

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



IN THE MATTER OF THE  
APPLICATION FOR APPROVAL  
OF THE POWER SALES  
AGREEMENT (PSA) BETWEEN  
ZAMBOANGA DEL NORTE  
ELECTRIC COOPERATIVE, INC.  
(ZANECO) AND MAPALAD  
POWER CORPORATION (MPC),  
WITH PRAYER FOR  
PROVISIONAL AUTHORITY

ERC CASE NO. 2014-043 RC

ZAMBOANGA DEL NORTE  
ELECTRIC COOPERATIVE, INC.  
(ZANECO) AND MAPALAD  
POWER CORPORATION (MPC),  
Applicants.

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DOCKETED  
Date: JUL 18 2014  
By:           

## ORDER

On April 15, 2014, Zamboanga Del Norte Electric Cooperative, Inc. (ZANECO) and Mapalad Power Corporation (MPC) filed a joint application for the approval of their Power Sales Agreement (PSA), with prayer for provisional authority.

In the said joint application, ZANECO and MPC alleged the following:

1. ZANECO's current power supply is not sufficient to meet its total power requirements. The Power Sector Assets and Liabilities Management Corporation (PSALM), the supplier of the bulk of ZANECO's requirements, has significantly reduced its supply commitments to ZANECO by about one-third;

2. As a result, the franchise area of ZANECO has suffered significant power outages, adversely affecting local businesses and the daily lives of all electricity consumers;
3. Thus, it is imperative that ZANECO obtains power at the soonest possible time;
4. The immediate implementation of the PSA subject of the instant joint application will significantly help alleviate the power outages in ZANECO's franchise area. This will greatly benefit the electricity customers and local businesses;
5. In view of the foregoing, they move for the provisional approval of the instant joint application pursuant to Rule 14 of the Commission's Rules of Practice and Procedure; and
6. They prayed that:
  - a. An Order be immediately issued provisionally approving the PSA subject of the instant joint application as well as the generation rate and adjustment mechanisms indicated therein; and
  - b. After due hearing, a Decision be rendered making such provisional approval permanent.

Relative to the prayer for a provisional authority, the Commission initially reviewed the instant application, as follows:

**1. Parties to the Contract**

ZANECO is a non-stock, non-profit electric cooperative organized and existing under and by virtue of Presidential Decree No. 269, as amended, with office address at General Luna Street, Central Barangay, Dipolog City, Province of Zamboanga Del Norte. It has a franchise to distribute electricity in the Cities of Dipolog and Dapitan and in the Municipalities of Godod, Gutalac, J. Dalman, Katipunan, Kalawit, La Libertad, L. Postigon, Liloy, Labason, Manukan, Mutia, Piñan, Polanco, Rizal, Roxas, Salug, S. Osmeña, Siayan, Sibutad,

Sindangan and Tampilisan, all in the Province of Zamboanga Del Norte.

MPC is a generation company duly authorized and existing under and by virtue of the laws of the Republic of the Philippines, with principal address at 4th Floor, Alphaland Southgate Tower, 2258 Chino Roces Avenue corner EDSA, Makati City.

## **2. ZANECO's Supply-Demand Scenario**

ZANECO's total power supply is not sufficient to meet its power requirements.

The bulk of ZANECO's power requirements is currently being supplied by PSALM. However, PSALM has significantly reduced its supply commitments to ZANECO by about one-third.

As a result, the franchise area of ZANECO has suffered significant power outages, adversely affecting local businesses and the daily lives of all electricity consumers.

In its letter to ZANECO dated January 13, 2014, PSALM has certified that it has insufficient capacity to supply ZANECO's additional power requirements beyond the contracted energy and equivalent demand of its existing Contract for the Supply of Electric Energy (CSEE) with PSALM.

The shortage is expected to increase due to the steadily increasing power demand of ZANECO's customers.

Shown below is ZANECO's supply-demand scenario:

<b>Month</b>	<b>ZANECO MONTHLY PEAK DEMAND (MW)</b>					
	<b>Actual (2013)</b>	<b>Contracted Capacity</b>	<b>Variance</b>	<b>Projected (2014)</b>	<b>Contracted Capacity</b>	<b>Variance</b>
Jan	29,813	27,580	(2,233)	31,048	28,681	(2,367)
Feb	29,332	24,851	(4,481)	30,547	27,924	(2,623)
Mar	29,838	25,719	(4,119)	31,074	27,848	(3,226)
Apr	29,774	23,971	(5,803)	31,007	25,229	(5,778)

May	29,439	23,034	(6,405)	30,658	26,023	(4,635)
Jun	30,049	21,141	(8,908)	31,294	27,561	(3,733)
Jul	28,915	22,183	(6,732)	30,113	27,888	(2,225)
Aug	29,810	26,283	(3,527)	31,045	27,817	(3,228)
Sept	29,662	23,314	(6,348)	30,891	25,010	(5,881)
Oct	28,886	22,646	(6,240)	30,082	24,056	(6,026)
Nov	30,669	23,970	(6,699)	31,940	22,959	(8,981)
Dec	31,422	26,371	(5,051)	32,724	27,519	(5,205)

### 3. Procurement Process

ZANECO needs to procure additional power supply that can be available at the soonest possible time.

Other than supply from MPC, there does not appear to be any other viable alternative for immediate and firm power supply available to ZANECO to address the current power shortage.

Thus, in order to alleviate the current power shortage, ZANECO executed with MPC the PSA subject of the present case.

### 4. Salient Features of the PSA

<b>Type of Plant</b>	Bunker C-Fired Diesel Power Plant
<b>Contracted Capacity</b>	5 MW
<b>Contract Term</b>	Three (3) years
<b>Commencement of Supply</b>	Within three (3) weeks from the Effective Date of the PSA, or on a later date agreed upon by the parties on which the five (5) MW of Contracted Capacity will be made available
<b>Payment Security</b>	ZANECO shall, no later than thirty (30) days prior to the Scheduled Commercial Operation Date, deliver to MPC security in an initial amount equivalent to the unadjusted first Monthly Payment of the first Contract Year

**Offtake Arrangement**

There is no minimum energy offtake under the PSA. As MPC will dedicate the Contracted Capacity to ZANECO, the Capital Recovery and the Fixed Operations and Maintenance Fees are computed based on the Contracted Capacity as well as on the proportion of actual energy delivered to the energy that could have been delivered

**Consumption in Excess of Contracted Capacity and Dispatchable Energy**

During the term, MPC may, but is not obliged to, make available to ZANECO electric power in excess of the Contracted Capacity and Dispatchable Energy, as the case may be, upon written request of ZANECO. If MPC agrees to grant such request and makes available to ZANECO the electric power requested in excess of the Contracted Capacity and Dispatchable Energy, ZANECO shall pay therefor an amount computed in accordance with the provisions of Section 7.2 (Monthly Payments)

**5. Proposed Tariffs and Rates Structure**

For the supply of power by MPC, ZANECO shall pay the monthly payments based on the following formulae:

$$\text{Monthly Payments} = CRF + FOMF + VOMF + AFC + SC + RCEC + Taxes$$

Where:

CRF = Capital Recovery Fee

FOMF = Fixed Operation and Maintenance Fee

VOMF	=	Variable Operation and Maintenance Fee
AFC	=	Actual Fuel Cost
SUC	=	Start-Up Cost
RCEC	=	Replacement Capacity and Energy Cost
Taxes	=	Value-Added Tax and other applicable taxes, if any

## 6. Proposed Rates

Particulars	Rates
Capacity Fee	PhP273.40/kW/month
Fixed O&M Fee	PhP217.62/kW/month
Variable O&M Fee	PhP0.1700/kWh
Fuel Fee	PhP7.2100/kWh

The foregoing rates shall be subject to adjustment based on the formula provided in the PSA.

## 7. MPC's Bunker C-Fired Diesel Power Plant

To supply power under the PSA, MPC shall operate and maintain a bunker C-fired diesel power station located in Sitio Mapalad, Barangay Dalipuga, Iligan City, Province of Lanao del Norte (MPC Power Plant).

The MPC Power Plant has been fully rehabilitated after its acquisition from the local government of Iligan City and has now a total net generating capacity of 103 MW. It includes a unit with a net generating capacity of 5 MW which was relocated from Sarangani Province to the MPC Power Plant site. The said unit was included in the acquisition of the MPC Power Plant.

The Office of the President of the Philippines has previously approved the exemption of the MPC Power Plant from the requirement of an Environmental Compliance Certificate (ECC) from the Department of Environment and Natural Resources (DENR). Nevertheless, MPC committed that said power plant will be operated responsibly in accordance with good utility practice and all relevant laws and regulations, including environmental laws.

On February 7, 2014, the Department of Energy (DOE) issued Certificate of Endorsement No. 2014-003, certifying that the capacity of the power station is consistent with the DOE's Power Development Plan (PDP).

On March 10, 2014, the Commission has issued a Certificate of Compliance (COC) with reference number 14-03-GN 347-20103M authorizing MPC to operate the MPC Power Plant.

The total cost of the project, to date, is PhP1.456 Billion, with a debt-equity ratio of 68:32. For the additional unit, the indicative debt-equity ratio is 70:30.

## **8. Evaluation of the Proposed Rate**

The Commission considered the following rate components in determining the reasonableness of MPC's proposed rates as the same were derived based on a Long-Run Avoidable Cost (LRAC):

- a. Capital Recovery Fee – a capital related element that will allow the MPC to recover the cost of its investment over the life of the plant together with a reasonable rate of return.
- b. O&M Fee – a component to recover operating and maintenance costs. The power plant O&M cost is commonly composed of local and foreign, where the local O&M cost represents locally denominated plant operating cost such as salaries, wages, overhead and technical expenses, while foreign O&M cost represents maintenance of spare parts, supplies and all other cost associated with the said parts that are usually imported.

- i. Fixed O&M – a component to recover fixed operating and maintenance (O&M) costs. This cost is determined by the capacity of the plant, not the level of utilization; and
  - ii. Variable O&M – an element to recover variable O&M cost. This non-fuel cost varies with the amount of electricity generated.
- c. Fuel Fee – a component to recover fuel costs.

### 8.1 Capital Recovery Fee (CRF)

Capital recovery fees are intended to recover the costs to build the facilities that are needed to provide the capacity and supply the energy to ZANECO plus a reasonable return.

The monthly CRF under the PSA is computed as follows:

$$CRF = CRFR \times CC \times F$$

Where:

CRFR = Capital Recovery Fee Rate of  
PhP273.40/kW/month

CC = Contracted Capacity

F = Outage Factor as derived using the  
formula provided in the PSA

#### 8.1.1 Total Project Cost

The proposed total cost of the project is PhP1.456 Billion, which consists mainly of the costs for the acquisition and rehabilitation of the MPC Power Plant.

Although the project cost is updated to PhP1.456 Billion, MPC still used the following components of the project cost in the derivation of the CRF:



<b>Project Cost</b>	<b>PhP 000's</b>
<b>Acquisition Cost</b>	<b>378,910.00</b>
Acquisition Cost	
Transfer of Title	
<b>Rehabilitation Cost</b>	
Rehabilitation Period Insurance	14,685.00
Rehabilitation Cost	546,130.00
Pre Operating Expenses (Vehicle and Equipment)	19,784.00
Development Costs	35,063.00
Land	68,000.00
Working Capital	30,510.00
VAT	73,879.00
<b>Financing Costs</b>	
Financing Costs	39,249.00
<b>Total Funding Requirements</b>	<b>1,206,210.00</b>

To verify the reasonableness of the proposed projects cost, the Commission benchmarked MPC's project cost with the capital cost used in the recently approved power plant of similar technology. Actual cost valuation is not applicable at this time due to lack of historical data.

The Commission found that MPC's proposed project cost is comparable with the benchmarked power plant. Thus, for purposes of the issuance of provisional authority, the Commission adopted the project cost proposed by MPC.

### 8.1.2 Weighted Average Cost of Capital (WACC)

MPC submitted a nominal pre-tax WACC of 12.38% based on a cost of debt of 5.85% and cost of equity of 18.38%, computed as follows:

<b>WACC</b>	
<b>Debt Element</b>	
Cost of Debt	4.10%
Industry Weight of Debt	68.00%
	2.78%
<b>Equity Element</b>	
Cost of Equity	18.38%
Industry Weight of Debt	32.00%
	5.88%
<b>WACC (post-tax)</b>	<b>8.67%</b>
<b>WACC (pre-tax)</b>	<b>12.38%</b>

The project is funded by sixty-eight percent (68%) debt and thirty-two percent (32%) equity. The Commission adopted the proposed cost of debt as the actual cost of debt applicable to MPC. However, the Commission believes that the cost of equity should be benchmarked at 16.44% based on the approved WACC consistent with the recently approved power supply agreements, including that of MPC's affiliate company, the Sarangani Energy Corporation (SEC).

Below is a comparison of MPC's proposed WACC and the Commission's computation of WACC:

<b>Particulars</b>	<b>MPC's Proposal</b>	<b>Commission's Computation</b>
<b>Debt Element</b>		
Pre-Tax Cost of Debt	5.85%	5.85%
Post-Tax Cost of Debt	4.10%	4.10%
Weight of Debt	68%	68%
	2.79%	2.79%
<b>Equity Element</b>		
Cost of Equity	18.38%	16.44%
Weight of Equity	32%	32%

	5.88%	5.26%
<b>Post-tax WACC</b>	<b>8.67%</b>	<b>8.05%</b>
<b>Pre-tax WACC</b>	<b>12.38%</b>	<b>11.49%</b>

### 8.1.3 Derivation of the CRF

The Financial Model submitted by ZANECO and MPC was used in determining the CRF rates. The Commission set a rate that will yield an Equity Internal Rate of Return (EIRR) equal to the cost of equity of 16.44% and at the same time, will satisfy the Debt Service Coverage Ratio and Minimum Debt Service Coverage Account required by the banks to assure the repayment of loan.

The Commission derived a CRF of **PhP250.1792/kW/month** based on the following data:

Capital Cost	PhP1,206,210,417.00
Asset Life	10 years
Plant Capacity	103,000 kW
Cost of Debt	5.85%
Cost of Equity	16.44%
<b>Derived CRF</b>	<b>PhP250.1792/kW/mo.</b>

MPC proposed a CRF of PhP273.40/kW per month which is higher by PhP23.22/kW per month than the Commission's calculated CRF of PhP250.18/kW per month.

The difference is attributed to the following:

- a. The Commission used a cost of equity of 16.44% while MPC proposed 18.38%; and
- b. The Commission calculated the CRF by setting a rate that will result to an EIRR equivalent to the

cost of equity of 16.44% while MPC calculated the CRF by setting a rate that will result to a Project IRR equivalent to 18.10%.

## 8.2 Operations and Maintenance (O&M) Fee

Operations and maintenance costs are recurring expenses which are related to the operation of a business or to the operation of the power plant facilities.

Based on the proposed tariff structure, ZANECO shall pay MPC a Fixed O&M Fee of **PhP217.62/kW/month** and Variable O&M Fee of **PhP0.17/kWh**, subject to adjustment depending on the rise and fall of the economic factors as indicated in the PSA.

Shown below are MPC's proposed Fixed O&M and Variable O&M Fees as indicated in the instant application:

<b>Fixed O&amp;M Fee</b>		
Fixed O&M per annum	USD000's	6,124.49
Contracted Capacity	MW	98.5
Fixed O&M per month per MW	USD 000's/MW pm	5.18
Fixed O&M per month per MW	PhP/kW per month	217.62
<b>Variable O&amp;M Fee</b>		
Real Variable O&M per day	PhP 000s per day	258.81
MWWhs produced per day	MWh per day	1,488
VOMF	PhP per kWh	0.17

The reasonableness of the O&M cost may be best established and validated by referring to the historical cost of operations of the power plant as the actual results of operations reflect the power plant's true cost of generation.

In the absence of such historical information, the Commission instead benchmarked the computed O&M to the recently approved diesel power plants with similar capacity, as shown in the table below:

Power Plants	Capacity (MW)	Fixed O&M Fee (PhP/kW/month)	Variable O&M Fee (PhP/kWh)
TMI - PB 117	100	248.54	0.1404
TMI - PB 118	100	248.54	0.1404
MPC	103	217.62	0.1700

It can be gleaned from the foregoing that MPC's proposed O&M fee is within the level of the approved O&M for diesel plants with at least 100 MW capacity.

### 8.3 Fuel Cost

The fuel cost to be charged shall be the actual fuel cost incurred computed using the following formula:

$$Total\ AFC = FCRF + FCRF_{adj}$$

Where:

$$FCRF = \text{Base Fuel Cost Recovery Fee}$$

$$= FCR \times ED$$

$$FCR = \text{Fuel Price of P7.21/kWh, based on November 2012 delivered price of Bunker C Fuel Oil at plant site of P30.50/liter, density of 0.9855 gram/liter and Net Plant Heat Rate of 0.233 kg/kWh}$$

$$FCR_{adj} = \text{Fuel Cost Recovery Adjustment based on MOPS price of Bunker C/Heavy Fuel Oil (HFO) deliveries during period of price determination in Peso/liter}$$

$$= (FC_n - FC_o) \times 0.233 \text{ kg/kWh} \times ED$$

$$FC_n = \text{The average MOPS price of Bunker C Fuel Oil/Heavy Fuel Oil (HFO) deliveries during the period of price determination in Peso/liter}$$

FCo = The December 2012 reference price of MOPS Bunker C Fuel/Heavy Fuel Oil (HFO) fuel at P30.50/liter (delivered) in Peso/liter

Efficient fuel cost should be a passed-on cost to the end users and the power producer should not derive revenue therefrom. The Commission adopted the limit submitted by MPC which provides that the specific fuel oil consumption rate of the Plant shall not be greater than 0.233 kg/kWh at site condition of 32-degree Celsius ambient temperature and is based on the Plant's use of bunker C fuel oil with a density of 0.9855 kilogram/liter.

**9. Comparison Between the MPC's Proposed Rates and the Commission's Provisional Rates**

Shown below is the summary of the computed Commercial Operation rates compared to MPC's proposed rates:

<b>Particulars</b>	<b>MPC Proposed Rates</b>	<b>Commission's Provisional Rates</b>	<b>Difference</b>
Capacity Fee (PhP/kW/mo.)	273.40	250.18	23.22
Fixed O&M Fee (PhP/kW/mo.)	217.62	217.62	-
Variable O&M Fee (PhP/kWh)	0.1700	0.1700	-
Fuel Fee	7.2100	Pass-through cost subject to efficiency cap	-

**10. Rate Impact**

In order to determine the impact of the implementation of the PSA on ZANECO's generation costs, an analysis was conducted taking into consideration the reduction of PSALM's firm supply commitments to ZANECO and supply from TMI.

For the simulation, the projected demand and energy consumption for the peak month of December 2014 were used. It was assumed that PSALM and TMI would supply their full contracted supply for the said sample month. The assumed rates for PSALM and TMI were based on the actual rates for January 2014. It was also assumed that there would be no changes in fuel costs or in the index values as it is not possible to predict these values.

The cost implication is summarized as follows:

Without MPC Supply Year 2014 (PSALM+TMI)		With MPC Supply Year 2014 (PSALM+TMI+MPC)		Rate Impact
Power Cost (PhP/kWh)	Estimated Outage Per Customer (Hours)	Power Cost (PhP/kWh)	Estimated Outage Per Customer (Hours)	(PhP/kWh)
4.40	3	4.77	1	0.37

Upon the implementation of the subject PSA, ZANECO's blended generation rate is estimated to be PhP4.77/kWh from PhP4.40/kWh (PSALM+TMI) or an increase of PhP0.37/kWh.

The Commission has a mandate to protect the interest of the consumers insofar as they are affected by the rates, particularly, in the light of the pervading global financial crises.

An initial evaluation of the instant application discloses that the PSA entered into by and between ZANECO and MPC will redound to the benefit of ZANECO's member-consumers in terms of continuous, reliable, efficient and affordable power supply as mandated by Republic Act No. 9136, otherwise known as the Electric Power Industry Reform Act of 2001 or the EPIRA [*Section 2. Declaration of Policy – (b) “to ensure the quality, reliability, security and affordability of the supply of electric power”*].

**WHEREFORE**, the foregoing premises considered, the Commission hereby **PROVISIONALLY APPROVES** the Power Sales Agreement (PSA) between Zamboanga Del Norte Electric Cooperative, Incorporated (ZANECO) and Mapalad Power Corporation (MPC), as follows:


1. The applicable rates shall be as follows:

Particulars	Rates
Capacity Fee	PhP250.18/kW/month
Fixed O&M Fee	PhP217.62/kW/month
Variable O&M Fee	PhP0.1700/kWh
Fuel Fee	Pass-through cost subject to efficiency cap

2. The final generation cost that can be recovered shall be determined by the Commission in its Decision in the instant application.
3. In the event that the final rate is higher than that provisionally granted, the resulting additional charges shall be collected by MPC from ZANECO. On the other hand, if the final rate is lower than that provisionally granted, the amount corresponding to the reduction shall be refunded by MPC to ZANECO.

**SO ORDERED.**

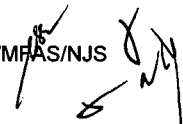
Pasig City, June 23, 2014.

  
**ZENAIDA G. CRUZ-DUCUT**  
Chairperson

  
**ALFREDO J. NON**  
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26. **Municipal Mayor**  
Rizal, Zamboanga Del Norte

27. **Municipal Mayor**  
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