Department of Energy

2012-2016 MISSIONARY ELECTRIFICATION DEVELOPMENT PLAN (2012 MEDP)

14 March 2012

0. Introduction

The 2012-2016 Missionary Electrification Development Plan (2012 MEDP) is an outline of the Government's plans to improve the conditions prevailing in missionary areas[1]. The 2012 MEDP focuses specific plans and projects for the next five years.

With funding support from the World Bank (WB) and the Global Environment Facility (GEF) through the Philippine Rural Power Project, Trust Fund No. TF 52188, the Department of Energy (DOE) engaged Innovation Energie Développement (IED) to review the missionary electrification framework and its current status and thereafter initiate the preparation of the 2012 MEDP for the DOE. We thank IED for producing a report depicting a clear status of missionary electrification in the country, and WB and GEF for the Technical Assistance provided to further enhance and remove the barriers of renewable energy development in missionary areas. Data and insights presented by IED were discussed and studied by DOE in determining what needs to be done.

The 2012 MEDP is intended to serve as the blueprint on which missionary electrification policy actions in the next five years will be based, and will evolve as necessitated by circumstances. The intended audiences of this document are industry participants in Small Islands and Isolated Grids (SIIGs), specifically the National Power Corporation - Small Power Utilities Group (NPC-SPUG), potential New Power Providers (NPPs) and Qualified Third Parties (QTPs), Distribution Utilities (DUs), the National Electrification Administration (NEA), and the Energy Regulatory Commission (ERC).

0.1. Current Status of Missionary Electrification

0.1.1. Existing NPC-SPUG Services

NPC-SPUG remains the dominant generation service provider to SIIGs. In 2011, NPC-SPUG's total generation stood at 463 GWh. Except for 5.8 GWh generated by Balongbong Hydroelectric Power Plant in Catanduanes, energy was produced entirely by diesel- and Bunker C-fueled generators.

For 2011, the overall fuel rate for NPC-SPUG is 0.283 L/kWh, while the overall plant use and losses are at 4.51% of gross generation. While the numbers imply overall efficiency, this is not the case on a plant-by-plant basis as shown in Table 1.

[1] Those which cannot be served in the foreseeable future in a financially feasible way by the extension of TransCo's transmission grid.

2011 Gross MWh	Plant Count	Fuel Rate		Plant Use and Losses	
		Group Average	Weighted Average	Group Average	Weighted Average
<120	192	0.508	0.450	0.69%	3.16%
(120, 600]	45	0.324	0.321	3.24%	3.56%
(600, 1200]	12	0.311	0.310	6.34%	6.22%
(1200, 12000]	28	0.293	0.277	6.23%	5.93%
>12000	10	0.283	0.281	4.67%	3.85%

Table 1. Fuel Rates and Plant Use and Losses in 2011

NPC-SPUG operates numerous small power plants and a handful of large power plants. As a matter of fact, merely 15 power plants, all serving First Wave Areas (FWAs) account for more than 75% of the 2011 gross generation in NPC-SPUG areas.

Small SIIG operations are relatively more expensive. For example, as shown in Table 2, employee wages for Balabac, a small SIIG, are even higher than those for Rapu-Rapu, a medium-sized SIIG, but the potential revenues are only proportional to the gross generation. NPC-SPUG's overextended deployment of materials and personnel is one reason why its operations are not optimized.

Plant	Employees	Labor Cost, kP		Gross Generation, MWh		Plant production Cost, P/kWh
		Total	Per employee	Total	Per employee	
Rapu-Rapu	10	109	10.9	107.5 (Medium)	10.75	14.4
Balabac	8	146	18.25	27.6 (Small)	3.45	23.9

Table 2. Comparison of the December 2011 Operations of Rapu-Rapu and Balabac Diesel Power Plants

In many areas, supply interruptions, mostly of long duration, are often experienced. Fuel shortage, generator failures and distribution side faults were the dominant reasons for the interruptions. Worse, NPC-SPUG does not monitor these outages and fails to produce SAIFI and SAIDI statistics[2].

Based on NPC-SPUG's requirements, the aggregated shortfall that is not covered by the Universal Charge for Missionary Electrification (UCME) for 2009-2011 amounted to Php6 Billion. However, the 2012 MEDP will not delve into this matter as this had been filed before ERC.

[2] System average interruption frequency index (SAIFI) and System average interruption duration index (SAIDI) describe how often interruptions occur and how long they persist.

Also contributing to NPC-SPUG's poor financial standing are DUs' overdue accounts amounting to as much as Php3 Billion as of end-2010.

0.1.2. NPPs

As of this writing, eight NPPs are supplying five of the 14 FWAs as shown in Table 3.

SIIG	NPP	Installed Capacity	2010 Generation, MWh	October 2011 Supply Cost, P/kWh
Oriental Mindoro	Power One	9-MW bunker-fueled diesel	N/A, stopped in 2009	≈ 12
	Ormin Power	6.4-MW bunker-fueled diesel	N/A, commenced 2011	12.69
Mainland Palawan	Palawan Power Generation (PPGI)	19-MW bunker-fueled diesel	60,277	10.686
	Delta P	16-MW bunker-fueled diesel	57,412	12.1
Catanduanes	Catanduanes Power Generation (CPGI)	3.6-MW bunker-fueled diesel	14,901	≈ 12
	Sunwest Water and Electric (SUWECO)	3.6-MW hydro	2,296	5.39
Bantayan Island	Bantayan Island Power Corp. (BIPCOR)	8.3-MW bunker-fueled diesel	17,309	10.5015
Masbate	DMCI	24.4-MW bunker-fueled diesel	29,323 since July 2010	15.4

Table 3. NPPs in 5 SIIGs

NPPs' supply costs are significantly lower than NPC-SPUG's average O&M costs in 2011 which are in the order of 15-16 P/kWh. That the NPPs have lower supply costs is partly due to the use of Bunker C as fuel for the diesel generators. Generators that were running on diesel when operated by NPC-SPUG were converted such that they are now running on Bunker C. Also, all NPPs provide 24-hour supply of electricity. These cost and performance benefits dictate that private sector participation (PSP) be pursued.

In areas other than Masbate and Bantayan Island, NPC-SPUG continues to perform as the power supplier because either the NPP's generation capacity is not sufficient to meet the DU's demand, or the NPP has not complied with its contractual obligations due to various

factors. As an example, in the areas of Marinduque, Tablas and Romblon, 3i Power Gen which was awarded the NPP contract through Competitive Selection Process (CSP), signed PSAs with the respective DUs but has not yet operated any power plant. Because of the alleged delays and failure of 3iPower Gen to deliver its obligations under the PSAs with the three DUs, there were moves to declare these PSAs null and void.

Table 4 shows the status of PSP in the nine other FWAs.

SIIG	NPP	Status
Marinduque	3i Power	With PSA but without any generating equipment installed.
Tablas	3i Power	With PSA but without any generating equipment installed.
Romblon	3i Power	With PSA but power plant is not operational due to internal problems within NPP consortium.
Tawi-Tawi		Not feasible for NPPs.
Sulu (Jolo)		Not feasible for NPPs.
Siquijor		CSP ongoing.
Basilan		With PSA but without any generating equipment installed.
Camotes		No CSP yet.
Occidental Mindoro		CSP to start.

Table 4. PSP Status of 9 SIIGs

While PSP in the 14 FWAs did not progress as intended, there are areas where the private sector supplies at least a portion of the demand. In contrast, SIIGs with peak demand less than 1 MW may not be expected to be taken over by NPPs if CSP is conducted as usual.

0.1.3. QTPs

PowerSource Philippines, Inc. (PSPI), which operates in Rio Tuba, Bataraza, Palawan is the only recognized QTP following the policies and regulatory actions issued by DOE and ERC, respectively. PSPI provides 24-hour electricity service to 1,374 households. Its average monthly sales increased from 70 MWh in 2010 to 100 MWh in 2011. PSPI's installed capacity is 420 kW, which it will augment with a 70-kW biomass gasifier fueled by coconut and wood chips by the first quarter of 2012.

Meanwhile, the Philippine Rural Electrification Service (PRES) Project in Masbate was financed by concessional and commercial loans through the Filipino-French Protocol. Said project accomplished electrification of 5,129 households in 108 barangays through PV systems and 12,183 households in 102 barangays through small diesel-fired mini-grid systems. Currently, NPC-SPUG acts as the

interim QTP for the PRES areas. For the mini-grid component, the 2011 gross generation is 43.7 MWh, a mere 0.4% of the total NPC-SPUG production. The sustainability of the PRES Project is at risk due to continued non-appointment of a full time QTP or alternative service provider, or employment of a sustainable and cost-effective post-project operation and maintenance program.

Missionary areas account for a very minimal share of the national energy sales but have a large impact to the entire economy. Hence, in the interest of national development, DOE shall ensure that the conditions prevailing in missionary areas are improved, consistent with the objectives of Republic Act No. 9136, the Electric Power Industry Reform Act of 2001 (EPIRA).

0.2. Goals and Objectives

It is a declared policy of the State to ensure the quality, reliability, security, and affordability of the supply of electric power[3]. Anchoring on this policy, the two strategic goals of the 2012 MEDP are 1) the minimization of nationwide UCME burden and 2) the improvement of supply reliability.

The specific objectives to meet these goals in five years are as follows:

1. Minimize UCME Burden

a. Introduce PSP in large areas and some medium areas
- Amend/establish PSP Department Circulars (DCs)
  - Create an Inter-Agency Technical Working Group
  - Create Steering Committee

b. Promote 1 MW peak demand in some medium areas
- Establish PSP template DC
  - Pilot El Nido PSP using business franchise model
  - Coordinate with local stakeholders
  - Coordinate with ERC for regulatory support

c. Pull out NPC-SPUG from some small areas
- Market to QTPs
- Revert to DUs, establish BAPAs
  - Coordinate with local stakeholders
  - Coordinate with ERC for regulatory support
  - Coordinate with NPC-SPUG and NEA for capacity-building

d. Promote power plant efficiency in NPC-SPUG's plants
- Establish comprehensive technical policy
  - Establish DC for fuel rates and plant use and losses

[3] EPIRA Section 2(b).

e. Monitor NPC-SPUG's technical performance
    - Enforce timely submission of data
    - Establish grading system

f. Implement subsidy graduation and inter-class subsidy
    - Coordinate with local stakeholders
    - Coordinate with ERC for regulatory support
    - Coordinate with NEDA for a detailed economic study

g. Establish NPC-SPUG's future roles

h. Create integrated power development plan for each SIIG

2. Increase Supply Reliability

a. Establish comprehensive technical policy
    - Establish DC for generation and distribution reliability

b. Closely monitor fuel deliveries

c. Coordinate with ERC for regulatory support for capital expenditures

d. Establish NPC-SPUG's future roles

These specific objectives of the 2012 MEDP are subdivided into five headings: 1) private sector participation, 2) technical efficiency, 3) UCME rationalization, 4) NPC-SPUG's future roles, and 5) expectations from stakeholders. In addition, this simple document serves to reaffirm DOE's commitment to develop missionary areas by providing clear policy directions.

1. Private Sector Participation

EPIRA IRR Rule 13 mandates DOE to issue specific guidelines on how to encourage the inflow of private capital and the manner whereby other parties can participate in missionary electrification projects. In compliance, DOE issued DC 2004-01-001 prescribing the rules and procedures for PSP in existing NPC-SPUG areas.

The appendix lists all of NPC-SPUG's power plants and the classification of their respective areas.

1.1. Large NPC-SPUG Areas

For the purposes of the 2012 MEDP, the term "large NPC-SPUG areas" refers to the 14 FWAs and Busuanga Island. Said areas account for 82% of NPC-SPUG's 2011 gross generation.

The 14 FWAs are allocated around 80% of UCME and are thus prioritized in the PSP Program. However, there are hindrances to successful implementation of PSP. To accelerate PSP implementation in the 14 FWAs, DOE, NEA and NPC entered into a Memorandum of Agreement (MOA) entitled "Enhanced Private Sector Participation Program in Existing NPC-SPUG Areas" on 21 October 2011

Toward this end, DC 2004-01-001, the principal policy instrument which prescribes the rules and procedures for PSP, will be amended or superseded by another circular by end-2012 to consider the following points:

a. Definition of the elements or determinants of CSP to include the recognition of (1) pioneer bids[4] that will be subjected to the Swiss Challenge method, and (2) bids of RE generators with true cost of generation (TCGR) less than the subsidized/approved generation rate (SAGR) and with sufficient capability to operate as base load plant or provide full service.

b. Competency building of DUs on power supply contracting with the private sector and strategic planning for least cost and technology-neutral generation development.

To accomplish the above tasks, an Inter-Agency Technical Working Group will be formed by the PSP Steering Committee. Once the above policy measures are in place, CSP shall be conducted for large areas based on the rules.

[4] More popularly known as unsolicited bids.

1.2. Medium NPC-SPUG Areas

For the purposes of the 2012 MEDP, the term "medium NPC-SPUG areas" refers to SIIGs with 2011 gross generation significantly higher than 1 GWh. These are listed in Table 5.

#	SIIG	2011 Gross GWh	December 2011 Peak, MW
1	Rapu-Rapu	1.24	0.420
2	Tingloy	1.38	0.600
3	Taytay	1.49	0.579
4	San Vicente	1.62	0.490
5	Siasi	2.62	0.560
6	El Nido	2.71	0.874
7	Lubang	2.83	0.684
8	Casiguran	2.96	1.000
9	Polilio	3.41	1.026
10	Cuyo	4.05	1.135
11	Basco	4.46	0.839
12	Roxas	4.95	1.080
13	Ticao	5.37	1.200
14	Dinagat	8.01	2.456
15	Kalamansig[5]	8.98	2.059

Table 5. Medium NPC-SPUG Areas

These are DOE's 15 Second Wave Areas (SWAs) to be opened for PSP. Areas numbered 8 to 15 in Table 5, having a strong demand profile, are expected to be taken over by NPPs in the same manner as large NPC-SPUG areas.

Owing to their different nature, a business model specific to areas numbered 1 to 7 in Table 6 will be crafted. The goal is to raise the viability level by promoting attainment of 1 MW peak load to enhance marketability to NPPs.

El Nido, having the highest peak demand among areas 1 to 7, will serve as the pilot area for implementation. DOE is looking into adopting the business franchising model[6] to SWAs. Other goals of this venture are to provide a quick response to El Nido's energy problems and formulate a template for PSP in medium NPC-SPUG areas. It will also be determined which one between bundled and individual packaging of medium SIIGs is more feasible.

[5] Excluding the contributions of PB 111.
[6] The model is such that NPC-SPUG is to the business owner as the NPP is to the franchisee. DOE aims to introduce even small businessmen to the generation business.

1.3. Small NPC-SPUG Areas

Areas that do not satisfy the definition of large and medium SIIGs in this document are referred to as small NPC-SPUG areas. A distinction will be made between small A, small B, and PRES mini-grids.

1.3.1. Small A Areas

For the purposes of the 2012 MEDP, the term "small A areas" refers to small areas with 2011 gross generation above 50 MWh, including Palanan[7]. Numbering 61, the demand in, these areas is large enough to be supplied by NPC-SPUG with some degree of economy yet may not be large enough to merit NPP interest. It is reasonable to expect no NPP takeover of small A areas in the next five years.

1.3.2. Small B Areas

For the purposes of the 2012 MEDP, the term "small B areas" refers to small areas with 2011 gross generation below 50 MWh, excluding Palanan and the PRES mini-grids. Numbering 29, these are either mini-grids or transferred areas[8]. Small B areas will be marketed to potential QTPs as appropriate. Those that will not merit private sector interest by January 2013 will be reverted to parent DUs through BAPAs in line with their franchise obligation.

1.3.3. PRES Mini-grids

Basing on the gross generation share alone, it appears that the PRES problem requires massive effort but promises little gain. However, the success of the project is a matter of national interest as it will affect the Government's reputation with donor countries, especially France and the rest of the European Union.

The problems with the PRES areas include high fuel rates, poor metering, poor maintenance, and low collection efficiency. These will be addressed by DOE in formulating plans to emplace QTP take-over by June 2013.

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[7] Palanan DPP was not operational from January to October 2011 so its 2011 gross generation is only 31 MWh.

[8] Areas where the generation function was taken over by NPC-SPUG from DUs or local government units (LGUs).

2. Technical Efficiency

NPC-SPUG runs primarily on UCME. Therefore, any inefficiency incurred by NPC-SPUG amounts to wastage of government resources. NPC-SPUG also depends on collections from DUs. Therefore, to increase collection efficiency, generation and distribution of energy must be reliable.

It has been an issue in the past that there is a lack of technical standards, whether internal to NPC or industry-wide, regarding efficiency. To ensure the good performance of the industry participants in SIIGs, DOE shall take the initiatives to provide directions to NPC-SPUG and SIIG DUs regarding technical efficiency. These initiatives are detailed in the succeeding parts of this 2012 MEDP.

2.1. Improvement of Performance

Requiring simple analyses, a transitory policy will be useful in the meantime to improve performance. Two such circulars will be emplaced by end-2012:

a. A DOE circular prescribing transitory guidelines on allowable fuel rates and plant use and losses of NPC-SPUG power plants will be released by March 2012. Covering 50 power plants, its projected savings are in the order of 170 MP.

b. A DOE circular prescribing transitory guidelines for generation and distribution reliability will be released by July 2012.

By 2013, a comprehensive technical policy will be emplaced. It will be based on careful and deliberate study by DOE and its attached agencies of NPC-SPUG's operations data and the developments arising from the transitory circulars.

2.2. Monitoring of NPC-SPUG's Performance

DOE will continuously monitor NPC-SPUG's technical performance. A set of parameters required by DOE on a monthly basis was already forwarded to NPC-SPUG. From data to be submitted, quantities such as energy sales variations, running hours, fuel and lube component of loss and lube-fuel ratio will be determined. The results will be compared to benchmarks and interpreted accordingly. DOE will report its findings to the Secretary for incorporation to NPC-SPUG's "scoreboard".

Further, DOE will monitor fuel supply in NPC-SPUG areas on a weekly basis.

3. UCME Rationalization

3.1. NPC-SPUG's UCME Requirements

Except those in the mini-grids, the operating hours of some NPC-SPUG power plants will increase through 2012-2016, enabling the availability of power supply for at least 16 hours on the average (Table 6).

Planned hours	Percent of grids					
Year	2010	2012	2013	2014	2015	2016
24	31%	35%	39%	37%	44%	44%
18-20	9%	8%	4%	5%	8%	12%
12-16	21%	30%	33%	41%	42%	42%
8-10	28%	20%	20%	15%	6%	3%
6	12%	8%	5%	1%	-	-
Average (hours)	13.5	16.0	16.4	16.7	18.4	18.9

Table 6. Planned Operating Hours

While being responsive to the development needs of the areas, such an increase in the operating hours must ensure an improvement of plant performance (as discussed in the preceding section on Technical Efficiency) on two points:

- higher efficiency of power supply in terms of optimization of fuel consumption, and
- higher quality of power supply in terms of reduction of frequency and duration of supply interruptions.

In the mini-grids, NPC-SPUG, as the interim service provider, will maintain its service level to facilitate assumption of the concerned DUs or QTPs.

On the other hand, two transmission projects are emphasized for prioritization because they are urgent and critical to support the private investment in generation capacities by the NPPs in Catanduanes and Masbate: construction of the 69-kV Condon–Virac–Viga line (82 ckm), rehabilitation of the 69-kV Mobo–Aroroy line (49 ckm) and construction of the 69 kV Mobo–Cataingan line (75 ckm).

The corresponding UCME requirements for 2012-2016 for NPC-SPUG's cost of generation including the increase in operating hours are shown in Table 7. Fuel cost accounts for 75% of NPC-SPUG's cost of generation. This means that a substantial shortfall in UCME approval would lead to curtailment of service hours.

Item, BP		2012	2013	2014	2015	2016
A	Fuel Cost	6.72	7.93	9.53	11.03	13.07
B	Payroll	0.76	0.93	0.93	0.93	0.93
C	Maintenance and Other Operating Expenses	1.67	1.95	2.05	2.15	2.26
D=A+B+C	Subtotal Operating Expenses	9.15	10.82	12.51	14.11	16.25
E	Depreciation	0.35	0.34	0.34	0.34	0.34
F=D+E	Cost of Generation	9.50	11.15	12.84	14.45	16.59
G	Estimated Revenue	2.98	3.48	3.60	3.80	4.02
H=F-G	UCME Subsidy	6.52	7.68	9.24	10.65	12.57
	P/kWh Equivalent	0.1007	0.1185	0.1427	0.1644	0.1941

Table 7. UCME Requirements of NPC-SPUG for 2012-2016

The total UCME requirements are shown in Table 8. Capital subsidy for both generation and transmission accounts for 19% of the total requirements. This means that a substantial shortfall in UCME approval would lead to delays in rehabilitation and/or repair of aging generation facilities and construction of transmission lines.

Item, BP	2012	2013	2014	2015	2016
NPC-SPUG Operations	6.52	7.68	9.24	10.65	12.57
NPP and QTP Subsidy	1.52	2.21	2.36	2.48	2.58
Capital Subsidy	1.92	2.44	2.86	3.74	2.37
Total UCME	9.96	12.33	14.46	16.87	17.52
P/kWh Equivalent	0.1538	0.1903	0.2232	0.2605	0.2706

Table 8. Total UCME Requirements for 2012-2016

3.2. Regulatory Support

For transparency and better management of UCME funds, it is highly recommended that ERC itemize its approval of UCME as follows: (1) existing NPC-SPUG operations, (2) capital subsidy, (3) NPP subsidy, and (4) QTP subsidy. It is important that ERC approve of critical CapEx projects in order to implement in a timely basis those projects that will result in a more reliable and adequate electricity supply.

3.3. Other Initiatives to Rationalize the UCME

In consultation with the ERC, the DOE plans to implement some enhancements in the existing policies to rationalize the UCME and while providing better electricity services in missionary areas. These are as follows:

3.3.1 Implementation of Subsidy Graduation Program

DOE will initiate graduation from UCME subsidy as prescribed in DC 2004-01-001, in coordination with ERC. Higher rates will merit complaints from end-users but not so much when coupled with increased reliability. This was evident from DOE's field inspection of barangay-operated diesel generators in Cagbalete Island, Mauban, Quezon where residents pay as much as 55 P/kWh for a mere seven hours of service. Therefore, this program will go hand in hand with technical policies on reliability and require utmost study and even coordination with the National Economic and Development Authority.

Most importantly, the consumers themselves, through DUs and LGUs, will be educated on the difficult realities inherent to SIIG generation. They will be made to understand that NPC-SPUG runs on limited funds and that non-graduation from subsidy will continue to impact the economy as a whole.

3.3.2 Implementation of Inter-class Subsidy Within the Same SIIG

Subsidy graduation will not be abruptly felt by residential consumers with low consumption in SIIGs. They will be subsidized by consumers with high electricity consumption through the implementation of inter-class subsidy. DOE envisions studying the rates to be applied as a function of monthly consumption and initiate implementation in coordination with the consumers.

3.3.3 Incentives for Renewable Energy in SIIGs

Republic Act No. 9513, the Renewable Energy (RE) Law, mandates that RE developers in missionary areas shall be entitled to a cash generation-based incentive chargeable against UCME. In line with this, on 22 August 2011, ERC passed Resolution No. 2011-21 where it amended the guidelines for the setting and approval of rates and subsidies for missionary areas. ERC prescribed that NPC-SPUG should include cash incentives to its UCME petitions.

The formula for cash incentive is given by,

50% of (TCGR - SAGR) x generated kWh.

In the interest of rationalizing UCME, DOE provides the following policy directions to guide ERC on the manner of implementation:

a. Backed up by a concrete study, a BNE rate that will serve as cap for TCGR shall be established for each RE type and installed capacity to prevent abuse of cash incentive. If possible, this should be done before RE developers participate in CSP.

b. SAGR for all SIIGs that will employ RE resources with TCGR > SAGR shall automatically increase by a certain rate to be determined by ERC from start of operations. This is to lessen the impact of cash incentives to the national consumer base.

c. The “generated kWh” factor in the formula shall refer to the energy sales, not the gross generation. This is to ensure that RE developers operate in the most effective manner.

4. Future Roles of NPC-SPUG

This is to provide clarity to NPC-SPUG's future roles, taking into account that generation in some SIIGs will be assumed by the private sector. NPC-SPUG may then plan ahead with less uncertainty especially regarding its human resource management.

4.1. Financial

NPC-SPUG shall remain the UCME petitioner to ERC. As applicable, NPC-SPUG shall adjust its TCGR to more accurately reflect the generation cost.

NPC-SPUG shall remain the disburser of UCME to NPPs and QTPs. In accordance with Section 3.2, it is recommended that separate trust funds be created for the following specific uses: (1) existing NPC-SPUG operations, (2) NPP subsidies, and (3) QTP subsidies. This is to ensure greater transparency and clear accounting of public funds, i.e., UCME subsidy.

4.2. Large NPC-SPUG Areas

NPC-SPUG is expected to cease generation functions in dispatchable[9] FWAs. However, in accordance with the Small Grid Guidelines being drafted by DMC as of this writing, NPC-SPUG will only be the System Operator in large SIIGs, especially as there will be multiple generators. This is in view of the legal and ownership issues in many NPC-SPUG areas where DUs own and operate the electricity distribution system.

4.3. Medium NPC-SPUG Areas

For SIIGs Casiguran, Polilio, Cuyo, Basco, Roxas, Ticao, Dinagat, and Kalamansig which form the first half of the 15 SWAs, NPC-SPUG is expected to cease generation functions within the next five years as these have a high probability of being taken over by NPPs in the same manner as large areas.

As adopting the business franchising model is being explored by DOE for some medium SIIGs, NPC-SPUG may reasonably expect to provide technical support to incoming NPPs which will probably be small players. SIIGs Rapu-Rapu, Tingloy, Taytay, San Vicente, Siasi, El Nido, and Lubang which form the second half of the SWAs, will most likely be under the private sector for the next five years under the business franchising scheme. NPC-SPUG will provide management and operations training to NPP personnel for at most a year after NPP takeover.

[9] Not all FWAs are reasonably expected to be taken over by NPPs, specifically the Tawi-Tawi and Sulu (Jolo) SIIGs.

4.4. Small NPC-SPUG Areas

Within the next five years, it is envisioned that NPC-SPUG will have no more participation in Small B Areas, while continuing to provide generation service to Small A Areas. Further, it is best that NPC-SPUG should no longer assume responsibilities in or take over areas where it does not currently operate.

In the case of the PRES Project, NPC-SPUG is enjoined to accelerate the appointment of a QTP and limit itself in the monitoring of the QTP performance in the areas as well as eventual payments of loans under the Filipino-French Protocol.

5. Expectations from Stakeholders

The mandate provided by EPIRA to NPC-SPUG as the government-owned and controlled corporation that will perform the missionary electrification function entails it to be the principal implementer of the MEDP. However, NPC-SPUG cannot perform in isolation and will need the cooperation and support of the ERC, NEA and DOE.

The 2012 MEDP recognizes the contribution of these agencies in meeting its goals and objectives.

5.1. ERC

As the rate-making authority, ERC is expected to rationalize UCME subsidy through the following:

a. Approval of an adequate amount of subsidy to ensure sustainable and cost-effective NPC-SPUG operations.

b. Transparent allocation of subsidy for each SIIG with equitable treatment to NPC-SPUG, NPPs, and QTPs.

c. Regulatory support to subsidy graduation and inter-class subsidy through programmed increases in SAGR.

d. Reconsideration on the provision of incentives to RE developers from UCME to preserve the integrity of CSP and minimize UCME burden.

5.2. NEA

In line with its mandate to modernize DUs in the milieu of the restructured electric power industry, NEA's participation is expected on the following:

a. DUs' competency building on power supply contracting with the private sector and strategic planning for least cost and technology-neutral generation development.

b. Crafting of technical guidelines on distribution reliability with DOE.

c. Establishment and strengthening of BAPAs by providing technical and financial assistance to enable them to take over small B areas.

d. Promotion of the subsidy graduation and inter-class subsidy programs.

5.3. DOE

DOE is mandated by EPIRA to supervise the restructuring of the electricity industry and to ensure adequate supply of electricity. In the interest of national development, DOE shall ensure that the conditions prevailing in missionary areas are improved.

Therefore, let this MEDP serve to reaffirm DOE's commitment to develop missionary areas by providing clear policy directions, promoting transparency, and ensuring good governance in the provision of missionary electrification services. DOE is appreciative of and highly encourages constructive criticism from industry participants but expects utmost cooperation from all stakeholders of missionary electrification.

Appendix

List of NPC-SPUG's Power Plants

Sector	Plant	2011 Gross MWh	Class
Occidental Mindoro	PB 106	29181.39	LARGE
	PULANG LUPA DPP	15764.37	LARGE
Oriental Mindoro	CALAPAN RENTAL	111189.4	LARGE
	MAMBURAO DPP	13593.86	LARGE
Palawan	EL NIDO DPP	2713.617	MEDIUM
	IRAWAN 15MW MODULAR	13876.46	LARGE
	RIZAL DPP	486.814	SMALL
	ROXAS DPP	4948.664	MEDIUM
	SAN VICENTE DPP	1618.151	MEDIUM
	TAYTAY DPP	1488.185	MEDIUM
Catanduanes	BALONGBONG HEPP	5810.112	LARGE
	MARINAWA DPP	9570.077	LARGE
	PB 110	385.06	LARGE
	VIGA DPP	248.599	LARGE
Masbate	MASBATE DPP	35.655	LARGE
Marinduque	BOAC DPP	13107.73	LARGE
	PB 120	22700.36	LARGE
	TORRIJOS DPP	61.001	LARGE
Tablas	TABLAS DPP	19610.39	LARGE
Romblon	PB 109	2361.423	LARGE
	PB 114	4034.474	LARGE
	ROMBLON DPP	1518.884	LARGE
Camotes	CAMOTES DPP	7293.494	LARGE
Siquijor	PB 113	3643.188	LARGE
	PB 116	1339.052	LARGE
	SIQUIJOR DPP	10005.13	LARGE
Tawi-Tawi	BONGAO DPP	2569.519	LARGE
	PB 108	11836.64	LARGE
Basilan	BASILAN DPP	11776.25	LARGE
	PB 119	21001.29	LARGE
Sulu	JOLO DPP	38777.45	LARGE
Catanduanes / Masbate	BATAN DPP	440.778	SMALL
	RAPU-RAPU DPP	1243.359	MEDIUM
	TICAO DPP	5370.137	MEDIUM
Marinduque / Quezon / N. Luzon	BASCO DPP	4463.424	MEDIUM
	CALAYAN DPP	247.614	SMALL A
	CASIGURAN DPP	2961.825	MEDIUM
	ITBAYAT DPP	345.732	SMALL A
	JOMALIG DPP	208.002	SMALL A
	KABUGAO DPP	614.518	SMALL A
	LUBUAGAN DPP	306.059	SMALL A
	PALANAN DPP	30.988	SMALL A
	PATNANUNGAN DPP	424.819	SMALL A
	POLILIO DPP	3412.033	MEDIUM
	SABTANG DPP	295.621	SMALL A
Mindoro / Romblon	BANTON DPP	283.565	SMALL A
	CABRA DPP	47.791	SMALL B

Sector	Plant	2011 Gross MWh	Class
	CONCEPCION DPP	331.674	SMALL A
	CORCUERA DPP	659.846	SMALL A
	LUBANG DPP	2828.623	MEDIUM
	PALUAN DPP	802.887	SMALL A
	SAN JOSE DPP	512.269	SMALL A
	SIBUYAN DPP	833.439	SMALL A
	TINGLOY DPP	1376.55	MEDIUM
Palawan Area	AGUTAYA DPP	147.851	SMALL A
	ARACELI DPP	342.184	SMALL A
	BALABAC DPP	297.791	SMALL A
	BUSUANGA DPP	9427.039	LARGE
	CAGAYANCILLO DPP	184.85	SMALL A
	CULION DPP	964.495	SMALL A
	CUYO DPP	4051.197	MEDIUM
	LINAPACAN DPP	160.247	SMALL A
E. Visayas	ALMAGRO DPP	140.324	SMALL A
	BIRI DPP	588.912	SMALL A
	CAPUL DPP	361.643	SMALL A
	LIMASAWA DPP	310.996	SMALL A
	MARIPIPI DPP	485.422	SMALL A
	PILAR DPP	869.264	SMALL A
	SAN ANTONIO DPP	795.447	SMALL A
	SAN VICENTE DPP	128.654	SMALL A
	STO. NINO DPP	135.386	SMALL A
	TAGAPUL-AN DPP	125.04	SMALL A
	ZUMARRAGA DPP	982.897	SMALL A
W. Visayas	CALUYA DPP	889.598	SMALL A
	DOONG DPP	245.753	SMALL A
	GIGANTES DPP	180.264	SMALL A
	GUINTARCAN DPP	160.452	SMALL A
E. Mindanao	ABAD SANTOS DPP	527.96	SMALL A
	BALUT DPP	315.512	SMALL A
	DINAGAT DPP	8009.735	MEDIUM
	HIKDOP DPP	169.264	SMALL A
	KALAMANSIG DPP	8981.809	MEDIUM
	LORETO DPP	1003.892	SMALL A
	NINOY AQUINO DPP	853.959	SMALL A
	PB 111	1189.352	MEDIUM
	TALICUD DPP	472.438	SMALL A
W. Mindanao	BALIMBING DPP	277.166	SMALL A
	CAG.DE TAWI0TAWI DPP	528.014	SMALL A
	LUUK DPP	444.881	SMALL A
	MANUK MANKAW DPP	140.84	SMALL A
	SIASI DPP	2619.651	MEDIUM
	SIBUTU DPP	355.56	SMALL A
	SITANGKAY DPP	437.634	SMALL A
	TANDUBANAK DPP	279.547	SMALL A
	TANDUBAS DPP	171.511	SMALL A
	WEST SIMUNUL DPP	426.091	SMALL A
Masbate Mini-grids	BURIAS DPP	248.609	SMALL A

Sector	Plant	2011 Gross MWh	Class
	CHICO DPP	32.918	SMALL B
	GILOTONGAN DPP	93.948	SMALL A
	GINAWAYAN DPP	30.14	SMALL B
	HAPONAN DPP	22.749	SMALL B
	LAHUY DPP	63.215	SMALL A
	NABUCTOT DPP	21.397	SMALL B
	PENA DPP	38.052	SMALL B
	QUINALASAG DPP	90.663	SMALL A
Camiguin Mini-grids	BALATUBAT DPP	44.328	SMALL B
	MINABEL DPP	14.857	SMALL B
Marinduque Islets	MANIWAYA DPP	35.534	SMALL B
	MONGPONG DPP	40.068	SMALL B
	POLO DPP	24.538	SMALL B
E. Visayas Mini-grids	BIASONG DPP	20.591	SMALL B
	CABUNGAAN DPP	29.708	SMALL B
	COSTA RICA DPP	23.455	SMALL B
	ILIJAN DPP	18.992	SMALL B
	LUNANG DPP	26.048	SMALL B
	TAKUT DPP	75.543	SMALL A
W. Visayas Mini-grids	BAGONGBANWA DPP	22.739	SMALL B
	BALICASAG DPP	37.404	SMALL B
	BATASAN DPP	26.697	SMALL B
	BILANGBILANGAN DPP	7.883	SMALL B
	CABILAO DPP	167.68	SMALL A
	CUAMING DPP	58.84	SMALL A
	HAMBONGAN DPP	12.228	SMALL B
	MANTATAO DPP	21.307	SMALL B
	MOCABOC DPP	12.411	SMALL B
	PAMILACAN DPP	36.628	SMALL B
	PANGAPASAN DPP	14.05	SMALL B
	UBAY DPP	6.454	SMALL B
Antique Mini-grids	BATBATAN DPP	17.94	SMALL B
	GUIWANON DPP	23.335	SMALL B
	SIBOLO DPP	14.677	SMALL B
E. Mindanao Mini-grid	PALIMBANG DPP	155.7026	SMALL A
W. Mindanao Mini-grid	SACOL DPP	102.038	SMALL A
PRES Mini-grids	AGUADA	12.746	PRES
	ALTA VISTA	4.676	PRES
	AMUTAG MGE1	10.103	PRES
	AMUTAG MGE2	6.504	PRES
	BAANG (MOBO)	4.706	PRES
	BAAO	3.83	PRES
	BACOLOD MGE3 (JAMORAWON)	7.251	PRES
	BALAWING	1.921	PRES
	BALETE (ARAROY)	11.406	PRES
	BANTIGUE	11.793	PRES
	BARA MGE1	10.747	PRES
	BARA MGE2	10.352	PRES
	BARA MGE3	3.993	PRES
	BOLO MG1	11.853	PRES

Sector	Plant	2011 Gross MWh	Class
	BOLO MG2	11.033	PRES
	BOLO MG3	10.617	PRES
	BONIFACIO MGE1	7.26	PRES
	BONIFACIO MGE2	2.06	PRES
	BUGTONG (MANDAON)	10.788	PRES
	BUGTONG (PIO CORPUS)	10.622	PRES
	BURACAN	6.227	PRES
	BURI MGE1	5.204	PRES
	CABANGCALAN (AROROY)	10.499	PRES
	CABANGCALAN (PLACER)	6.151	PRES
	CABASOAN	4.691	PRES
	CABAYUGAN MGE1	7.817	PRES
	CABAYUGAN MGE2	3.061	PRES
	CAGMASOSO MGE1	10.456	PRES
	CALANAY MGE1	10.759	PRES
	CALANAY MGE2	2.599	PRES
	CALASUCHE	8.859	PRES
	CALUMPANG MGE1 (CAWAYAN)	3.647	PRES
	CALUMPANG (MILAGROS)	10.175	PRES
	CALUMPANG (PLACER)	3.432	PRES
	CAMPANA	2.518	PRES
	CANDELARIA MGE1	6.076	PRES
	CANDELARIA MGE2	6.652	PRES
	CANTIL MGE1	12.767	PRES
	CANTIL MGE2	4.49	PRES
	CANTIL MGE3	5.628	PRES
	CANTIL MGE4	5.016	PRES
	CAWAYAN EXT. (BEL-AT)	7.256	PRES
	CAWAYAN EXT. (POB)	9.848	PRES
	CONCEPTION (AROROY)	5.029	PRES
	COSTA RICA (BATUAN)	9.394	PRES
	DANAO MG2 (SAN JACINTO)	8.836	PRES
	DAYHAGAN MGE1	5.505	PRES
	DAYHAGAN MGE2	5.26	PRES
	DIOTAY	11.873	PRES
	DOCOL	4.488	PRES
	DON PABLO	9.109	PRES
	GUINLUTHANGAN MGE1	11.157	PRES
	GUINLUTHANGAN MGE2	5.091	PRES
	GUMAHANG MGE1	10.81	PRES
	GUMAHANG MGE2	4.956	PRES
	GUMAHANG MGE3	4.1	PRES
	IRAYA	6.04	PRES
	ITOMBATO	5.681	PRES
	JINTOTOLO MGE1	10.63	PRES
	JINTOTOLO MGE2	8.817	PRES
	JINTOTOLO MGE3	5.03	PRES
	LANANG (AROROY)	6.981	PRES
	LANTANGAN MGE1	10.528	PRES
	LANTANGAN MGE2	3.466	PRES

Sector	Plant	2011 Gross MWh	Class
	LIBTONG	2.994	PRES
	LOCSOAN	8.845	PRES
	LOOC	10.646	PRES
	LUNA MGE1 (PLACER)	10.155	PRES
	LUNA MGE2 (PLACER)	5.328	PRES
	LUNA MGE3 (PLACER)	7.207	PRES
	LUNA (SAN JACINTO)	6.884	PRES
	MABUHAY	4.759	PRES
	MACABUG MGE1	7.903	PRES
	MADAMBA MGE1	11.306	PRES
	MADAMBA MGE2	3	PRES
	MAGBALON	6.423	PRES
	MAGCARAGUIT MGE1	5.821	PRES
	MAGCARAGUIT MGE2	6.337	PRES
	MAGCARAGUIT MGE3	6.781	PRES
	MAGSALANGI	3.79	PRES
	MAHAYAHAY	1.485	PRES
	MARIPOSA	6.637	PRES
	MATABA	11.963	PRES
	MATABAO (BATUAN)	4.898	PRES
	MATAGBAK	8.065	PRES
	MATALANGTALANG	9.587	PRES
	MATAYUM MGE1	10.304	PRES
	MATAYUM MGE2	7.227	PRES
	MATAYUM MGE3	4.961	PRES
	MATONGOG MGE1	5.48	PRES
	MATONGOG MGE2	3.644	PRES
	NADAWISAN	3.659	PRES
	NAGARAO	10.247	PRES
	OSMENA	4.367	PRES
	PAMANGPANGON	8	PRES
	PANANAWAN MGE1	8.044	PRES
	PANANAWAN MGE2	4.643	PRES
	PANGLE	5.992	PRES
	PEÑA(CAWAYAN)	3.417	PRES
	PINANAAN (AROROY)	8.399	PRES
	PITOGO MGE1	3.935	PRES
	PITOGO MGE2	3.36	PRES
	POBLACION MGE1 (JAMORAWON)	4.724	PRES
	POLO DACU MGE1	10.48	PRES
	RIZAL (BATUAN)	4.599	PRES
	SAN AGUSTIN MGE1	10.786	PRES
	SAN AGUSTIN MGE2	4.573	PRES
	SAN ANDRES (BALUD)	4.115	PRES
	SAN ANTONIO MGE1	10.728	PRES
	SAN ANTONIO MGE2	4.669	PRES
	SAN ANTONIO (MILAGROS)	2.856	PRES
	SAN CARLOS (MILAGROS)	5.048	PRES
	SAN ISIDRO (AROROY)	8.53	PRES
	SAN JOSE (USON)	10.651	PRES

Sector	Plant	2011 Gross MWh	Class
	SAN RAFAEL (CATAINGAN)	5.94	PRES
	SAN ROQUE MGE1	3.894	PRES
	SAN VICENTE (USON)	6.27	PRES
	SAPATOS	6.588	PRES
	SAWANG MG1	7.465	PRES
	SAWANG MG2	5.12	PRES
	SAWMILL MGE1 (MILAGROS)	1.819	PRES
	SAWMILL MGE2 (MILAGROS)	4.458	PRES
	SAWMILL (MOBO)	6.901	PRES
	SOROSIMBAJAN MGE1	4.797	PRES
	SOROSIMBAJAN MGE2	5.976	PRES
	STO NINO (MONREAL)	9.041	PRES
	SYNDICATE	8.426	PRES
	TAGBON (MILAGROS)	8.418	PRES
	TALIB MGE1	5.751	PRES
	TALIB MGE2	6.973	PRES
	TAN0AWAN	7.73	PRES
	TIGBAO MGE1 (AROROY)	10.863	PRES
	TIGBAO MGE1 (MILAGROS)	6.218	PRES
	TIGBAO MGE2 (AROROY)	4.452	PRES
	TIGBAO MGE2 (MILAGROS)	10.568	PRES
	TIGBAO MGE3 (AROROY)	5.792	PRES
	TIGBAO MGE3 (MILAGROS)	5.27	PRES
	TIGBAO MGE4 (AROROY)	4.299	PRES
	TIGBAO MGE4 (MILAGROS)	5.094	PRES
	TIGBAO MGE5 (MILAGROS)	3.952	PRES
	TINIGBAN MGE1	5.358	PRES
	TINIGBAN MGE2	9.607	PRES
	TINIGBAN MGE3	10.437	PRES
	TINIGBAN MGE4	5.429	PRES
	TITONG DPP (MG1)	10.923	PRES
	TITONG DPP (MG2)	7.87	PRES
	TONGA	6.02	PRES
	TUBOD MGE4 (JAMORAWON)	5.376	PRES
	TUGBONGAN MGE2 (JAMORAWON)	5.46	PRES
	TUMALAYTAY MGE1	7.967	PRES
	TUMALAYTAY MGE2	7.935	PRES
	TUMALAYTAY MGE3	3.888	PRES
	UBONGAN DACU	5.976	PRES
	YANGCO	10.41	PRES