59.83	45.43
Fuel Cost per km (PHP/km)	1.20	0.91
No. of Vehicles	2	2
Equipment Cost, Solar Panel, 50 Wp (PHP)	8,500.00	8,500.00
Equipment Cost, Solar Panel, 30 Wp (PHP)	5,000.00	5,000.00
Equipment Cost, Battery, 65-70 Ah (PHP)	6,840.00	6,840.00
Equipment Cost, Battery, 40-50 Ah (PHP)	3,990.00	3,990.00
Equipment Cost, Controller, 5-10 A (PHP)	2,445.00	2,445.00
Economic Life, Solar Panel (Years)	25	25
Economic Life, Battery (Years)	8	10
Economic Life, Controller (Years)	5	5
Repayment Period, OBA Loan (Years)	2	N/A
Interest Rate per annum (%)	6.00%	6%