

ANNEX “D”

Detailed Description of the Operating Expenses (“OPEX”)
Component of the Transaction Fees for the
Renewable Energy Market (REM)

SUMMARY:

Operating Expenses (OPEX) Budget Revenue Requirement	Development Phase (Amount in Millions PhP)	One-year Commercial Operation (Amount in Millions PhP)
I. Personnel Services Cost	---	----
II. Maintenance and Other Operating Expenses (MOOE)		
1. Honoraria	1.08	1.08
2. Contracted Services	6.30	7.22
3. Audit Requirements	5.10	----
4. Supplies and Materials	0.15	0.31
5. Subscriptions and Publications	2.00	2.00
6. Travel and Transportation	---	0.55
7. Conferences and Events	0.20	1.32
8. Training and Education	---	0.04
9. Insurance	---	0.04
10. Utilities	0.55	0.55
11. Communications	1.44	4.22
12. Repairs and Maintenance	---	10.88
13. Rentals	0.55	0.55
14. Taxes and Dues	---	---
TOTAL OPEX:	17.33	28.72

**Note: No budget requirements were proposed under the current Application for Personnel Services and Taxes and Dues**

I. Honoraria

This expense corresponds to the monthly honorarium of the Renewable Energy Market Governance Committee (“RGC”) members who represent the sectors of Electric Cooperatives (ECs), Private Distribution Utilities (PDUs) and Renewable Energy (RE) generators and suppliers. The amount to be given per individual is based on the level of monthly honorarium given to independent sector representatives to the Wholesale Electricity Spot Market (“WESM”) Governance Committees.

Under the Application, the other two (2) representatives to the RGC, i.e. independent member of the Applicant’s Board of Directors (“PEM Board”) and the representative of the RE Registrar, are currently members of the PEM Board, they will no longer be receiving any additional monthly honorarium aside from what they are currently receiving as members of the PEM Board.

The RGC was established and organized by the PEM Board on 29 January 2020 and generally holds a meeting at least once a month.

HONORARIA BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
Development of the REM	1.08	Honoraria received by the WESM Governance Committee Members as approved by the PEM Board	Based on a once a month meeting of the RGC sectoral members from CY2020-2021
One-Year Commercial Operation of the REM	1.08		Based on a once a month meeting of the RGC sectoral members from CY2021-2022

II. Contracted Services

The proposed budget revenue requirement on the Contracted Services component for the Development and the One-Year Commercial Operation under this Application pertain to the cost to contract and outsource the required support for the Renewable Energy Market (“REM”) and the RE Registrar

The list of support function for the REM and the RE Registrar are provided in the table below:

Support Function	Responsibilities	Requirements
Transaction Management	<ul style="list-style-type: none"> <li>Develop of procedures and forms preparatory to Commercial Operation</li> <li>Manage the day-to-day transactions in the REM such as issuance of RECs</li> <li>Process Renewable Energy (RE) Certificate for issuance including preparation of input data and facilitates the trading in the RE Market</li> <li>Perform studies and simulations of RE Market results</li> <li>Provide analysis on the market design of the RE Market</li> <li>Coordinate with relevant business units in the development/enhancement of internal business process/procedures</li> </ul>	Two (2) senior support with technical experience as that of a Specialist for the Development and Commercial Operation
Participant Support	<ul style="list-style-type: none"> <li>Provide customer service and support to intending REM Participants from on-grid and off-grid sectors.</li> <li>Organize lecture trainings and facilitate hands-on sessions for the on-grid and off-grid REM participants.</li> <li>Conduct registration and information drives.</li> <li>Process registration applications of intending REM participants.</li> </ul>	Two (2) senior level support with technical experience as that of a Specialist for the Development and Commercial Operation
Governance Committee Support	<ul style="list-style-type: none"> <li>Provide rules review and secretariat support to the REM Governance Committee especially on the drafting and finalization of the relevant market manuals.</li> <li>Review and update the REM Governance Committee Internal Rules</li> <li>Draft related REM Rules changes for the operationalization of the improvement of RE Registrar processes</li> </ul>	One (1) senior level support with technical experience as that of a Specialist for the Development and Commercial Operation
System Administration	<ul style="list-style-type: none"> <li>Monitor closely the stabilization period of the PREMS prior to commercial operations.</li> <li>Assist in the maintenance of the PREMS in coordination with Transactions Specialist.</li> <li>Manage the PREMS account of incoming REM participants.</li> </ul>	One (1) senior level support with technical experience as that of a Specialist for the

ANNEX “D-3”

Support Function	Responsibilities	Requirements
		Development and Commercial Operation
Accounts Management	<ul style="list-style-type: none"> <li>• Prepare procedures and forms for the invoicing and accounts management of the REM participants.</li> <li>• Prepare and issue invoices to REM participants</li> <li>• Perform accounting of disbursements for REM and RE Registrar operations, and monitoring of remittances by REM participants on their market transaction fees</li> </ul>	One (1) mid-level level support with technical experience as that of a Senior Analyst for the Development and Commercial Operation
RE Market Assessment and Monitoring	<ul style="list-style-type: none"> <li>• Provide assistance in the development of the RE RE Registrar Performance standards</li> <li>• Perform monitoring and collection of performance data of the RE Registrar</li> <li>• Perform research and studies on RE Market performance and competitiveness</li> <li>• Develop and eventually monitor RE Market indices and trends</li> </ul>	One (1) senior level support with technical experience as that of a Specialist for the Commercial Operation

The foregoing table shows the budget revenue requirement for the proposed Contracted Services of the Application.

CONTRACTED SERVICES BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
Development	6.30	Estimated by summing up the 1-year outsourcing cost of all the support function requirement, which cost is computed using the minimum salary level indicated in the CY2018 Towers Watson Industry Report for a senior level-specialist or a mid-level Senior Analyst, as applicable.	1-year outsourcing of: <ul style="list-style-type: none"> <li>• Six (6) senior level – Specialist support</li> <li>• One (1) mid-level – Senior Analyst support</li> </ul>
One-Year Commercial Operation	7.22	The proposed budget revenue Requirement for Contracted Services is inclusive of all taxes, mandatory benefits, health insurance coverage, Twelve Percent (12%) Administrative Fee and such other fees chargeable by the service provider to Applicant.	In addition: 1-year outsourcing of one (1) senior level-specialist support

III. Audit Requirements

The Application will cover the conduct of a pre-implementation Software Certification Audit to verify the correctness of the implementation to the PREMS of the REM Rules and Manuals covering the modules on registration, RE Certificate calculation and issuance and RPS compliance monitoring and reporting. Likewise, the audit will also cover the Vulnerability Assessment & Penetration Testing (VAPT) such that the system’s capability to deter accidental and unlawful data loss, alteration of data and intentional/unintentional disclosure of confidential information as well as protection from external threats and vulnerabilities will be evaluated.

The Proposed Cost for the Conduct of Software Certification Audit is provided in the table below.

AUDIT REQUIREMENTS BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
Development	5.10	Based on a previous contract of a similar nature and scope.	To be performed by an independent third party auditor

IV. Supplies and Materials

This budget item refers to the office supplies and office equipment needed in the office for administration which are regularly used in the daily business operations such as printers, pens, reams of paper, staplers, binders, etc.

SUPPLIES AND MATERIALS BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
Development	0.15	Based on prevailing prices used by PEMC	Covers consumable items such as pens, paper clips, tapes bond papers, notebooks, markers, white and brown envelopes.

ANNEX “D-5”

One-Year Commercial Operation	0.31		Covers consumable items such as pens, paper clips, tapes bond papers, notebooks, markers, white and brown envelopes; and Mobile Pedestals and Staff Chairs
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V. Subscriptions and Publication

The proposed budget under the Application shall cover costs and expenses for newspaper publication before the Energy Regulatory Commission, postings and other incidental and necessary expenses thereto such as notarization and filing fees.

The proposed cost for Publications is shown in the table below.

SUBSCRIPTIONS AND PUBLICATIONS BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
Development	2.00	Based on previous years' costs and expenses for filing the Market Fee Application for the WESM	Covers the costs, fees and expenses for the filing of the current Application.
One-Year Commercial Operation	2.00		Covers the costs, fees and expenses for the filing of the CY2021-2022 REM Transaction Fees Application

VI. Travel and Transportation

For the current Application, no budget is proposed for Travel and Transportation on the Development of REM. The budget for the One-Year Commercial Operation covers the participation of RGC members to the Off-Site IEC/Trainings. Also, included are the travelling expense for inspection of the PREMS Back-up Site.

The proposed budget under this Application is as follows:

TRAVEL AND TRANSPORTATION BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
One-Year Commercial Operation	0.55	Estimated based on previous Travelling Expenses	Local Travels only

VII. Conferences and Events

The Conference and Events budget under this Application covers the expenses for the venues, meals, transportation, accommodation, allowances, training hand-outs for the conduct of:

- Regular and special meetings of the RGC
- Information and Education Campaign (“IEC”) which trainings are conducted either on-site or off-site Applicant’s office are conducted either on for the purposes of information dissemination among the stakeholders on the processes and the requirements of the RE Registrar for their participation to the REM
- Planning/Strategic Workshops enable the formulation of its short-term and long-term Plans for the operations and governance of the RE Market. The one-day workshop will allow for the development of performance indicators to provide quantitative basis in the attainment of the Plans' objectives.
- Market Participant Update to apprise REM participants of market results and planned developments

ANNEX “D-7”

The proposed budget under this Application is as follows

CONFERENCES AND EVENTS BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
Development	0.20	Based on the yearly sum of the monthly allocated allowance to RGC.	Covers the logistical support for the RGC regular and/or special meetings for CY2020,
One-Year Commercial Operation	1.32		
RGC Meetings	0.12	Based on the yearly sum of the monthly allocated allowance to RGC.	Covers the logistical support for the RGC regular and/or special meetings for CY2021
IEC/ On-Site Trainings	0.13	Based on actual computation of the per unit cost per participant of food, venue and training handout	Covers food and training hand-outs for 50 participants for each of the four (4) trainings
IEC/ Off-Site Trainings	0.47	Based on actual computation of per unit cost per participant of food, venue and training handout and actual costs of travel, accommodation and allowance for two (2) facilitators	Covers food, venue and training hand-outs for 50 participants and travel costs, accommodations and allowance for 2 facilitators for each of the three (3) trainings.
Planning Workshop	0.10	Based on actual computation of	Covers transportation for 10 persons, 1 night



ANNEX “D-8”

		the cost for transportation , accommodations and meals and facilitators	accommodation and 2-day meals for 20 persons
<i>Market Participants Update</i>	0.50	Based on actual computation of the per unit cost per participant of food and venue	Covers food and venue for 250 persons

The specific details of the costs are explained below.

The proposed cost for Conferences and Events is shown in the table below.

Item	Cost per Batch* (PhP)	Batches	Cost (PhP)
PEMC Office	32,500	4	130,000
Out-of-Office	157,600	3	472,800
<b>TOTAL</b>		<b>7</b>	<b>602,800</b>

*\*Estimate of 50 attendees per batch of capacity building activities*

The details of the costs for Trainings held at PEMC Office are shown in the table below.

COST COMPONENTS	Per Unit Cost
Food	500.00/pax
Training Hand-outs	150.00/pax

The details of the costs for Trainings held Out of Town are shown in the table below.

COST COMPONENTS	Per Unit Cost
Food	500.00/pax
Venue	1,500.00/pax
Training Hand-outs	150.00/pax

ANNEX “D-9”

The table below shows the breakdown of costs to be incurred for Facilitators for Trainings held Out of Town.

COST COMPONENTS	Per Unit Cost	Unit Quantity	Remarks
Transportation	36,000.00	per trip	12,000.00 Php Round Trip Fare; Price for each of the three (3) facilitators of the training
Accommodation	10,500.00	per night	3,500.00 Php Per Night Per Facilitator
Allowance (per diem)	3,600.00	per day (2 days)	600.00 Php Per Day Per Facilitator;

The breakdown of the cost for the conduct of the out-of-town Strategic Planning for the RE Market is as follows:

COST COMPONENTS	Per Unit Cost	Unit Quantity	Total Cost	Remarks
Transportation	6,000	per trip	12,000.00	One (1) round trip for 10 pax NOTE: To use company vehicles for the others
Accommodation for 20 pax	6,400	per night	64,000.00	3,500.00 Php Per Night Per Facilitator
Meals for two (2) days for 20 pax	1,200	Per day	24,000.00	600.00 Php Per Day Per Person;

The basis of the cost for the conduct of the Market Participant Update during the One-Year Commercial Operation of the REM is as follows:

COST COMPONENTS	Per Unit Cost	Total Cost	Remarks
Food	500.00/pax	125,000.00	For 250 Pax
Venue	1,500.00/pax	375,000.00	

VIII. Training and Education

There is no proposed budget for Training and Education during the Development of the REM, while the budget for the One-Year Commercial Operation is intended to be an internal training for the Applicant’s personnel and contractual hires.

TRAINING AND EDUCATION BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
One-Year Commercial Operation	0.04	Based on prescribed meal budget per day and estimated cost of reproduction of reference materials	To cover food and materials for 20 pax. Four (4) one-day sessions are planned for this during the one-year commercial operation

IX. Insurance

What is covered in the current Application is the proposed budget for the insurance coverage of the PREMS Server.

INSURANCE BUDGET REVENUE REQUIREMENT			
	Proposed Budget (Amount in Millions Php)	Basis of Proposed Budget	Particulars
One-Year Commercial Operation	0.04	<p>Estimated based on the insurance coverage of a similar equipment</p> <p>The insurance premium for the PREMS equipment with sum insured of 24.74M is based on the existing Insurance by PEMC with Malayan for Equipment with insured sum of 203.75M, wherein premium paid is 296,230 PhP.  <math>24.74/203.75 \times 296230 = \sim 36,000.00.</math></p>	Risks covered is against damage or loss

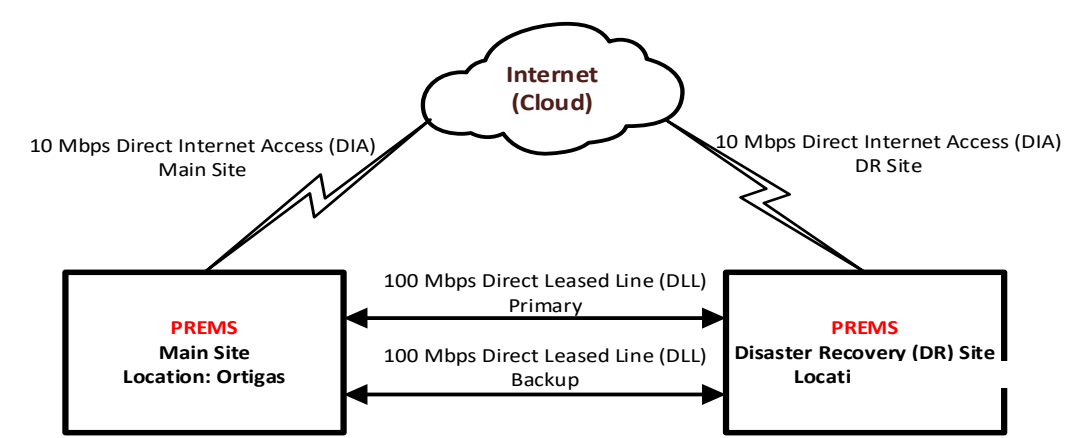
X. UTILITIES, COMMUNICATIONS AND REPAIRS AND MAINTENANCE

Utilities

This expense corresponds to the payment for the electricity that would be consumed by the machines (servers) for the PREMS software. The machine servers would be acquired during pre-development of RE Registrar for development and testing prior to commercial operations.

Communications

The high availability design of the Philippine RE Market System (PREMS) Information Technology (IT) infrastructure requires two (2) sets of identical systems. These systems are to be located in two (2) separate sites, one (1) called the Main Site and the other called the Disaster Recovery (DR) Site. This set-up ensures that when the Main Site fails because of a disastrous event, the PREMS can still continue to run at the DR Site. Also, PREMS DR design is HOT standby, which means the DR Site is updated with whatever information the Main Site has in near real time. To illustrate:



The following are the descriptions of each Communication Link or Comm Link:

- a) *100 Mbps Direct Leased Line (DLL) Primary* – This item is needed to connect the Main Site and the DR Site to allow the information stored in the DR Site to be copied/synchronized with the Main Site. The DLL type is a point to point, private line. It is chosen to ensure system security and performance. The Main DLL’s capacity of 100 Mbps is designed to accommodate the estimated volume of information that is

needed to be transferred between the two sites in near real time. This is to ensure that when one site totally goes down, the remaining site can be immediately activated thereby allowing continuous operation of PREMS. Currently, the bandwidth of this line is 50Mbps but it will be upgraded to 100Mbps. The expanded bandwidth already takes into consideration the expected volume of data when the PREMS is put into commercial operations.

- b) *100 Mbps DLL Backup* – This item provides a backup link between the main and DR Site to help ensure that both sites are synchronized even when the 100 Mbps DLL Primary goes down. The capacity should be the same as the primary so as to maintain the same performance as the primary. This setup is crucial in attaining the immediate activation of any site as described in the previous paragraph. In order to lessen the probability that this backup link simultaneously goes down with the primary link, the former should be a separate circuit from the main line and that means it should be supplied by a different service provider from the main line. This is a new line needed to complete the redundancy setup.
- c) *10 Mbps Direct Internet Access (DIA) Main Site* – This item is needed for the users of the PREMS (e.g. REM Participants, RE stakeholders, etc.) to access the system via the internet. The capacity is recommended by the PREMS Developer and is designed to accommodate the estimated volume of transactions in the PREMS. This new line is necessary since the PREMS is currently sharing the internet access of PEMC, which is expected to be fully loaded when the PEMC Corporate and Governance systems (e.g. Public Website, cloud-based office automation, Document and Records Management System or DRMS, Compliance Post Evaluation Monitoring System or CPEMS, and New Market Assessment System or NMAS, etc.) become fully operational.
- d) *10 Mbps Direct Internet Access (DIA) DR Site* – This item is needed for the users of the PREMS (e.g. REM Participants, RE stakeholders, etc.) to access the system via the internet when the system is operating in the DR Site. The DR Site capacity should be the same as the Main Site to maintain the same level of performance. This line is existing and was prioritized to satisfy the requirements of the Disaster Recovery (DR) testing and recovery simulation of the PREMS project. It will continue to serve as backup line.

Repairs and Maintenance

The PREMS is composed of customized and third-party software. Although the system has been thoroughly tested, there is still a remote possibility for defects and malfunction as it is used in actual conditions and data. There is a need, therefore, to enter into a Maintenance Agreement with the developer to avail of its support to fix any bugs of system malfunction that are beyond the technical capability of the Applicant. For the same reason, the Applicant needs the technical support of the third-party database software provider.

The proposed budget for Utilities, Communications and Repairs and Maintenance is shown in the table below.

Particulars	Proposed Budget (in Millions PhP)	
	Developme nt of the REM	One -Year Commercial Operation
<b>I. Utilities</b>		
Electricity consumption for the operation of the PREMS	0.550	0.550
<b>Total Cost for Utilities</b>	<b>0.550</b>	<b>0.550</b>
<b>II. Communications</b>		
a. One (1) year Monthly Recurring Cost (MRC) of the Primary Communication Link (DLL)	0.806	1.680
b. One-Time Installation Cost (OTIC) of the Primary Comm Link (DLL)	0.050	---
c. One (1) year MRC) of the Back-up Comm Link (DLL)	---	1.680
d. One year MRC of Comm Link-DIA for the PREMS Main Site	---	0.323
e. One year MRC of Comm Link-DIA for the PREMS Disaster Recovery (“DR”) site	0.538	0.538

ANNEX “D-14”

<i>f. One Time Installation Cost (OTIC) of Comm Link- DIA for DR site</i>	<i>0.050</i>	<i>---</i>
<b>Total Cost for Communications</b>	<b>1.444</b>	<b>4.221</b>
<b>III. Repairs and Maintenance</b>		
<i>a. Database (EDB Postgres Standard)</i>	<i>---</i>	<i>8.080</i>
<i>b. PREMS application</i>	<i>---</i>	<i>2.800</i>
<b>Total Cost for Repairs and Maintenance</b>	<i>---</i>	<b>10.880</b>

The proposed costs for Utilities, Communications and Repairs and Maintenance were based on the following:

<b>PARTICULARS</b>	<b>COST BASIS</b>
<b>I. Utilities</b> <i>Electricity Charges</i>	<i>Estimated based on the equipment rating and prevailing rates by power utilities</i>
<b>II. Communications</b>	
<i>Comm Link (DLL)</i> 1. <i>Installation</i> 2. <i>MRC</i>	<i>Based on submitted quotations by service providers.</i>
<i>Comm Link (DIA)</i> 1. <i>Installation</i> 2. <i>MRC</i>	<i>Based on submitted quotations by service providers.</i>
<b>III. Repairs and Maintenance</b>	
<i>Database (EDB Postgres Standard)</i>	<i>Based on PREMS project cost</i>
<i>PREMS application</i>	<i>Based on actual cost component in the PREMS project</i>

XI. RENTALS

Rentals covers the annual cost for the leased space and other related services to be rendered by the service provider for the housing of the servers for the backup (Disaster Recovery) site.

The Rental includes not only a provision for an allocated space to house the PREMS servers but also the provision of power and cooling facilities for the PREMS DR systems to prevent intermittent malfunctions caused by power and temperature fluctuations.

The proposed OPEX for the Rentals is shown in the table below:

<i>Rentals</i>	<i>Proposed Budget (in Millions PhP)</i>	
	<i>Development</i>	<i>One (1) Year Operations</i>
<i>Co-location Rental and provision of other services for the PREMS DR site.</i>	0.510	0.510
<b>Total Cost for Rentals</b>	<b>0.510</b>	<b>0.510</b>

The costs of the Rentals covers the power and cooling consumption based on actual consumption and 50% administrative costs but in the absence of an actual power and cooling consumption reading, the costs are computed based on the equipment ratings against the prevailing electricity rate.

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