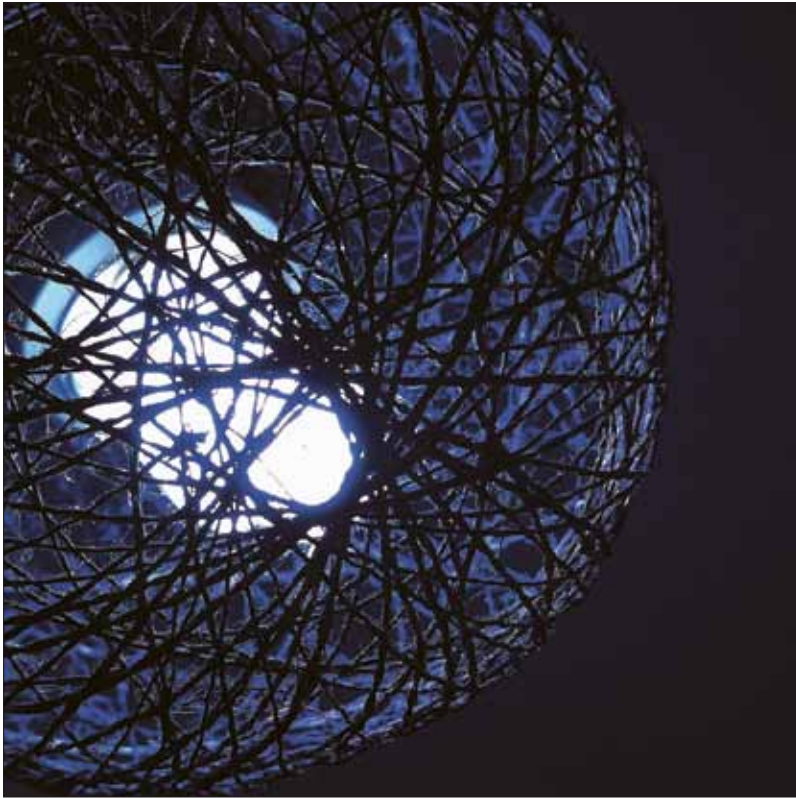


Coalescence

WESM Market Report
July 2010-June 2011



**Wholesale Electricity
Spot Market**



*Photo by Ma. Victoria C. Que

Coalescence

As the power industry moves closer to full open access, all the major players are coming together and working as one body in order to supply efficient, affordable, and reliable electricity to influence the development and growth in the country. This coalescence of the power industry is made possible by the existence of the WESM, which serves as a venue – a melting pot – of generation, transmission, and distribution. The harmonious relationships between these entities and governing bodies act as a guiding light, which drives the industry forward.

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MESSAGE FROM THE CHAIRMAN



A stylized, handwritten signature in dark ink, appearing to read 'JRM' followed by a flourish.

Jose Rene D. Almendras
Chairman

With the hopes of putting an end to short-term, band-aid solutions in the power industry, the Department of Energy came up with a framework intended to start a good direction, a solid and sound base upon which future strategic solutions will originate from, while recognizing the current difficulties that the sector is facing. Thus, we formulated the Energy Reform Agenda (ERA).

The next hurdle now is for the realization of the ERA, while always being mindful of aligning it to the original goals of the Electric Power Industry Reform Act or the EPIRA. This is where the Wholesale Electricity Spot Market or WESM comes in as a vital tool in mobilizing the power industry in the right direction.

In the past five (5) years, the WESM has played an important part in the evolution of the country's power sector, serving a pivotal role in assuring investors to venture in the Philippines by simply ensuring that a transparent, consistent electricity spot market is in place. Moreover, the WESM has brought together the industry – generation, transmission, and distribution sectors – in working as one in achieving energy security for the nation. The

successful launch of the WESM in the Visayas last December further makes the market a testament to how the entire power sector can come together in an efficient and transparent manner to ultimately benefit the consumers.

However, we have to keep in mind that inasmuch as the WESM has brought the electric power industry together, it is important to be constantly aware that the market is a neutral venue and may only be good as the players that take part in it. Highest ethical standards, fair play and transparency are critical rules that all market participants should uphold and practice at all times. With this, I encourage all members of the power sector to give their unwavering support for the interminable growth of the WESM.

With that, it is with great pride that I congratulate the men and women of the Philippine Electricity Market Corporation for the successful five-year run of the Wholesale Electricity Spot Market!

Mabuhay po kayong lahat!

MESSAGE FROM THE PRESIDENT




Melinda L. Ocampo
President

The Wholesale Electricity Spot Market: a market characterized by the coming together of distinct industry players at a junction where economic forces come alive, and electricity is pooled and openly traded as a commodity at the wholesale level. From the outside perspective, the WESM may appear as a decidedly complex concept. Indeed, it takes time and genuine dedication to fully understand the inner workings of the market. But without the collaborative effort from everyone in the power industry right from the very beginning, it is hard to imagine that the WESM would have become the dynamic and thriving market it is now. To send my point across, allow me to specifically look back at the year that was.

The year 2010 started out a little rough, with the supply shortfalls that persisted throughout the first quarter, and the price spikes that came as a result of the shortages. Inasmuch as these events led to difficult times for our country, 2010 finally saw the realization of a goal of the power industry restructuring: the kickoff of WESM commercial operations in the Visayas and the integration of the Luzon and Visayas regions into a single market.

Of course, a degree of skepticism cannot be helped when such a monumental undertaking takes place. Many of our stakeholders in Visayas especially expressed apprehensions about proceeding with the initiative. But the beauty of a dynamic and stakeholder-oriented structure such as the WESM is that everyone

has a voice. In this instance, constructive discourse indeed took place. Months of trainings, consultations and constant coordination with industry players and market participants have allowed everyone to fuse together and make this a tangible reality.

In the course of integrating the regions, many adjustments have had to be made. Among the notable adjustments is the regional application of several price substitution methodologies in view of the different situations confronting the Luzon and the Visayas grids. Other areas we are currently looking at are the line rental issues being raised by the Visayas participants. In view of the different physical designs of the Visayas grid, PEMC has encountered situations that have never arisen in the Luzon grid.

In the meantime, I can say that the results of our efforts have so far been on the positive side. The opening of the WESM in the Visayas has created a venue for the trading of excess capacities, and has also encouraged players to put up new plants. Market outcomes confirm improvements in overall power supply, and a reduction in manual load dropping and other power curtailments in the region. The “un-fixing” of the HVDC flow, which has allowed HVDC levels to freely pass through from one region to the other, has also been beneficial. Of course, there are still many things that need to be ironed out. It is for this reason that one of our main priorities at present is to continuously refine our systems and procedures to guarantee the complete integration of the Visayas region into WESM operations. To this end, we appeal to our participants to assure us of their continued support of the WESM and of PEMC’s endeavors to achieve its goals.

Indeed, the market outlook seems to be moving in an encouraging direction, as there are a number of upcoming initiatives that are poised to further boost the market. For one, PEMC is looking to replace the existing market infrastructure, the Market Management System (MMS), to address hardware obsolescence and implement enhancements which are intended to address participant needs and compliance requirements, and to adopt current technologies to ensure better system performance and security. There is also the plan to offer and institutionalize a number of additional services as an offshoot of PEMC’s mandate to administer and oversee the WESM.

Building on this momentum, PEMC eagerly anticipates the ushering in of more large-scale reforms and initiatives within the power industry. Retail competition and open access, as well as the renewable energy market, particularly come to mind. PEMC expects that when these initiatives finally enter the picture, the WESM will play an important role. Of what nature these roles will be is undetermined at this point, but our stakeholders can trust that PEMC will continue to uphold the highest level of integrity and efficiency in whatever tasks it may assume in the future.

On that note, I wish to express my gratitude to the PEM Board and the governance committees for the commitment they have demonstrated this past year. Effective governance is definitely something any market would want to leverage on. Between the ongoing market monitoring efforts, the dispute resolution proceedings, the evaluation and implementation of much-needed rules changes, and the conduct of necessary audits and reviews, the governance committees have been quite busy indeed. I

would like to think that it is through effective governance that a truly healthy and prosperous market is ensured. Plus, if our market is ever to stand a chance of being at par with its counterparts abroad, we have to ensure that all oversight activities are carried out effectively.

One thing unique about our present governance structure, and about how the WESM works in general, is that it is represented by all sectors of the industry and this coalescence of sectors coming from across all fronts may very well be the industry’s greatest strength for now. Indeed, a well-oiled machine will not work when even just one of its components is missing or is not working. If you have been in this industry for a fair amount of time, you would know by now that everyone is interconnected in one way or another. Every sector has a significant role in bringing the industry to new heights. I am therefore confident that with the WESM serving as backdrop, and with five years under our belt, we can continue to set the stage for all stakeholders to join forces and coalesce at a time where together, we can truly push for progress within the power industry and beyond.



WESM Overview

BRIEF HISTORY

The establishment of the Wholesale Electricity Sport Market (WESM) is part of the package of electric power industry reforms mandated in Republic Act No. 9136, or the Electric Power Industry Reform Act of 2001, signed into law on 08 June 2001.

The Philippine Department of Energy (DOE) was mandated by law to establish the Wholesale Electricity Spot Market (WESM) and, jointly with the electric power industry participants, to formulate the detailed rules that will govern the conduct of the WESM. The WESM Rules were promulgated on June 2002, a year after the enactment of the EPIRA.

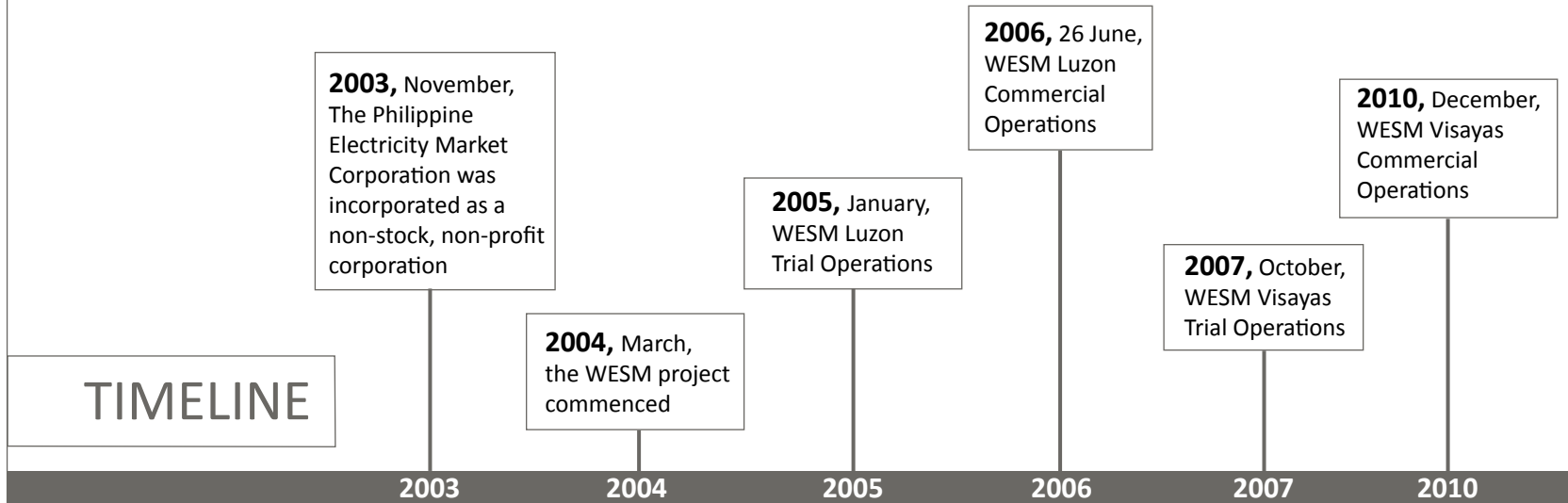
In November 2003, the Philippine Electricity Market Corporation (PEMC) was incorporated as a non-stock, non-profit corporation, and was designated the following year, in August 2004, to serve as the autonomous group market operator (AGMO) that will undertake the preparations for and the initial operations of the WESM.

After several months of trial operations, the WESM commenced commercial operations in the Luzon grid on 26 June 2006. Four years into the commercial operations in Luzon, the Visayas grid was integrated into the WESM and commenced commercial operations on 26 December 2010.

WESM OBJECTIVES

The objectives of the WESM are expressed in the WESM Rules. It is primarily to establish a competitive, efficient, transparent and reliable market for electricity where:

- a) A level playing field exists among WESM Participants;
- b) Trading of electricity is facilitated among WESM Participants within the spot market;
- c) Third parties are granted access to the power system in accordance with the EPIRA;
- d) Prices are governed as far as practicable by commercial and market forces; and
- e) Efficiency is encouraged.



FEATURES OF THE WESM

The WESM serves as a venue for the centralized scheduling of generation and supply of electricity through the Luzon and Visayas grids for determining prices of un-contracted quantities and the settlement of spot market transactions.

The WESM is a real-time, bid-based and hourly market for energy and, eventually for reserves¹. It operates as a gross pool and net settlement market where all electricity supplied through the Luzon and Visayas grids are scheduled regardless of whether or not they are covered by bilateral contracts, but quantities covered by bilateral contracts are netted out of the WESM settlements to be settled between the contracting parties outside of the WESM.

The WESM operates around the following principles:

- a) The WESM adopts the gross pool concept where each generator submits offers for both price and quantity for energy for central scheduling and dispatch, while customers may also submit demand bids. The generator offers are matched with system demand requirements, taking into account system conditions and security requirements to arrive at a security-constrained economic dispatch. Once reserves are traded in the WESM, the principle of co-optimization of energy and reserves will likewise be applied.

- b) The WESM adopts the principle of self-commitment whereby participants assume full responsibility for how and when their plants are operated.
- c) The WESM adopts locational pricing to provide the correct economic signals to market participants when they properly account for the economic impact of losses and constraints that result from the operation of the electricity network.
- d) The WESM adopts a full nodal pricing regime for both generation and customers. Nodal pricing is a mechanism for revealing, at different points in the system, the cost incurred to ensure sufficient power flows to meet all loads in all locations.
- e) The WESM adopts the scheme of ex-ante and ex-post pricing to account for discrepancies between planned (ex-ante) and actual outcomes (ex-post).

WESM trading can be illustrated in four basic steps. The first step is where the offers of the generators and demand bids of customers are submitted to the system on an hourly basis. The second step involves scheduling, where the WESM Market Management System (MMS) matches generation offers with demand, while taking into consideration the system conditions. It then comes up with a schedule of generation quantities to be dispatched with prices at each location. The third step, the dispatch, involves the System Operator implementing the dispatch schedule. Finally, the last step is the settlement, where participants settle their transactions through the WESM settlement system or among themselves for quantities covered by bilateral contracts.

¹ Trading of reserves in the WESM has not yet commenced.



WESM STRUCTURE

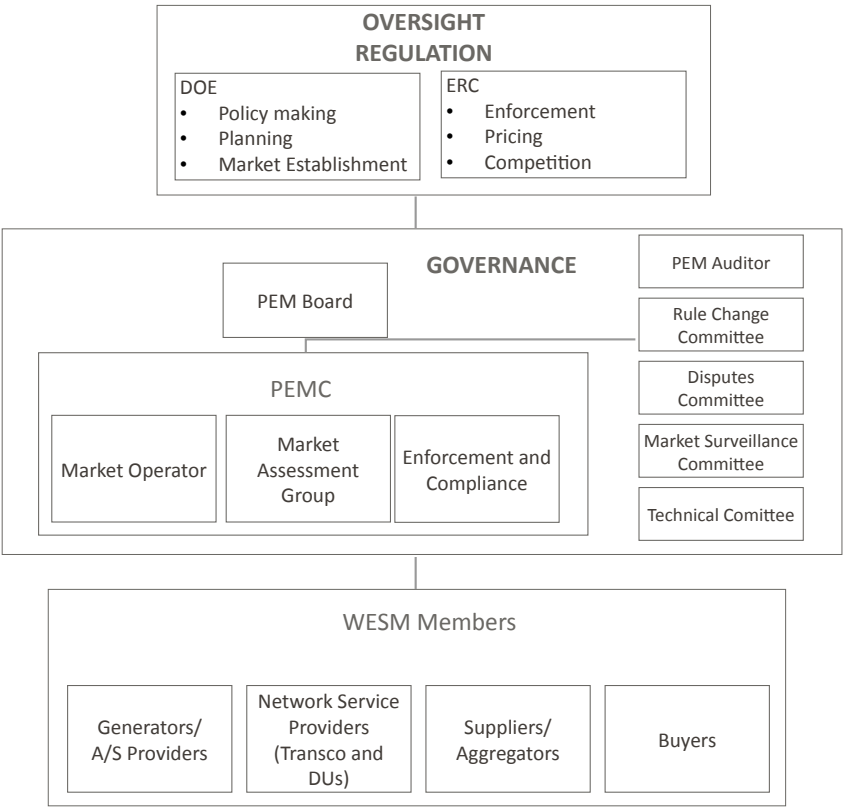
The **Department of Energy** is the government agency mandated to supervise the restructuring of the power industry, including the establishment of the WESM. It is primarily responsible for energy policy making and planning, and formulates and updates the Philippine Energy Plan and the Philippine Power Development Plan. In the WESM, it is responsible for the formulation of the WESM Rules and changes thereto, jointly with the industry participants.

The **Energy Regulatory Commission** is a quasi-judicial regulatory body with the mandated function of promoting competition, encouraging market development, ensuring customer choice and penalizing abuse of market power. In relation to the WESM, it approves the price determination methodology to be employed in the WESM, and enforces the rules and regulations governing operations of the WESM and the activities of market operator and market participants for the purpose of ensuring greater supply and rational pricing of electricity.

Philippine Electricity Market Board. The WESM is governed by the Philippine Electricity Market Board (“PEM Board”). Chaired by the Secretary of Energy, the PEM Board is a 15-member body consisting of an equitable representation from the power industry sectors and independent members. Membership in the PEM Board consists of (a) four representatives from the generation sector, (b) four representatives from the distribution utilities with two representing the electric cooperatives and two representing the private distribution utility, (c) one representative from the supply sector, (d) one representative from the transmission sector, (d) one representative from the Market Operator and (e) four independent members.

WESM Governance Committees. Governance of the WESM is supported by several committees, namely, the Rules Change Committee, the Market Surveillance Committee, the Technical Committee, the PEM Auditor and the Dispute Resolution Group and Dispute Resolution Administrator. These Committees are appointed by the PEM Board. Except only for the Rules Change Committee, the members of the Committees are independent of the industry participants. The composition of the Rules Change Committee, meanwhile, mirrors that of the PEM Board, which is composed of independent members and an equitable representation from among the industry participants.

The **Philippine Electricity Market Corporation** was constituted as the autonomous group market operator (AGMO), and as such performs the Market Operator functions in the WESM. Eventually, the market operator functions will be transferred to an independent market operator (IMO), which shall be formed in accordance with the requirements of the EPIRA and its implementing rules. PEMC also serves as the



governance arm of the WESM, with its Board of Directors as the PEM Board. The performance of its governance function is supported by two units within PEMC, namely, the Market Assessment Group (MAG) and the Enforcement and Compliance Office (ECO), which are mandated to implement market monitoring and assessment, and to conduct investigations for breach, respectively. The MAG also serves as the secretariat to the various WESM Committees.

System Operator. The National Grid Corporation of the Philippines (NGCP) serves as the System Operator. The NGCP is the company that was awarded the concession to operate and maintain the Philippine transmission system, and as such, serves as the System Operator. In the WESM, it is also registered as a wholesale metering services provider.

WESM Members include the trading participants, the ancillary services provider, the metering services provider, the network services provider and the System Operator. The trading participants are the generation companies and the customers. Customers may be distribution utilities, suppliers and bulk users.



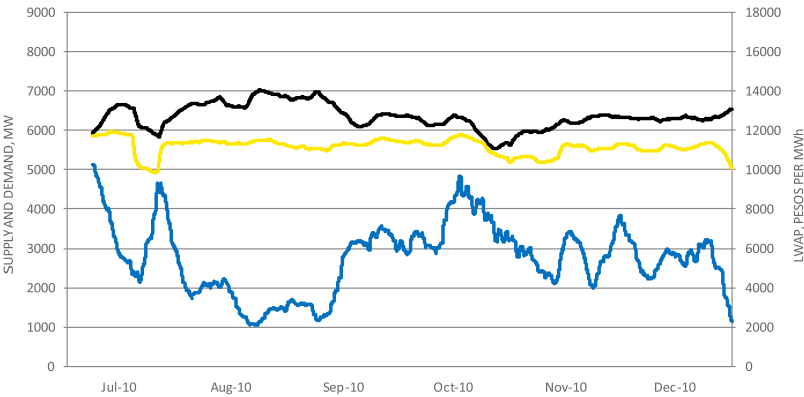
Market Outcomes & Highlights

MARKET PERFORMANCE

		2007	2008	2009	2010	2011 (Jan-Jun)
Peak Demand	System	--	--	--	--	8,849
	Luzon	6,590	6,681	6,932	7,643	7,530
	Visayas	--	--	--	--	1,383
Total Energy Volume, GWh		40,052	41,153	42,168	46,228	26,637
Spot Market Volume, GWh		5,960	5,451	6,180	6,150	1,850
Average Spot Volume, %		15%	14%	15%	14%	7%

Note: 2011 data is inclusive of Visayas

2010 (Luzon)

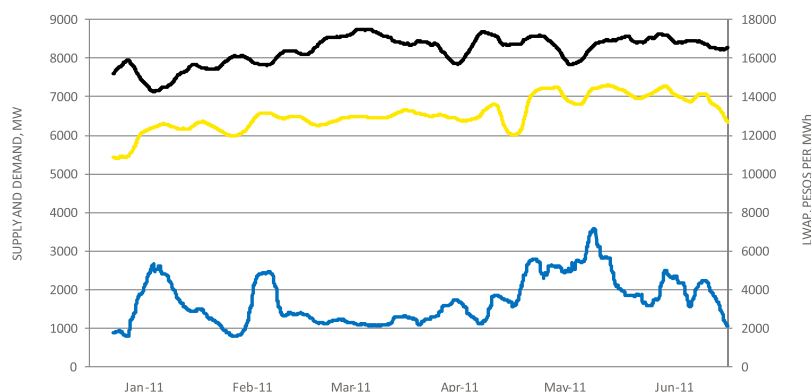
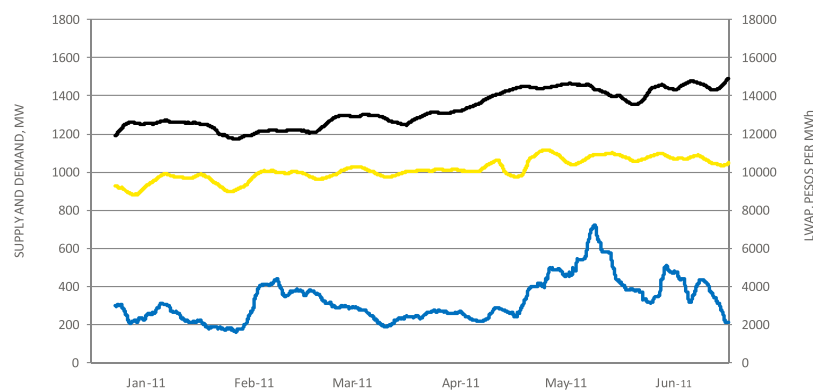
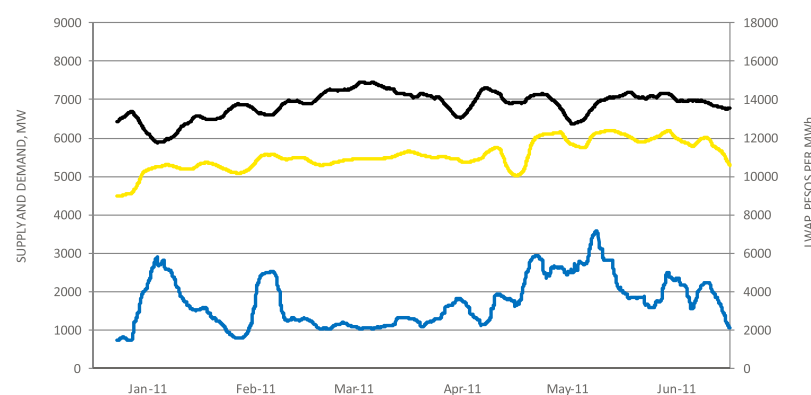


2010 HIGHLIGHTS

The second semester of 2010 was marked by a softening of market prices as the supply and demand margins widened compared to the first semester. Weather played a significant role in the changing conditions between the first and second semesters of the year. The first semester of 2010 saw supply, demand and resulting prices being driven by the effects of the El Niño weather phenomenon. Demand was relatively higher due to the hot weather conditions, while supply was low due to the significant decrease in the output of hydroelectric power plants as low dam water levels prevailed throughout the semester, as well as due to outages of power plants. The effects of the El Niño phenomenon eased during the second semester, resulting in higher rainfall levels and cooler weather.

Market suspension was implemented from 14-16 July 2010 as a result of multiple transmission line and generator trippings in the Luzon grid brought about by the passage of Typhoon Basyang, which resulted in a system-wide blackout.

As part of PEMC’s continued efforts to improve the market operations of the WESM, the exclusion of the contingency list in the ex-post dispatch (RTX) process was implemented on 11 November 2010. As a result, a significant decrease in pricing errors at RTX was experienced since the majority of these were due to contingency constraint violations (CVCs), particularly at the major power substations supplying Metro Manila.

2011 (Luzon)**2011 (Visayas)****2011 (Luzon and Visayas)****2011 HIGHLIGHTS**

The first semester of 2011 saw the successful integration of the Visayas grid into the WESM. The Department of Energy declared the commencement of commercial operations of the WESM in the Visayas beginning 26 December 2010. Cooler weather prevailed during the first semester of 2011 driving peak period demand to lower levels compared to the first semester of 2010. Supply was generally sufficient to meet the demand requirements of both the Luzon and the Visayas grids, with the exception of May 2011 as tighter supply conditions were observed particularly due to significant plant outages that eventually resulted in a high of PhP 61,703/MWh (RTD System LWAP). The first semester also saw the commercial operations of the new coal plants in the Visayas grid. About 364 MW was added to the Visayas grid, which also eliminated the long-standing manual load shedding in the region during peak periods. Interaction of supply between Luzon and Visayas also became more dynamic as the scheduling and level of power in the High Voltage Direct Current (HVDC) interconnection between Luzon and Visayas became market-based. In all, supply from the Visayas power plants augmented supply in Luzon as evidenced by its ability to transmit power as high as 346 MW through the HVDC link.

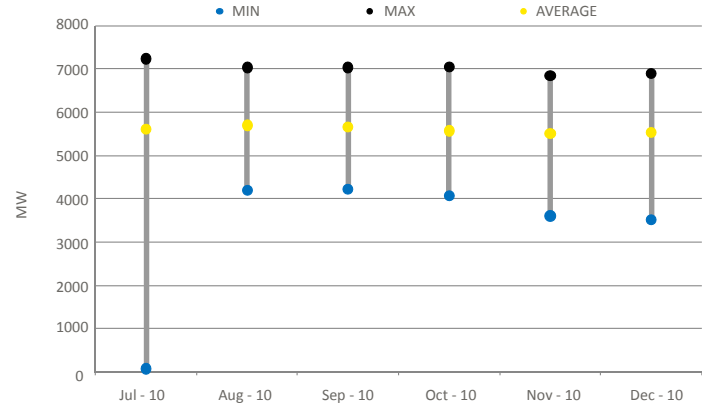
The implementation of the Regional Application of Pricing Errors (PN), Market Re-Runs (MRRs), Price Substitution Methodology (PSM) and Administered Price Determination Methodology (APDM) began in June 2011 (26 May – 25 June 2011).

DEMAND

2010 Demand Levels (Luzon)

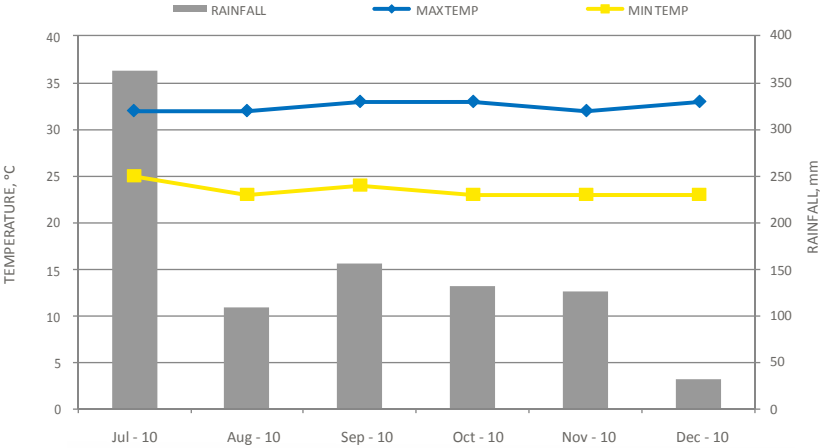
	Jul 2010	Aug 2010	Sep 2010	Oct 2010	Nov 2010	Dec 2010
Minimum	3,578	4,190	4,227	4,076	3,606	3,509
Maximum	7,242	7,042	7,039	7,044	6,842	6,902
Average	5,605	5,699	5,656	5,576	5,512	5,544

2010 Actual Demand (Luzon)



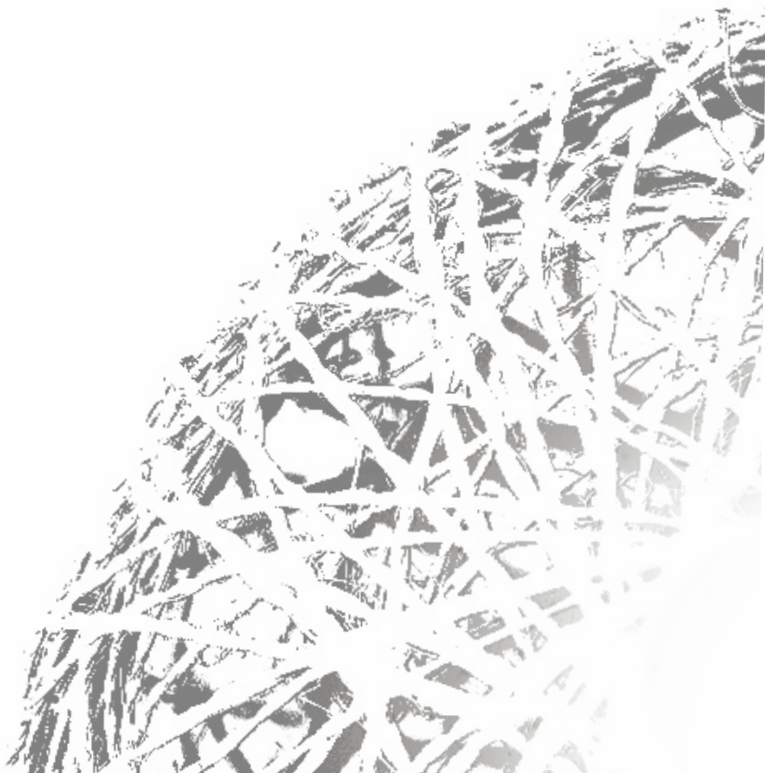
Note: The minimum demand of 73 MW in July 2010 occurred during the system-wide blackout that resulted from the passage of Typhoon Basyang.

2010 Temperature (Luzon)

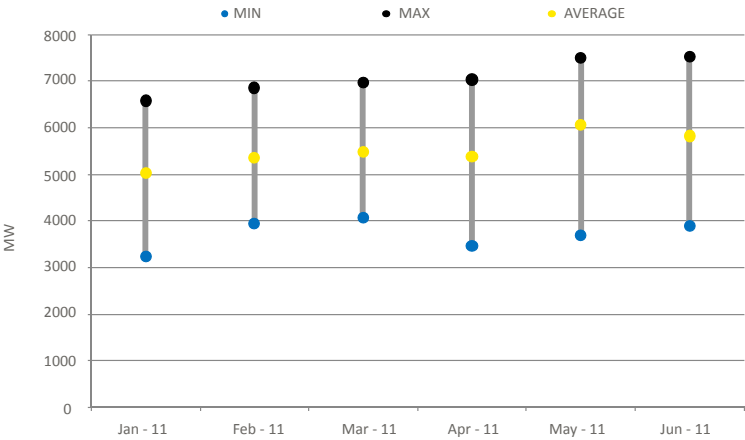


2010 HIGHLIGHTS

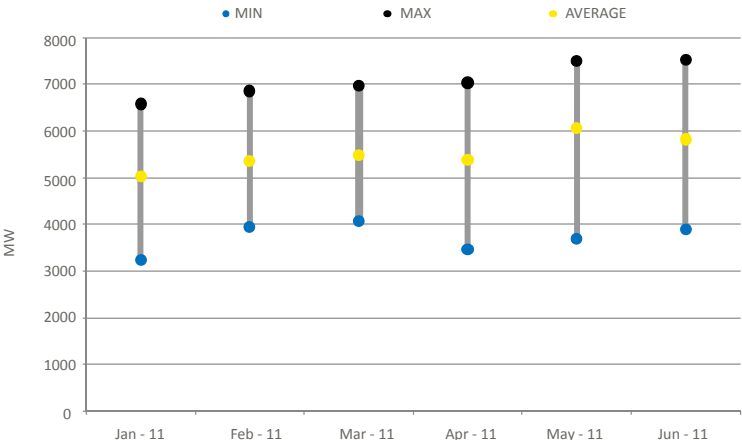
Relatively cooler weather and heavier rainfall characterized the second half of 2010 as the effect of the El Niño weather phenomenon eased. These contributed mainly to lower demand in Luzon during this semester, which peaked at 7,242 MW. Meanwhile, average monthly demand for the six-month period, which ranged from 5,512 MW in November 2010 to 5,699 MW in August 2010, were relatively lower compared to the previous semester where average monthly demand ranged from 4,902 MW to 6,101 MW.



2011 Actual Demand (Luzon)

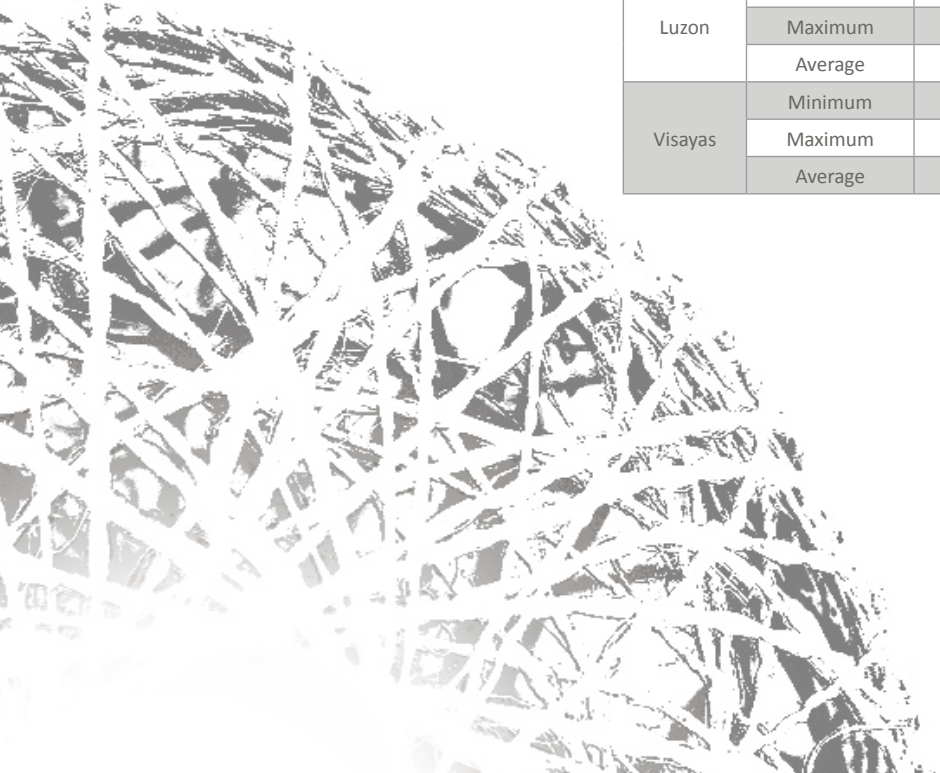


2011 Actual Demand (Visayas)

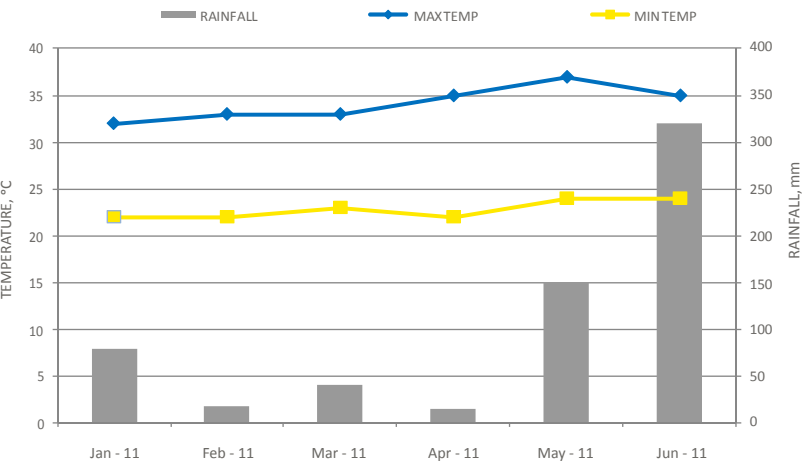


2011 Demand Levels

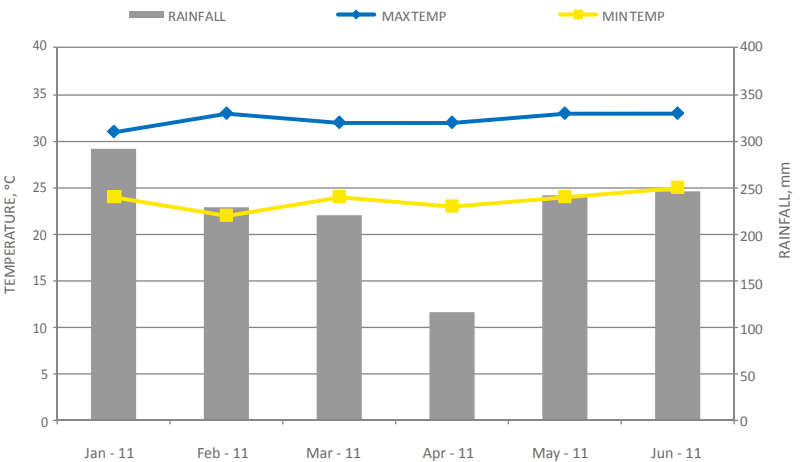
		Jan 2011	Feb 2011	Mar 2011	Apr 2011	May 2011	Jun 2011
System	Minimum	3,959	4,638	4,792	4,181	4,430	4,743
	Maximum	7,790	8,093	8,220	8,349	8,848	8,849
	Average	5,983	6,334	6,483	6,389	7,146	6,897
Luzon	Minimum	3,244	3,952	4,080	3,467	3,689	3,899
	Maximum	6,587	6,864	6,973	7,037	7,505	7,530
	Average	5,035	5,366	5,484	5,387	6,059	5,828
Visayas	Minimum	631	661	703	707	741	770
	Maximum	1,264	1,282	1,309	1,346	1,383	1,356
	Average	948	968	999	1,004	1,087	1,069



2011 Temperature (Luzon)



2011 Temperature (Visayas)

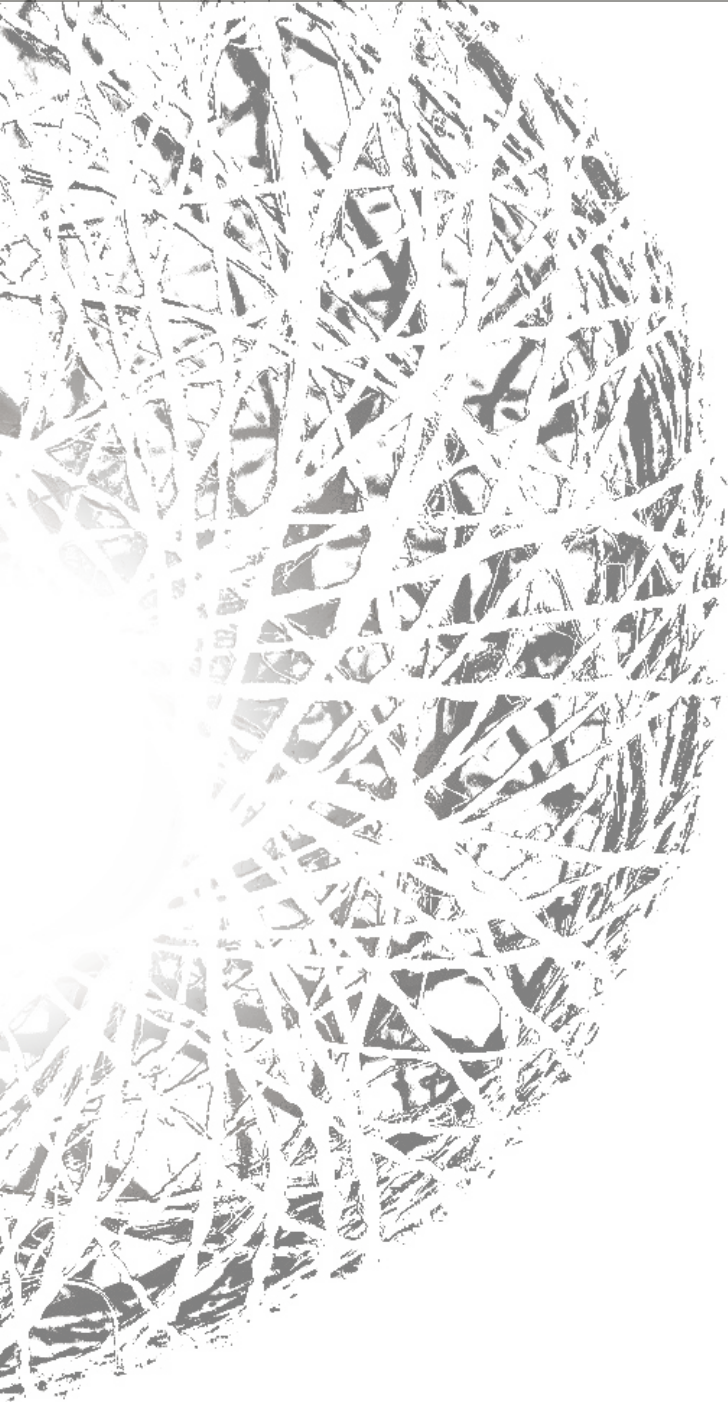


2011 HIGHLIGHTS

With the integration of the Visayas, system peak demand reached a high of 8,849 MW on 02 June 2011. Luzon grid demand peaked at 7,530 MW on 07 June 2011 at 1400H, while the Visayas grid demand peaked at 1,383 MW on 02 May 2011 at 1400H.

Demand in Luzon was lower compared to the first half of the previous year. Although comparatively higher in January 2011, peak demand in Luzon was mostly lower for the rest of the first semester compared to the same period in 2010. Cooler weather during this period, with maximum temperatures ranging from 27°C to 37°C, and relatively higher rainfall levels with the early onset of the rainy season were factors in the decrease in demand.

Over the six-month period, demand in the Visayas steadily increased as supply in the region increased to levels sufficient to meet previously unserved demand. Incidence of manual load dropping steadily decreased as the new power plants commenced operations.

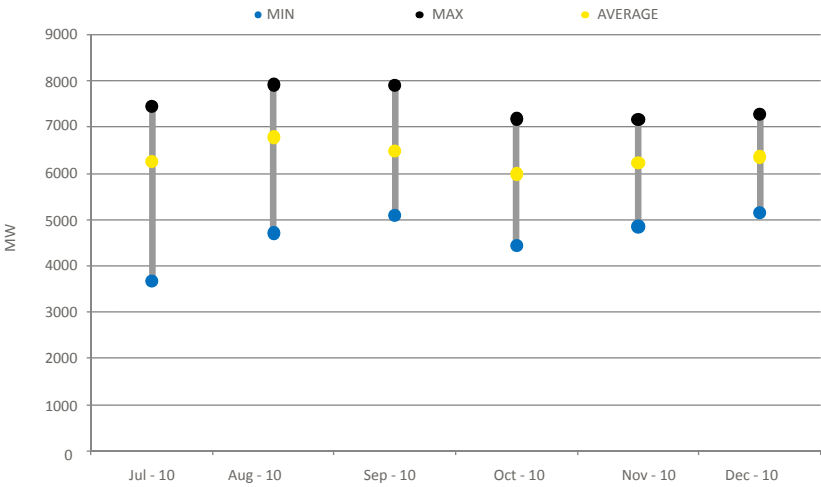


SUPPLY

2010 Energy Offer Levels (Luzon)

	Jul 2010	Aug 2010	Sep 2010	Oct 2010	Nov 2010	Dec 2010
Minimum	3,680	4,710	5,083	4,436	4,854	5,156
Maximum	7,450	7,920	7,895	7,176	7,160	7,271
Average	6,247	6,780	6,480	5,986	6,229	6,354

2010 Energy Offers (Luzon)

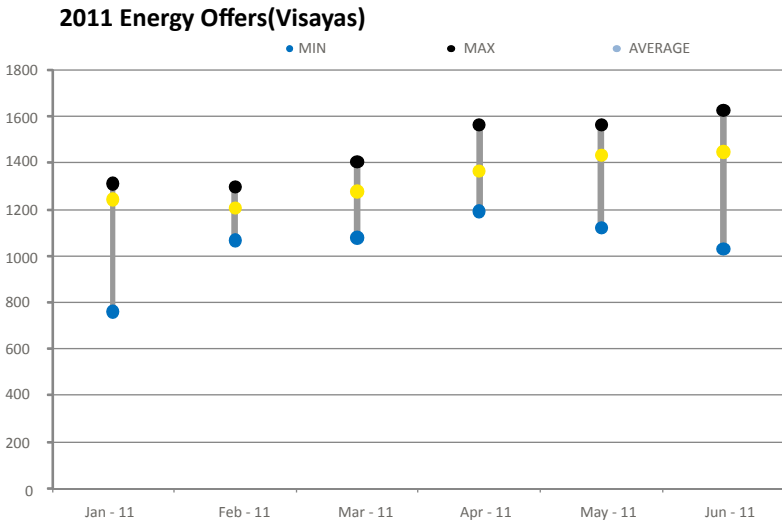
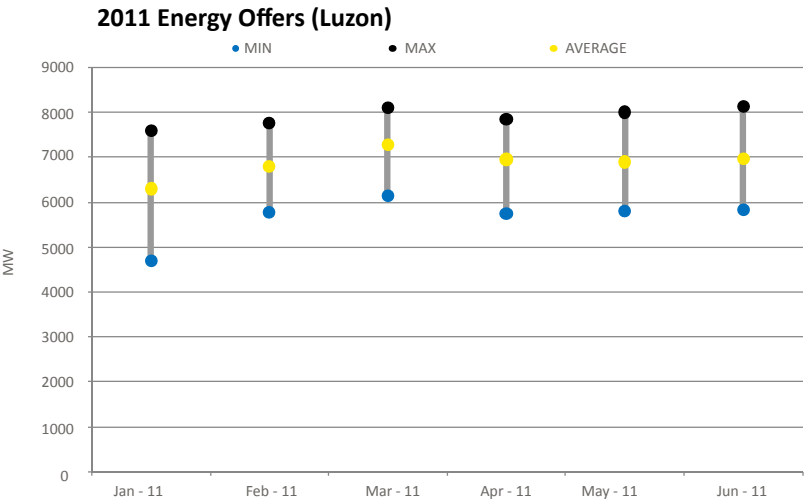


2010 HIGHLIGHTS

There was no significant additional capacity in Luzon during the second semester of 2010. However, the previously oil-based plant Bauang (now under 1590EC) came online in September 2010. Also, the mini-hydroelectric plant of Sal-angan came online with a capacity of 2.40 MW in September 2010.

2011 Energy Offer Levels (System, Luzon, Visayas)

		Jan 2011	Feb 2011	Mar 2011	Apr 2011	May 2011	Jun 2011
System	Minimum	5,924	6,972	7,338	6,999	7,190	7,101
	Maximum	8,863	9,002	9,477	9,238	9,365	9,668
	Average	7,541	8,003	8,556	8,317	8,326	8,410
Luzon	Minimum	4,691	5,782	6,151	5,744	5,800	5,839
	Maximum	7,590	7,771	8,098	7,849	8,007	8,129
	Average	6,298	6,796	7,279	6,954	6,892	6,964
Visayas	Minimum	760	1,067	1,079	1,191	1,122	1,029
	Maximum	1,312	1,297	1,405	1,564	1,564	1,627.5
	Average	1,243	1,207	1,277	1,364	1,434	1,446.3



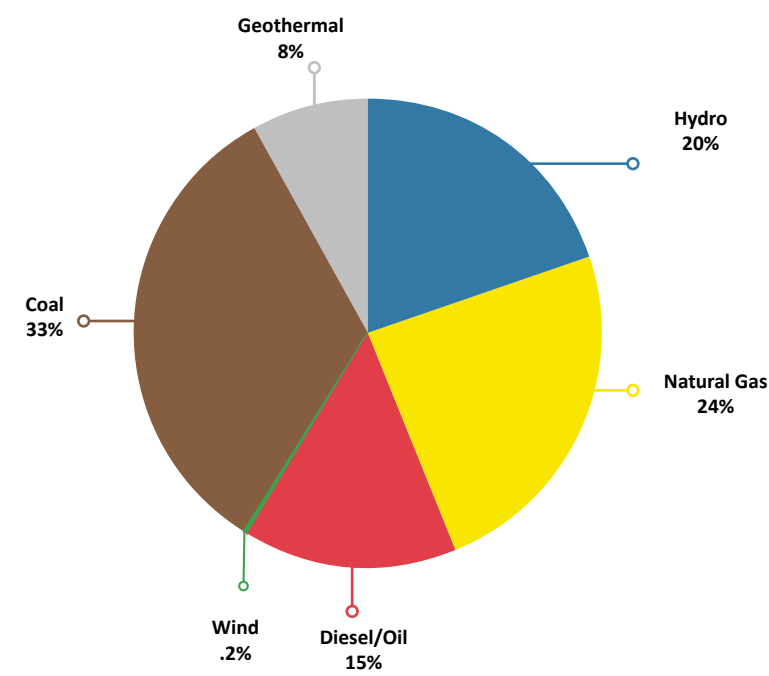
2011 HIGHLIGHTS

New coal-fired power plants in the Visayas came online during the first half of 2011 boosting supply in the region, which, in previous years, had been beset by supply shortages. The two 100 MW units of the KEPCO Salcon Power Corporation (KSPC) came online in February and May 2011. As of 2011 Panay Energy Development Corporation’s (PEDC) additional 82 MW unit has not yet commenced trading in the WESM, but is running due to testing and commissioning requirements. The 82 MW unit of Cebu Energy Development Corporation (CEDC) went into commercial operations in March 2011 completing a total of 246 MW (3 x 82 MW).

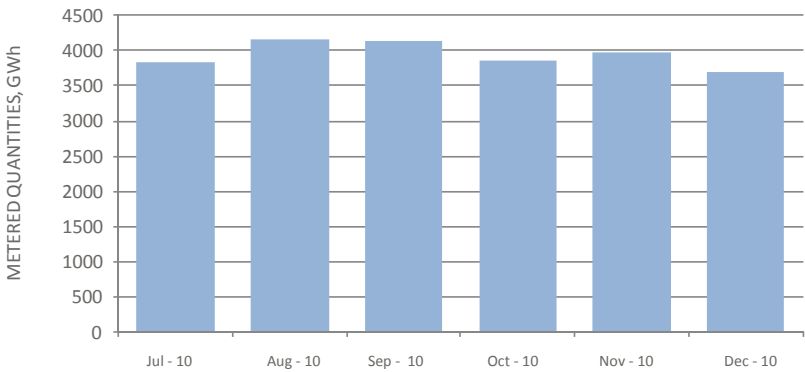
In Luzon, the three-unit Ambuklao Hydro Electric Power Plant of SNAP-Benguet, Inc. commenced operations in June 2011 after having undergone rehabilitation. The power plant has a combined capacity of 103.50 MW (3 x 34.50 MW).

As a result of the improved supply in the Visayas, the Visayas power plants exported power to Luzon for 74% of the total trading intervals from January to June 2011. For the first four months since the integration of the Visayas into the WESM, the direction of the power flows, as well as the allowable transmission limits through the Leyte-Luzon HVDC link, was set by the System Operator. However, beginning 29 April 2011, the scheduling of the HVDC flows was no longer set by the System Operator. From May to June 2011, it was observed that in some 93% of the trading intervals, power flows were from Visayas to Luzon compared to about 65% of the time in the prior months (January to April 2011).

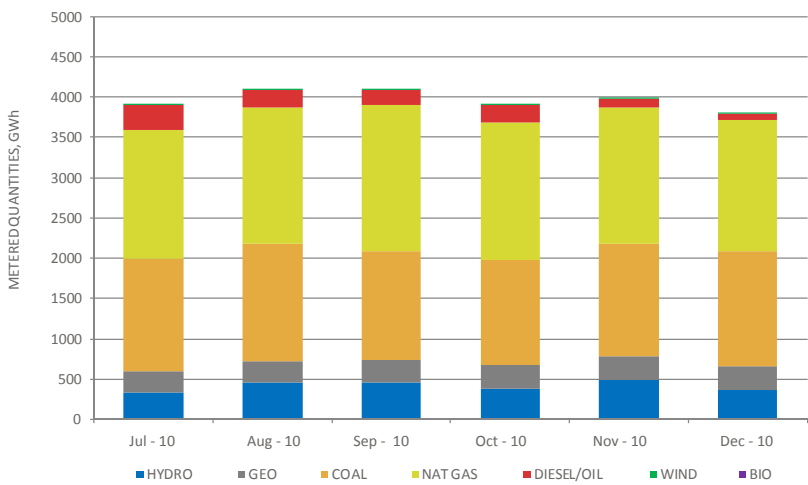
2010 Registered Capacity by Fuel Type (Luzon, as of December 2010)



2010 Generator Metered Quantities (Luzon)



2010 Monthly Energy Mix by Fuel Type (Luzon)



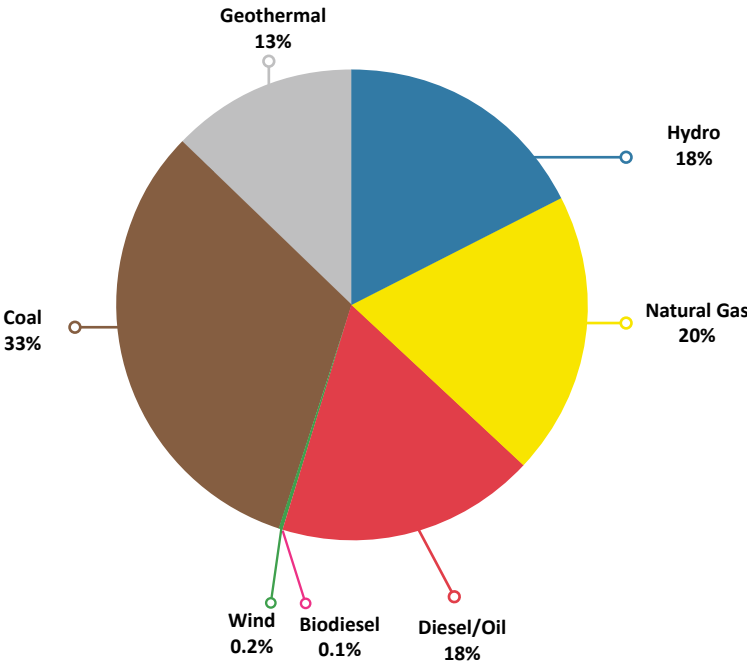
	Hydro	Geo	Coal	Nat Gas	D/O	Wind	Bio
Jul-10	8.7%	6.5%	35.7%	41.2%	7.8%	0.02%	--
Aug-10	11.3%	6.5%	35.4%	41.4%	5.3%	0.14%	--
Sep-10	11.4%	6.6%	33.2%	44.2%	4.6%	0.06%	--
Oct-10	9.9%	7.5%	33.2%	43.9%	5.5%	0.08%	--
Non-10	12.1%	7.5%	34.9%	42.5%	2.6%	0.26%	--
Dec-10	9.7%	7.7%	37.6%	42.7%	2.0%	0.27%	--

2010 HIGHLIGHTS

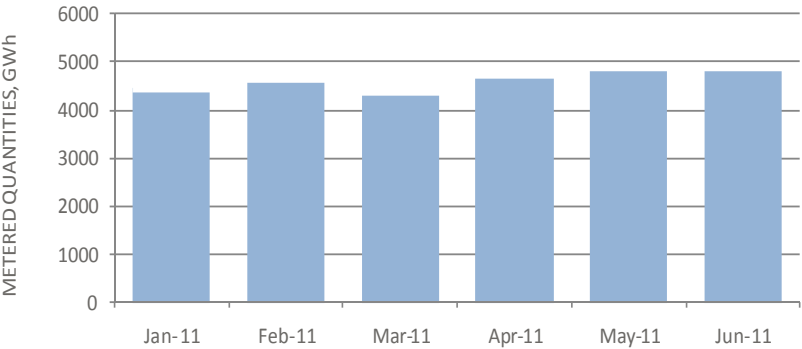
Total registered capacity in Luzon as of December 2010 is 11,453 MW.

Generation from coal and natural gas power plants continue to be the main contributors for supply, with generation from hydroelectric and geothermal power plants at generally equal levels. Hydroelectric power plants had higher output during the second half compared to the first half, contributing some 10% of the total mix, while contribution from diesel/oil-based power plants steadily decreased over the six-month period.

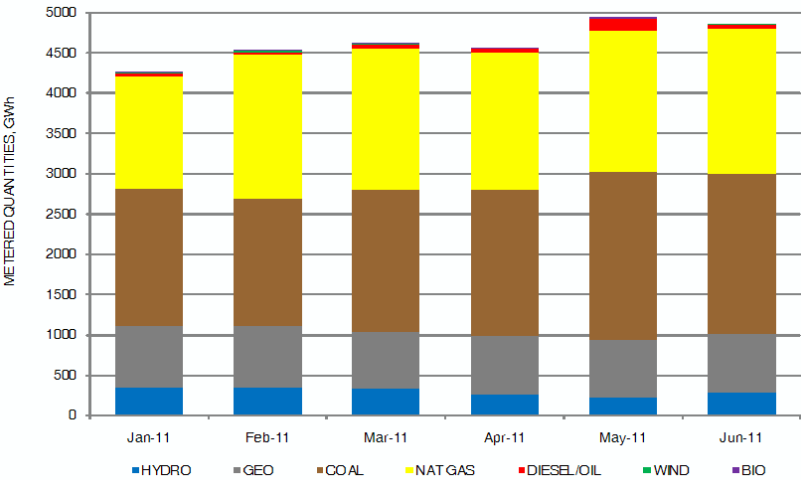
2011 Registered Capacity by Fuel Type
(Luzon, Visayas & System, June 2011)



2011 Generator Metered Quantities (System, Luzon and Visayas)



2011 Energy Mix by Fuel Type (Luzon and Visayas)



	Hydro	Geo	Coal	Nat Gas	D/O	Wind	Bio
Jan-11	8.3%	18.0%	39.8%	32.9%	0.7%	0.31%	0.01%
Feb-11	7.6%	16.7%	35.0%	39.4%	1.0%	0.22%	0.02%
Mar-11	7.1%	15.2%	38.4%	38.0%	1.1%	0.24%	0.05%
Apr-11	5.6%	15.9%	39.8%	37.6%	0.8%	0.22%	0.12%
May-11	4.4%	14.6%	42.2%	35.7%	2.9%	0.06%	0.04%
Jun-11	5.8%	15.1%	41.1%	36.9%	1.0%	0.05%	0.00%

2011 HIGHLIGHTS

Total registered capacity as of June 2011 is 11,483 MW in Luzon and 2,241 MW in the Visayas for a total of 13,724 MW.

The integration of the Visayas brought some changes in the WESM energy mix. With the new coal-fired power plants in the Visayas, the total contribution from coal-fired power plants almost equals the contribution from the natural gas plants. Geothermal power plants continue to contribute a significant amount, ranging from 7% to 18% of the total monthly mix. Hydroelectric, biomass and wind generation complete the WESM renewable energy mix. Diesel/oil-based plants round up the total generation mix.

PRICES

2010 Ex-ante Load Weighted Average Price (LWAP), PhP/MWh

	Jul 2010	Aug 2010	Sep 2010	Oct 2010	Nov 2010	Dec 2010
Minimum	0	0	0	0	0	0
Maximum	20,433	18,588	34,914	38,327	46,820	45,910
Average	7,395	3,574	5,588	7,835	6,298	5,155

2010 HIGHLIGHTS

Market prices during the second half of 2010 was relatively lower compared with the first half of 2010 due to the improved level of availability of generating units and cooler weather condition. The hourly load weighted average price (LWAP) during this period ranged from a low of PhP -543/MWh (December 2010) to a high of PhP 46,820/MWh (November 2010).

Pricing errors affected the results of 2,763 ex-ante (RTD) market runs and 2,326 ex-post market runs over the six-month period. Of these pricing errors, 294 RTD and 208 RTX market runs were determined to be due to network congestion and called for application of the Price Substitution Methodology.

These pricing errors were mostly due to contingency constraint violations at the Meralco interchange.

2010 LWAP Seven-Day Moving Average



2011 Ex-ante Load Weighted Average Price PhP/MWh

		Jan 2011	Feb 2011	Mar 2011	Apr 2011	May 2011	Jun 2011
System	Minimum	-410	0	0	0	0	0
	Maximum	40,600	22,850	15,550	53,621	61,703	25,866
	Average	3,545	3,112	2,432	3,171	5,946	3,890
Luzon	Minimum	-502	0	0	0	0	0
	Maximum	46,165	24,623	17,285	62,257	62,125	25,866
	Average	3,680	3,055	2,380	3,261	6,008	3,895
Visayas	0	0	0	0	0	0	0
	Maximum	12,423	18,722	9,477	8,161	59,489	25,866
	Average	2,822	3,431	2,721	2,686	5,600	3,864

2011 HIGHLIGHTS

A softening of prices occurred during the early part of 2011 compared to the same period last year. The ex-ante LWAP in Luzon over the six-month period ranged from PhP -502/MWh (January 2011) to PhP 62,257/MWh (April 2011), although prices above PhP 60,000/MWh occurred only occasionally.

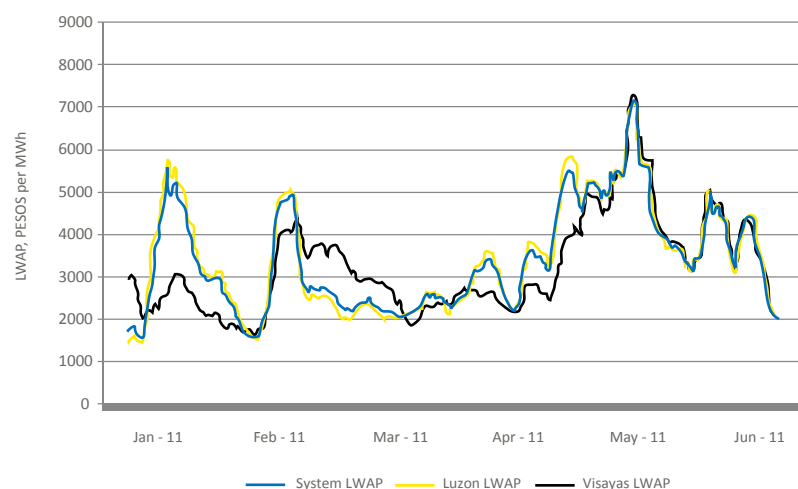
On a regional level, average prices in the Visayas were generally lower than in Luzon. Average prices started to increase from the months of April and May 2011 with the tightening of the margin between supply and demand during those months.

On a nodal level, nodal prices in the Negros and Panay islands are relatively higher compared to the rest of the Visayas, thus making for wider price spreads across the different nodes. In Luzon, nodal prices are generally comparable with no marked price spread across nodes.

Pricing errors affected the results of 1,737 ex-ante (RTD) market runs and 207 ex-post (RTX) market runs from January to May 2011. Of these pricing errors, 147 RTD and 16 RTX market runs were determined to be due to network congestion and called for application of the Price Substitution Methodology¹.

The regional application of Pricing Errors, Market Re-Runs (MRR), Price Substitution Methodology (PSM) and Administered Price Determination Methodology (APDM) was implemented in June 2011 (26 May – 25 June 2011). With this, it was observed that pricing errors were issued in Luzon for 381 RTD market runs, mostly due to contingency constraint violations at the Meralco interchange, and 17 RTX market runs. For the Visayas,

2011 LWAP Seven-Day Moving Average



there were 48 RTD and 17 RTX market runs issued with pricing errors.

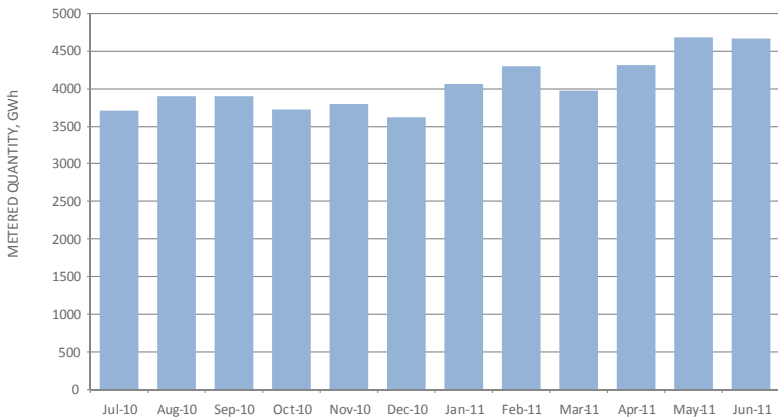
From the first semester of 2011, price separation between Visayas and Luzon occurred about 42% of the time. After the market-based scheduling of the Leyte-Luzon HVDC flows was implemented on 29 April 2011, price separations decreased significantly, occurring in 11% of the total trading intervals from May to June 2011.

¹ Methodology for the Determination of Pricing Errors and Substitute Prices due to Network Congestion in the Wholesale Electricity Spot Market.

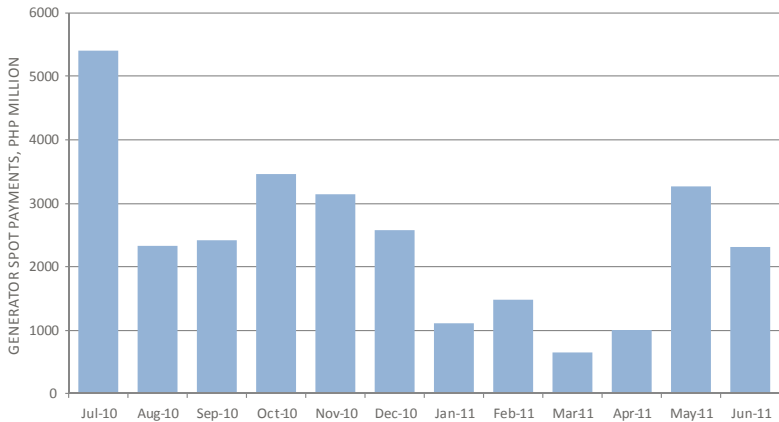
22

MARKET TRANSACTION LEVELS

Customer Transaction Volumes, GWh (Monthly)



Generator Trading Amounts, PhP (Monthly)



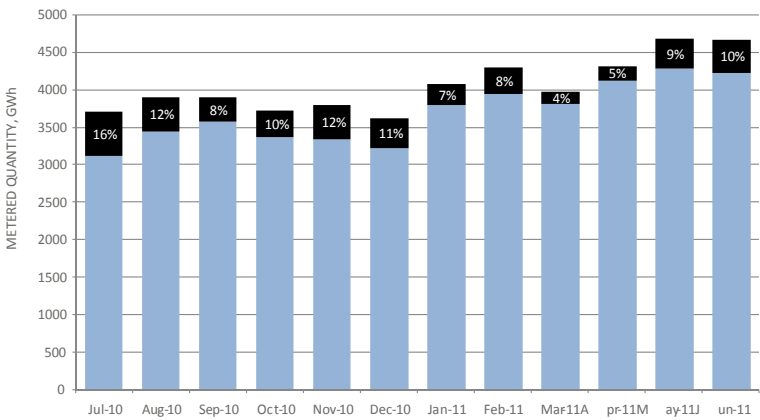
2010 HIGHLIGHTS

For the second half of 2010 in Luzon, the monthly customer market transaction volumes were highest in August 2010 at 3,901 GWh.

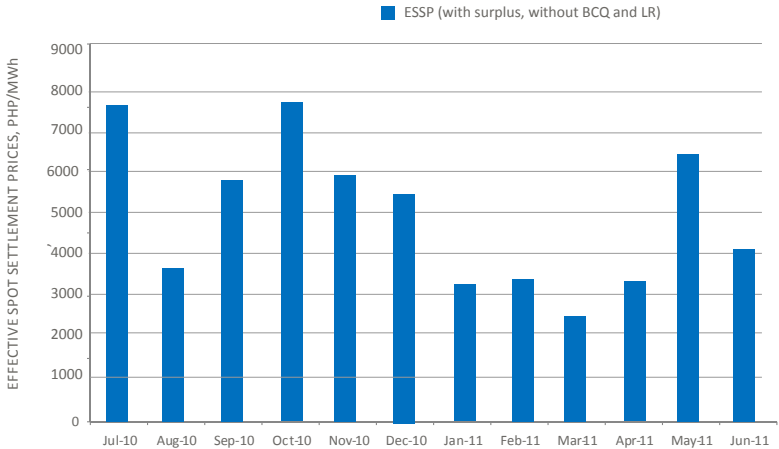
Merchant sales of generators were lower for this semester compared to the first semester of the year.

Spot market transactions accounted for over 10% of total transactions, except only in September 2010 when this amounted to 8% of the total. The rest were netted out of the WESM settlements as bilateral contract quantities.

Bilateral Contract Quantities vs. Spot Quantities, GWh



Effective Settlement Spot Prices, PhP/MWh



2011 HIGHLIGHTS

With the integration of the Visayas, the monthly total customer market transaction volumes for the first half of 2011 ranged from 3,975 GWh in March 2011 to 4,675 GWh in May 2011. Spot market quantities significantly decreased ranging from 4% to 10% of the monthly transaction volumes. The rest were declared as bilateral contract quantities and were netted out of the WESM settlements.

The softening of prices resulted in lower spot market trading amounts for the merchant sales of generators. Total payments to generators for their spot market transactions for the first half of 2011 amounted to PhP 9,819 million.

Total net settlement surplus generated for the semester, which was automatically deducted from the spot market customer trading amounts, amounted to PhP 1,244 million.

With generally lower average market prices and lower levels of spot market transactions, the effective settlement price decreased significantly during the first half of 2011 in both Visayas and Luzon compared to the previous months in 2010 in Luzon.

MARKET FEES

26 May 2010 to 25 May 2011 Billing Period

	Bill Period	Rate/kWh	kWh	Market Fees
June	05/26 - 06/25/2010	0.0159	4,446,070,914.53	70,692,527.54
July	06/26 - 07/25/2010	0.0159	4,002,413,517.41	63,638,374.93
August	07/26 - 08/25/2010	0.0159	4,213,179,014.08	66,989,546.32
September	08/26 - 09/25/2010	0.0159	4,141,795,833.76	65,854,553.76
October	09/26 - 10/25/2010	0.0159	3,943,108,055.57	62,695,418.08
November	10/26 - 11/25/2010	0.0159	4,013,850,437.72	63,820,221.96
December	11/26 - 12/25/2010	0.0159	3,834,735,793.76	60,972,299.12
January	12/26/2010 - 01/25/2011	0.0159	3,586,222,531.19	57,020,938.25
Febuary	01/26 - 02/25/2011	0.0159	3,832,468,508.95	60,936,249.29
March	02/26 - 03/25/2011	0.0159	3,546,927,679.71	56,396,150.11
April	03/26 - 04/25/2011	0.0144	3,836,313,738.86	55,242,917.84
May	04/26 - 05/25/2011	0.0144	4,129,151,971.86	59,459,788.39
Total			47,526,237,997.40	743,718,985.59

* Based on actual Volume

For the billing period of 26 May 2010 to 25 March 2011, market transaction fee rate amounted to Php 0.0159/kWh, inclusive of the Php 0.0015/kWh for the Market Management System (MMS) migration project approved per the Energy Regulatory Commission Order dated

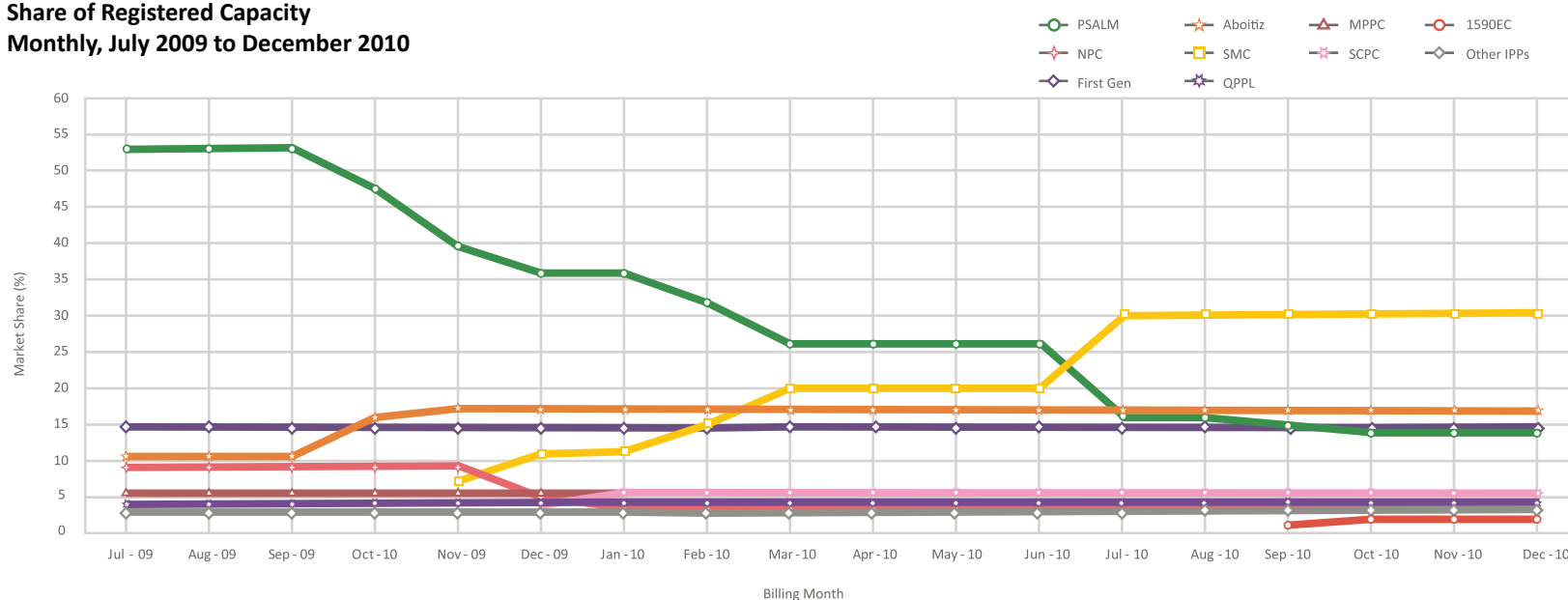
19 July 2010. The additional collection of Php 0.0015/kWh for the MMS migration project ceased beginning the billing period of 26 March 2011 to 25 April 2011, per Energy Regulatory Commission Order dated 07 March 2011.

MARKET ASSESSMENT

This section focuses on the result of indices that provide indications on the state of competition in the market during the last six months of the Luzon market (second semester 2010) and the first six months of the integrated Luzon and Visayas market (first semester 2011). These include the Market Share, Herfindahl-Hirschman Index, Residual Supply Index (RSI), Pivotal Supply Index (PSI) and Price Setting Frequency Index (PSFI).

MARKET SHARE

Figure 1
Share of Registered Capacity
Monthly, July 2009 to December 2010

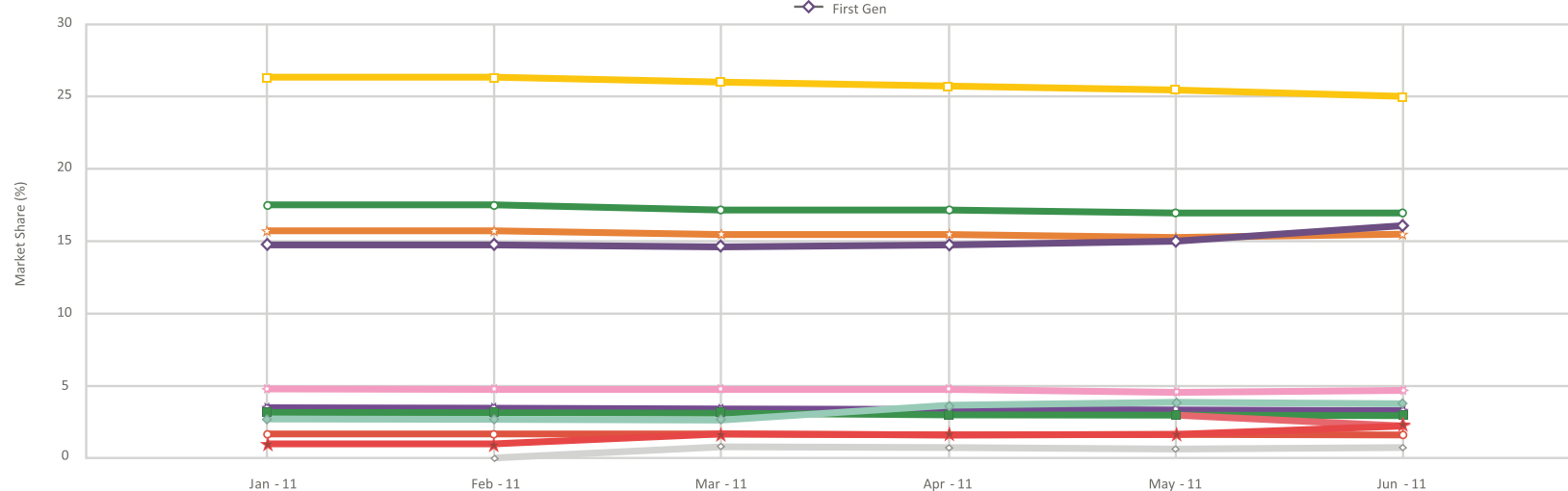


Figures 1 and 2 show the monthly trend in the market share of major participant groups based on registered capacity. For this purpose, the market participants were grouped into major participant groups as shown in Tables 1 and 2. Challenges exist with regard to the derivation of accurate market concentration indices that will properly take into consideration the ownership, control and affiliation of the market participants.

Figure 1 shows the declining market share of PSALM in 2009 and 2010 following the privatization, through sale and IPP administration, of generators managed and traded by PSALM. In contrary, the figure shows the increasing market share of the San Miguel group (a new entrant in the power generation business) as it won the IPP administration of three major plants (i.e. Sual CFTPP, San Roque Hydro and Ilijan Natural Gas) as well as the sale of Limay CCGT. By the second semester of 2010, the

Figure 2
Share of Registered Capacity
Monthly, First Semester 2011

PSALM Aboitiz QPPL SCPC Other IPPs SPC
 NPC SMC MPPC 1590EC GBPC Other IPPs
 First Gen



San Miguel group had accumulated a market share of about 30% of the registered capacity in Luzon. On the other hand, PSALM's market share was down to about 14%. The First Gen and Aboitiz groups posted market shares of about 15% and 17%, respectively.

In the first semester of 2011 with the integration of the Visayas in the market (Figure 2), PSALM's market share increased to about 17% while it continues to manage and trade the generation capacities of the unified Leyte A geothermal plants and Cebu (Naga) Complex. Meanwhile, San Miguel's market share decreased to about 26%. Also, the market share of the Aboitiz group slightly decreased to about 16%.

Table 1
Major Participant Groups, Luzon
July 2010 to June 2011

Major Grouping	WESM Participant	Resources
PSALM	Power Sector Assets and Liabilities Management Corp.	Bauang DPP, Botocan HEP, Caliraya HEP, Kalayaan PSPP, Casecnan HEP, HEDCOR, Malaya TPP
NPC	National Power Corp.	Angat HEP, Bacman GPP
SMC	PANASIA Energy Holdings, Inc.	Limay CCGT
	San Miguel Energy Corp.	Sual CFTPP
	Strategic Power Development Corp.	San Roque HEP
	South Premier Power Corp.	ILijan NatGas Plant
First Gen	Bacman Geothermal, Inc.	Bacman GPP (eff. 26 May 2011)
	FGP Corp.	San Lorenzo FGPP
	First Gas Power Corp.	Sta. Rita FGPP
	First Gen Hydro Corp.	Masiway HEP, Pantabangan HEP
Aboitiz	AP Renewables, Inc.	Makban GPP, Tiwi GPP
	SN Aboitiz Power, Inc.	Magat HEP
	SN Aboitiz Power - Benguet, Inc.	Ambuklao HEP, Binga HEP
	Therma Luzon Inc.	Pagbilao CFTPP
1590EC	1590 Energy Corp.	Bauang DPP (eff. 06 Sep. 2010)
MPPC	Masinloc Power Partners Co. Ltd.	Masinloc CFTPP
QPPL	Quezon Power Phils. (Limited) Co.	QPPL CFTPP
SCPC	SEM-Calaca Power Corp.	Calaca CFTPP
UMRC	Udenna Mgmt. & Resource Corp.	Subic DPP (eff. 17 Feb. 2011)
Other IPPs	Amlan Power Hydro, Inc.	Bakun HEP
	HEDCOR, Inc.	Irisan 3 HEP, Sal-Angan HEP
	National Irrigation Administration	NIA-Baligatan
	Northwind Power Development Corp.	NWPDC Wind Power Plant
	People's Energy Services, Inc.	Barit HEP
	Trans Asia Power Generation Corp.	TAPGC DPP

Table 2
Major Participant Groups, Visayas
January to June 2011

Major Grouping	WESM Participant	Resources
PSALM	Power Sector Assets and Liabilities Management Corp.	Leyte (Tongonan II & III), Cebu DPP I, Cebu DPP II, Cebu TPP I, Cebu TPP II
NPC	National Power Corp.	Power Barges 101, 102, & 103
First Gen	Energy Development Corp.	Northern Negros GPP
	Green Core Geothermal, Inc.	Leyte (Tongonan) GPP, Palinpinon GPP I, Palinpinon GPP II
Aboitiz	Cebu Private Power Corp.	CPPC DPP
	East Asia Utilities Corp.	EAUC DP
GBPC	Avon River Power Holdings Corp.	Avon (La Paz) DPP
	Cebu Energy Development Corp.	CEDC CFTPP
	Panay Energy Development Corp.	PEDC CFTPP
	Panay Power Corp.	Avon (Nabas) DPP, Avon (New Wash.) DPP, PPC DPP
	Toledo Power Corp.	TPC (Carment) TPP, TPC (Sangi) CFTPP
SPC	KEPCO SPC Power Corp.	KSPC CFTPP
	SPC Island Power Corp.	Bohol DPP, Panay DPP I, Panay DPP III
Other IPPs	Bohol Electric Coopertive, Inc.	Janopol HEP
	Central Azucarera de San Antonio	CASA Biomass Cogen
	ICS Renewables	Amian HEP
	Sta. Clara Power Corp.	Loboc HEP
	Trans Asia Oil Development Corp.	Trans-Asia DPP
	First Farmers Holdings Corp.	FFHC Bio Diesel

HERFINDAHL-HIRSCHMAN INDEX (HHI)

Figures 3-5 show the monthly HHI² calculated on the market share of major participant groups in the market based on: (i) registered capacity, (ii) registered capacity net of outage, (iii) offered capacity, (iv) metered quantities or actual generation and (v) metered quantities net of bilateral contract quantity declarations. The market participants were likewise grouped into major participant groups as discussed in the previous section.

Figure 3
HHI Based on Share of Registered Capacity
Monthly, July 2009 to December 2010

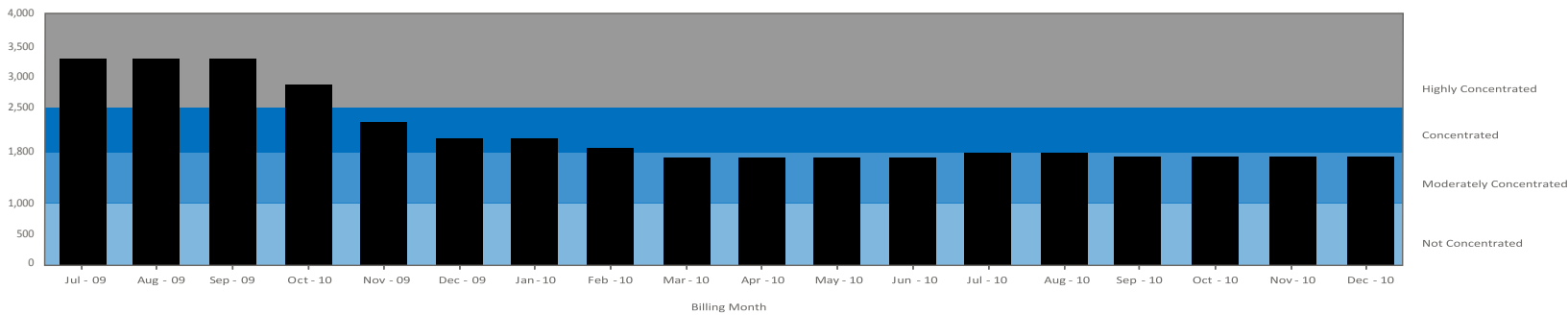
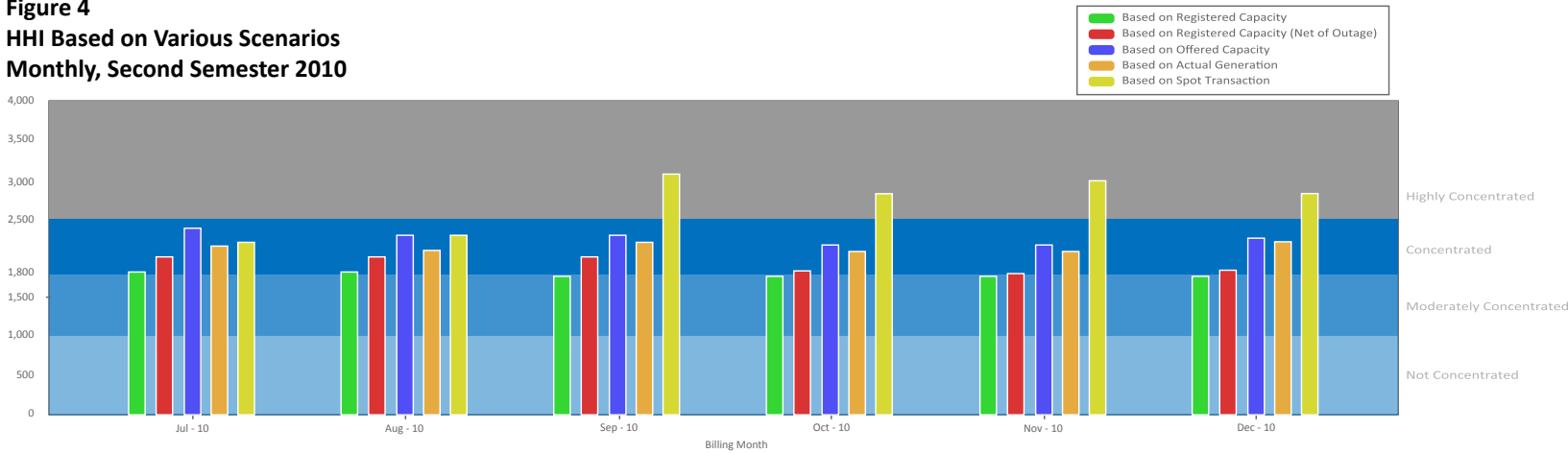
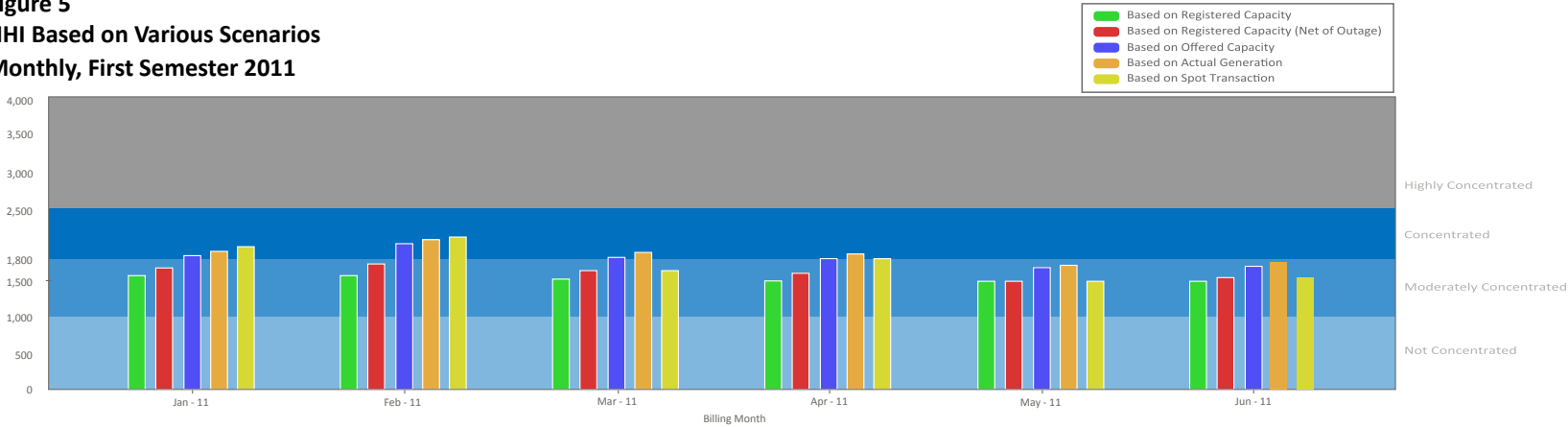


Figure 4
HHI Based on Various Scenarios
Monthly, Second Semester 2010



² The HHI is a commonly accepted measure of market concentration that takes into account the relative size and distribution of participants in the market. The HHI is a number between 0 and 10,000, which is calculated as the sum of squares of the participant's market share. The HHI approaches zero when the market has a very large number of participants with each having a relatively small market share. In contrary, the HHI increases as the number of participants in the market decreases, and the disparity in the market shares among the participants increases. The following are the widely used HHI screening numbers: (1) less than 1,000 – not concentrated; (2) 1,000 to 1,800 – moderately concentrated; (3) greater than 1,800 – concentrated; and (4) greater than 2,500 – highly concentrated.

Figure 5
HHI Based on Various Scenarios
Monthly, First Semester 2011



The HHI based on registered capacity provides the base scenario in assessing market concentration. It will not vary over time unless there is a: (i) change in the ownership of generators, (ii) change in the registered capacity of generators, (iii) registration of new generator/s and (iv) deregistration of generator/s. On the other hand, the HHI results based on the other four scenarios may vary for each study period.

Figure 3 shows an improvement in the market concentration based on registered capacity from a “highly concentrated market” in December 2009 to a “moderately concentrated market” starting March 2010, although it was already bordering on the “concentrated market” threshold. The improvement in the market concentration is brought about by the privatization of the PSALM-managed and traded generators.

As shown in Figure 4, a “moderately concentrated market” based on registered capacity by major participant grouping still prevailed in the last six months of the Luzon market. The HHI based on registered capacity (net of outage), offered capacity and metered quantities indicated a “concentrated market”. Meanwhile, the HHI based on metered quantities net of bilateral showed a “highly concentrated market” in the last four billing months of September to December 2010.

The market concentration showed improvement with the integration of the Visayas in the market (Figure 5). Notwithstanding, the HHI results still indicated a “moderately concentrated market” to “concentrated market” by major participant grouping in the first semester of 2011.

RESIDUAL SUPPLY INDEX (RSI)

Figures 6 and 7 show the hourly trend of the Market RSI³ for the second semester of 2010 and first semester of 2011.

Figure 6
Market RSI Based on Offered Capacity of Generators
Hourly, Second Semester 2010

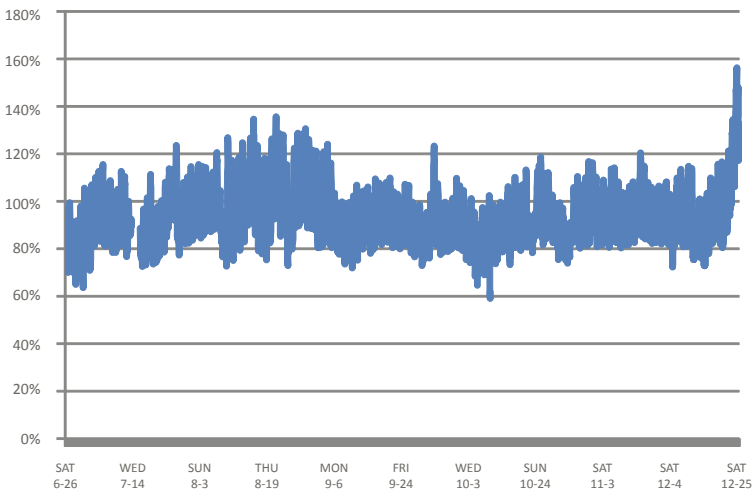


Table 3
Market RSI Summary
Monthly, Second Semester 2010

Market RSI	2010					
	Jan	Feb	Mar	Apr	May	Jun
<100%	85.7	64.5	75.0	92.8	77.5	69.7
≥100%	14.3	35.5	25.0	7.2	22.5	30.3

In the second semester of 2010 (Figure 6), the majority of the monthly trading intervals had Market RSI less than 100% indicating the presence of pivotal generator/s most of the time. The percentage of time with Market RSI less than 100% in a month was highest in October 2010 at about 93%. The increase in the capacity on outage, as well as the prevailing capacity gap, contributed to the tight supply and demand condition beginning the second week of September 2010. Market prices started to increase on the second week of September coincident with the onset of tight supply and demand condition. Market prices above PhP 10,000/MWh rose from 6% of the trading intervals in August to about 16% in September and 24% in October. On several occasions, the market prices reached above PhP 30,000/MWh beginning the last week of September until the third week of October.

Figure 7
Market RSI Based on Offered Capacity of Generators
Hourly, First Semester 2011

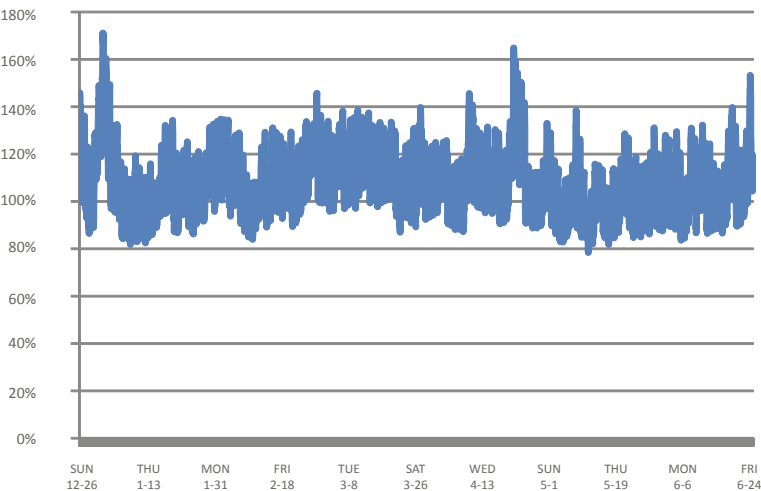


Table 4
Market RSI Summary
Monthly, First Semester 2011

Market RSI	2010					
	Jan	Feb	Mar	Apr	May	Jun
<100%	42.4	30.0	11.8	24.3	61.3	45.7
≥100%	57.6	70.0	88.2	75.7	38.7	54.3

The opposite was observed in the first semester of 2011 (Figure 7). The majority of the monthly trading intervals, except for the billing month of May, had Market RSI above 100% indicating the absence of pivotal generators most of the time. The percentage of time with Market RSI less than 100% in a month was lowest in March at about 12%. This was attributed to improved supply conditions resulting from lower capacity on outage. In contrary, the percentage of time with Market RSI less than 100% increased to about 61% in May due to the tight supply and demand condition brought about by the increase in demand, which is evident in both regions. In the first semester of 2011, the monthly average market price was lowest in March and highest in May.

³ The Residual Supply Index (RSI) is a dynamic continuous index measured as the ratio of the available generation without a generator to the total generation required to supply the demand. The RSI is measured for each generator. The greater the RSI of a generator, the less will be its potential ability to exercise market power and manipulate prices, as there will be sufficient capacity from the other generators. In contrary, the lower the RSI, the greater the market power of a generator (and its potential benefit of exercising market power) as the market is strongly dependent on its availability to be able to fully supply the demand. In particular, an RSI greater than 100% for a generator means that the remaining generators can cover the demand, and in principle, that generator cannot manipulate market price. On the other hand, an RSI less than 100% means that the generator is pivotal in supplying the demand. The RSI for the whole market (Market RSI) is measured as the lowest RSI among all the generators in the market. A Market RSI less than 100% indicates the presence of pivotal generator/s.

PIVOTAL SUPPLIER INDEX

As discussed in the previous section, Tables 5 to 7 list the pivotal generators in Luzon and Visayas and the percent of time that said generators were pivotal in any billing month. The top frequent pivotal generators in the second semester of 2010 and first semester of 2011 include the coal plants Masinloc, Pagbilao, QPPL and Sual, and the natural gas plants Ilijan, San Lorenzo and Sta. Rita taking into account their large generating capacities.

Table 5
PSI by Plant Based on Offered Capacity
Monthly, Second Semester 2010 (Luzon)

Plant Name	Percent of Time					
	Jul	Aug	Sep	Oct	Nov	Dec
Angat HEP				9.9	0.8	7.5
Bakun HEP	24.3	6.0	9.4	29.0	7.5	6.7
Calaca CFTPP	33.9	9.7	0.4	14.4	14.4	12.2
Bauang DPP			3.9	26.1	16.1	11.3
Binga HEP	23.6	6.4	11.0	26.0	7.1	5.7
Botocan HEP	12.1	4.3	2.0	14.0	1.1	4.5
Caliraya HEP					1.9	2.5
Kalayaan PSPP	25.1	6.8	13.6	35.8	16.9	8.9
Casacnan HEP	13.6	6.5	9.8	24.6	12.8	7.9
HEDCOR	22.2	5.1	7.8	25.8	5.8	6.7
Ilijan NatGas Plant	71.5	49.4	70.9	91.0	77.2	67.0
Limay CCGT	22.9	9.5	22.3	33.1	15.1	10.0
Magat HEP	26.3	13.5	21.7	28.3	11.0	9.5
Makban GPP	35.3	12.4	25.4	45.4	25.0	18.8
Masinloc CFTPP	54.2	31.7	40.5	64.2	51.1	32.0
Masiway HEP	16.0	0.7	1.7	2.2		5.7
Pagbilao CFTPP	42.1	24.2	53.4	65.0	44.4	47.1
Pantabangan HEP	12.5	0.7	0.1		0.5	6.0
QPPL CFTPP	32.8	19.1	38.4	54.4	36.0	30.0
San Lorenzo FGPP	48.5	26.4	41.6	46.1	25.8	17.9
San Roque HEP	14.9	7.3	16.8	36.0	27.3	12.2
Sta. Rita FGPP	67.5	50.6	62.4	82.5	68.8	59.8
Sual CFTPP	74.9	63.9	57.3	54.6	54.2	56.1
Tiwi GPP	26.3	7.7	17.1	36.5	14.9	11.5
TAPGC DPP	23.5	5.1	8.3	26.7	7.1	7.0

Table 6
PSI by Plant Based on Offered Capacity
Monthly, First Semester 2011 (Luzon)

Plant Name	Percent of Time					
	Jan	Feb	Mar	Apr	May	Jun
Ambuklao HEP						0.4
Angat HEP	1.1	0.4			6.1	0.4
Bakun HEP	0.5				6.1	0.5
Calaca CFTPP	1.9	0.7	0.3		22.2	8.2
Bauang DPP	2.4	0.7	0.1		10.0	1.7
Binga HEP	0.5				0.1	
Botocan HEP	0.5				4.7	0.3
Caliraya HEP	0.4	0.1			5.0	0.5
Kalayaan PSPP	1.6	0.7	0.1		10.8	0.7
Casecnan HEP	1.1	0.4			3.3	0.1
HEDCOR	0.5				5.3	0.4
Ilijan NatGas Plant	20.4	23.8	8.8	21.1	58.1	41.3
Limay CCGT	3.6				9.6	1.9
Magat HEP	0.5				2.6	0.1
Makban GPP	5.4	1.3	0.3	0.1	13.5	3.0
Masinloc CFTPP	11.4	5.2	1.2	3.5	32.1	18.1
Masiway HEP	0.5					
Pagbilao CFTPP	21.1	9.8	1.9	7.4	29.3	11.8
Pantabangan HEP	1.5	0.4				
QPPL CFTPP	9.4	0.1	0.9	2.2	20.8	9.3
San Lorenzo FGPP	13.0	4.4	0.9	3.1	25.1	12.8
San Roque HEP	1.5	0.7	0.3	0.3	6.7	0.4
Sta. Rita FGPP	25.8	17.6	5.1	12.9	49.3	34.1
Sual CFTPP	39.7	29.8	10.7	19.4	53.8	45.7
Subic DPP					8.8	0.9
Tiwi GPP	2.3	0.7	0.1		10.4	1.5
TAPGC DPP	0.7	0.3			6.4	0.5

Table 7
PSI by Plant Based on Offered Capacity
Monthly, First Semester 2011 (Visayas)

Plant Name	Percent of Time					
	Jan	Feb	Mar	Apr	May	Jun
Bohol DPP	0.5				4.2	0.4
Cebu DPP I	0.5				5.3	0.4
Ceby DPP II	0.5				5.3	0.4
Cebu TPP I	0.7	0.3			5.0	0.4
Cebu TPP II	0.5	0.4			6.5	0.4
CEDC CFTPP	2.4	0.7	0.1		13.5	2.2
CPPC DPP	1.1	0.4			7.2	0.5
EAUC DPP	0.7	0.3			5.8	0.5
KSPC CFTPP					7.9	1.7
Tongonan GPP	1.1	0.4			7.8	0.5
Leyte A	10.9	3.5	0.9	2.3	21.7	9.9
Northern Negros GPP					5.3	0.4
Palinpinon GPP I	1.3	0.4			8.9	0.7
Palinpinon GPP II	1.1	0.4			8.1	0.5
Panay DPP III	0.9	0.4			6.4	0.5
PB 101					0.8	
PB 102	0.5				4.3	
PB 103	0.5				1.1	
PEDC CFTPP					8.1	0.5
TPC (SANGI) CFTPP	0.9	0.4			7.2	0.5
TPC (CARMEN) TPP	0.7	0.3			6.3	0.5

⁴ The Price Setting Index (PSI) identifies the generators that set the price or are near setting the spot price in a trading interval. A generator is considered a price setter if it's last accepted offer price is within 95 to 100 percent of its nodal price. The Price Setting Frequency Index (PSFI) is calculated as the percentage of time that a generator qualifies as a price setter in a period (i.e. monthly). A generator that frequently sets the price may have greater opportunities to design bidding strategies to influence the prices.

PRICE SETTING FREQUENCY INDEX (PSFI)

Tables 8 to 10 list the generating plants that qualified as price setters⁴ within the price range of Php 5,000/MWh and above.

Table 8
Price Setting Frequency Index
At Prices Equal to Php 5,000/MWh and Above
Monthly, Second Semester 2010 (Luzon)

Plant Name	Percent of Time					
	Jul	Aug	Sep	Oct	Nov	Dec
Calaca CFTPP	1.9	0.7	0.3		0.1	
Bauang DPP			1.7	11.8	16.3	11.7
Binga HEP	6.9		0.3	4.0		
Kalayaan PSPP			0.5	1.4	3.6	1.8
Ilijan NatGas Plant	15.8	1.5		2.5	10.9	6.1
Limay CCGT	16.5	1.7	10.2	15.8	6.0	4.4
Magat HEP	1.1	1.6	7.0	3.5		
Masinloc CFTPP	0.7	0.1		0.3	0.3	
Pagbilao CFTPP	6.4	3.4	13.8	12.2	8.3	5.0
San Roque HEP		0.1	2.0	1.1	9.8	7.1
Sual CFTPP	5.1	1.2			0.1	1.5
TAPGC DPP	2.8	3.6	4.4	2.6	0.3	1.0

Table 9
Price Setting Frequency Index
At Prices Equal to Php 5,000/MWh and Above
Monthly, First Semester 2011 (Luzon)

Plant Name	Percent of Time					
	Jan	Feb	Mar	Apr	May	Jun
Calaca CFTPP	0.1		0.3	0.5	1.9	
Bauang DPP	6.7	3.1	0.6	2.8	13.2	4.8
Kalayaan PSPP	2.8	1.5	0.7	2.3	1.0	1.1
Ilijan NatGas Plant		2.4	0.4			1.3
Limay CCGT	0.8	0.3		0.5	2.4	0.4
Makban GPP						0.1
Masiway HEP				0.1		
Pagbilao CFTPP	7.0	3.2	0.4		0.6	
San Roque HEP		1.7	0.6	3.8	1.1	0.3
Sual CFTPP		1.3	0.6	0.5	1.7	
Subic DPP			0.3	2.7	6.9	3.4
TAPGC DPP	2.3	1.3		1.1	1.4	2.8

Table 10
Price Setting Frequency Index
At Prices Equal to Php 5,000/MWh and Above
Monthly, First Semester 2011 (Visayas)

Plant Name	Percent of Time					
	Jan	Feb	Mar	Apr	May	Jun
Bohol DPP	0.4	0.8	1.2		0.8	0.9
Cebu DPP I	1.7	0.4				0.1
Cebu DPP II	0.1	0.7				0.1
Cebu TPP I					0.8	0.3
Cebu TPP II					1.0	
CEDC CFTPP	2.7		0.9	2.4	7.9	3.9
CPPC DPP		1.2			1.7	0.9
EAUC DPP	4.3	6.9	1.0	0.1	3.6	6.7
KSPC CFTPP					0.1	3.9
Leyte A	0.8	8.5	6.4	1.3		
Northern Negros GPP				0.3	0.1	
Palinpinon GPP I	0.1					
Panay DPP III	5.9	3.0	3.3	5.0	7.5	8.7
PB 101			0.1		0.6	0.5
PB 102	2.4	1.7	0.6		0.4	
PB 103	3.5	2.3	1.0		0.8	0.3
PEDC CFTPP					0.4	3.1
TPC (SANGI) CFTPP			0.1		0.3	0.1
TPC (CARMEN) TPP	0.9	0.1				1.3

The oil-based plants Limay and Bauang, coal plant Pagbilao and natural gas plant Ilijan appeared the most frequent price setters at prices equal to Php 5,000/MWh and above in particular billing months during the second semester of 2010. The hydroelectric plants San Roque, Binga and Magat had also qualified as frequent price setters at Php 5,000/MWh and above.

Lower price setting frequencies at prices equal to Php 5,000/MWh and above was observed in the first semester of 2011. This is due to the fact that market prices were below Php 5,000/MWh in more than 80% of the monthly trading intervals, except in the billing month of May 2011 (68% of the trading intervals). Oil-based plants Bauang and Subic appeared the frequent price setters among the Luzon plants at these price levels. On the other hand, oil-based plants Panay III and EAUC, coal plant CEDC and unified Leyte appeared as most frequent price setters among the Visayas plants.

The price setting figures in the billing months of January to April 2011 are most affected by the frequent occurrence of price separations between Luzon and Visayas resulting from the imposed scheduling constraint in the Leyte-Luzon HVDC. In May 2011, the SO-NGCP started to implement a free flow limit in the scheduling of the power flow in the Leyte-Luzon HVDC, which significantly reduced the occurrence of price separation between the regions.



Market Governance

THE PEM BOARD



SEC. JOSE RENE D. ALMENDRAS
Chairman
Secretary, Department of Energy (DOE)



MELINDA L. OCAMPO
Member, Market Operator
President, Philippine Electricity
Market Corporation (PEMC)



JOSEPH FERDINAND M. DECHAVEZ
Member, System Operator
Sr. Adviser to the President,
National Grid Corporation of
the Philippines (NGCP)



JESUS L. ARRANZA
Member, Independent
Chairman, Federation of
Philippine Industries (FPI)



FELIXBERTO U. BUSTOS
Member, Independent
Adjunct Professor, Asian
Institute of Management (AIM)



ANTONIO AGBAYANI VER
Member, Independent
President, H&BW Corporation

PHILIPPINE ELECTRICITY MARKET BOARD OF DIRECTORS

As of 31 May 2011

Secretary of Energy Jose Rene D. Almendras assumed the chairmanship of the PEM Board on 01 July 2011, taking over from outgoing Energy Secretary Jose C. Ibazeta.

The PEMC Board of Directors as the governing body of the WESM is mandated to carry out the objective to establish, maintain, operate and govern an efficient, competitive, transparent and reliable spot market. This fifteen-man body, whose members are appointed by the Department of Energy, is composed of representatives from the different sectors of the Philippine electricity market and independent members to maintain balance and objectivity.

To support the PEM Board in its task of governing the WESM, the WESM Rules provide for the creation of the Philippine Electricity Market (PEM) Committees. The PEM Committees are the Market Surveillance Committee (MSC), Rules Change Committee (RCC), Dispute Resolution Group (DRG), Technical Committee (TC) and PEM Audit Committee (PAC). The composition of the PEM Committees and the Committee members' terms of office are prescribed under the WESM Rules and the Guidelines on the Constitution of the PEM Board Committees. Committee members, who could either be stakeholder representatives or independent of the electric power industry (Independent), are appointed by the PEM Board.



RENATO A. BALINTEC
Member, Distribution
General Manager, Ilocos Norte
Electric Cooperative, Inc.
(INEC)



NIXON G. HAO
Member, Distribution
Vice President for Energy
Management, Manila Electric
Company (MERALCO)



DEON JAMES
Member, Distribution
Chief Executive Officer,
Dagupan Electric Corporation
(DECORP)



GERARDO P. VERZOSA
Member, Distribution
General Manager, Benguet
Electric Cooperative, Inc.
(BENECO)



LUIS MIGUEL ABOITIZ
Member, Generation
Sr. Vice President for Power
Marketing and Sales, SN
Aboitiz Power



EMMANUEL R. LEDESMA, JR.
Member, Generation
President, Power Sector
Assets Liabilities Management
Corporation (PSALM)



JUAN IGNACIO RUBIOLO
Member, Generation
Vice President for Commercial
Affairs, AES Masinloc Power
Partners Co., Ltd.



FROILAN A. TAMPINCO
Member, Generation
President, National Power
Corporation (NPC)



PETER G. NEPOMUCENO
Member, Supply
President, Angeles Power, Inc.



ROLANDO T. BACANI
PEMC Advisory Board
President, National
Transmission Corporation
(TransCo)



EDITA S. BUENO
PEMC Advisory Board
Administrator, National
Electrification Administration
(NEA)



MYLENE C. CAPONGCOL
PEMC Advisory Board
Director, Electric Power
Industry Management Bureau,
DOE

MARKET SURVEILLANCE COMMITTEE

WESM GOVERNANCE UPDATES

The WESM Rules provide for the creation of the PEM Committees, which are responsible for overseeing the activities of the electricity market. The PEM Committees are composed of the Market Surveillance Committee (MSC), Rules Change Committee (RCC), Dispute Resolution Group (DRG), Technical Committee (TC) and PEM Audit Committee (PAC).

The composition of the PEM Committees and the Committee members' terms of office are prescribed under the WESM Rules and the Guidelines on the Constitution of the PEM Board Committees. Committee members – stakeholder representatives or independent of the electric power industry – are appointed by the PEM Board.

The Market Surveillance Committee (MSC) primarily monitors and assesses the trading activities in the WESM to ensure market efficiency and fair competition. In line with this mandate, the MSC has deliberated on a number of compliance matters and monitored participants' market behaviors. The following are the MSC's monitoring activities for the period 25 June 2010 to 25 June 2011:

- There were eight (8) requests for investigation filed by the MSC before the PEM Board for possible breach of the WESM Rules on grounds of non-compliance with the real time dispatch (RTD) schedule/instructions or non-compliance with the submission of offer, for which the Board has directed the Enforcement and Compliance Office (ECO) to conduct the investigation on the concerned trading participants pursuant to the established rules of procedure.
- The MSC submitted to the PEM Board its Review Report of the following ECO Investigation Reports:
 - On 13 December 2010, the MSC submitted to the PEM Board its Review of the ECO Investigation Report, PEMC-ECO-2010-0007, involving Masinloc Power Partners Co. Ltd. (MPPCL) for alleged non-compliance with the RTD schedule/instruction for interval 21 on 03 June 2008. The said MSC Report was presented to the Board on 25 January 2011, where the Board adopted the conclusion and recommendations of the ECO, including those of the MSC, that the breach was committed unintentionally. However, the issuance of a non-compliance letter to the generator was recommended.

Likewise, in view of the MSC recommendation, the PEM Board directed the MSC to initiate drafting the definition of what constitutes an "adverse effect" as intended and mentioned in the Market Surveillance Compliance and Enforcement Market Manual (MSCEMM) including the parameters/criteria which may be established through a graded approach method to determine the degree of adversity and its impact on the Market. This process shall be done in accordance with existing rules on changes to Market Manuals.

- On 16 March 2011, the MSC submitted to the PEM Board its Review of two ECO Investigation Reports on the alleged non-compliance with the must-offer rule, as follows:
 - PEMC-ECO-2007-0001, involving the Power Sector Assets and Liabilities Management (PSALM) Trading Team 1-KEPCO Ilijan for the trading periods 26 September to 25 October 2006, 26 October to 25 November 2006 and 26 November to 25 December 2006.
- The PEM Board approved the Review Report and adopted the recommendations when this was presented during the 28 April 2011 PEM Board Meeting. In particular, the PEM Board approved the MSC's conclusion declaring PSALM Trading Team 1-Ilijan not in breach of the must-offer rule based on the COC issued by the ERC, with KEPCO having a registered capacity of 1,200 MW.
- PEMC-ECO-2007-0009, involving the National Power Corporation (NPC)-Masinloc Coal-Fired Thermal Power Plant (MCFTPP), for several trading dates in October, November and December 2006.



*Seated: Atty. Bernarda C. Lavisores, Ms. Eulinia M. Valdezco;
Standing: Dr. Peter Lee U, Engr. Francis V. Mapile*

The PEM Board approved the Review Report and adopted the recommendations when this was presented during the 28 April 2011 PEM Board Meeting. In particular, the PEM Board approved the MSC's conclusion that there was no evidence gathered to show that NPC-MCFTPP committed acts that may be considered a breach of the must offer rule for the alleged billing periods. The Board further approved the recommendations for the MSC to undertake appropriate action to enhance the conduct of investigations.

- On 25 May 2011, the MSC further submitted its Review of PEMC-ECO-2007-0008, on the possible non-compliance with the must offer rule of NPC-Batangas Coal-Fired Thermal Power Plant (BCFTPP) for trading dates 26 September 2006 to 25 October 2006, 26 October 2006 to 25 November 2006 and 26 November 2006 to 25 December 2006.

The PEM Board approved the Review Report and adopted the recommendations when this was presented during the 30 June 2011 PEM Board Meeting. In particular, the PEM Board approved the MSC's conclusion that there was no

evidence gathered to show that NPC-BCFTPP committed acts that may be considered a breach of the must offer rule for the subject billing periods. The PEM Board approved the recommendations for the determination of a reasonable timetable in the conduct of assessment, review and investigation and the establishment and implementation of a continuing education program in the field of electricity market investigation.

In addition to the above monitoring activities, the MSC has undertaken other activities as follows:

- Reviewed and adopted the periodic Market Assessment Reports (MAR) and the Monthly Market Assessment Highlights submitted by the MAG which was subsequently submitted to the PEM Board.
- Participated in the Energy Intermarket Surveillance Group (EISG) meeting held on 27-28 September 2010 at Shangri-La's Mactan Island Resort & Spa, Lapu-Lapu City, Cebu, which was attended by the member-market monitors from various electricity markets. Said conference was hosted by PEMC.
- Participated in the First General Assembly and Orientation for WESM Compliance Officers held on 3 December 2010.
- On-going review of the MSC EMM to streamline procedures and processes and adequately address the challenges encountered by the MSC in the performance of its functions and responsibilities.

The MSC is currently composed of four (4) out of the prescribed five (5) independent members

Committee Member	Position	Affiliation
Engr. Francis V. Mapile	Chair	Managing Director – FVMapile & Associates; Member – Professional Regulatory Board for Electrical Engineering
Atty. Bernarda C. Lavisores	Member	Financial and Legal Consultant
Ms. Eulinia M. Valdezco	Member	Radiation Protection & Nuclear Safety Consultant
Dr. Peter Lee U	Member	Dean – School of Economics, University of Asia & the Pacific

DISPUTE RESOLUTION GROUP

The Dispute Resolution Group (DRG) is tasked to resolve disputes lodged before the Committee by market participants and other WESM stakeholders. The WESM alternative dispute resolution is a voluntary process which follows the procedure of negotiation, mediation and arbitration of any conflict between or among parties as indicated in the WESM Rules which include: the Market Operator, the System Operator, the WESM Members or any intending WESM Member for issues such as interpretation of the WESM Rules, contract disputes or disputes relative to government issuances, or registration issues.

During the covered period, the following disputes have been formally filed with the Dispute Resolution Administrator (DRA) for mediation and arbitration:

■ **DRG Case No. 10-001 (PEMC, et. al. vs. ALECO)**

This case involved a claim filed by the Philippine Electricity Market Corporation (PEMC) against Albay Electric Cooperative, Inc. (ALECO) on 06 August 2010 to enforce payment of PhP 706,297,595.84¹ allegedly representing unpaid WESM statements of account for the period February to June 2010. In accordance with Section 7.2.2 of the Dispute Resolution Market Manual (DRMM), the DRA requested information from the Market Operator as to which market participants may be affected by any settlement or resolution of the dispute. On the basis of the Market Operator's response that 34 market participants were potentially affected, the DRA issued dispute notices to the identified market participants on 26 August 2010, and invited them to participate in the proceedings in accordance with Sec. 8.1.5 of the DRMM.

In response to the DRA's invitation, eight (8) market participants signified their intention to join the proceedings. However, three (3) of these eventually withdrew from the case, thus reducing the parties to five (5), namely: Therma Luzon, Inc. (TLI), Masinloc Power Partners Co. Ltd. (MPPCL), San Miguel Energy Corp. (SMEC), PANASIA Energy Holdings, Inc. (PEHI) and Strategic Power Dev't Corp. (SPDC).

The mediator for this case was Dean Rogelio M. Avenido. As a result of the mediation, the parties reached a partial settlement on 09 December 2010. As part of the settlement, ALECO acknowledged approximately PhP 968 million of the claim and agreed to pay the said amount on a staggered basis. The parties likewise agreed that the balance of approximately PhP 843 million, which has remained disputed, would be submitted to arbitration. Accordingly, the DRA created a Dispute Resolution Panel (DRP) in early January 2011 headed by Prof. Alfredo F. Tadiar to resolve the remaining claims. The parties signed the Terms of Reference (TOR) for the arbitration on 19 July 2011 and the arbitration hearing was set on 22 September 2011.

■ **DRG Case No. 11-001 (1590 EC, et. al. vs. PEMC & MERALCO)**

On 09 March 2011, 1590 Energy Corporation (1590 EC) filed a complaint against PEMC seeking the recovery of approximately PhP 143 million representing alleged negative variances between its offered prices and PEMC's final settlement prices. The DRA has notified all affected market participants of the dispute and has issued the corresponding dispute notices and invitation to participate. Nine (9) market participants have indicated their intention to join the proceedings either as co-claimants on the side of 1590 EC, or as co-respondents on the side of PEMC. Upon the unanimous nomination of the parties, the DRA appointed Dean Avenido as mediator on 07 April 2011. After a series of meetings,

¹Subsequently revised to approximately PhP 1.8 billion after the parties agreed to include additional billing periods not covered in the original claim.



Left to right: Mr. Alfredo J. Non, Atty. Alfredo F. Tadiar, Esq., Atty. Romulo R. Maristaza, Atty. Salvador S. Panga, Jr. (DRA), Engr. Rogelio M. Avenido

the parties reached an agreement on 11 July 2011. The agreement essentially called for the claimants’ withdrawal of their Statements of Claims and for PEMC’s explanation and discussion with the claimants how preliminary and final settlement prices were arrived at for the intervals in question during the subject billing period.

WESM Rules and DRMM for the resolution of WESM-related disputes such as negotiation, mediation and arbitration. The proposal aims to obviate issues and concerns in the implementation of the dispute resolution provisions where procedural steps are delineated resulting in an expeditious resolution of disputes.

The PEMC President certified said amendment as urgent on 16 August 2010 which was approved by the RCC and the PEM Board on 18 and 25 August 2010, respectively, except for the proposed schedule of mediation and arbitration fees, which were recommended by the PEM Board for further study and stakeholders’ consultation.

The DRG is currently composed of five (5) out of the prescribed eight (8) independent members:

Committee Member	Position	Affiliation
Atty. Salvador S. Panga, Jr. (DRA)	Administrator	Senior Partner – Parlade Hildawa Parlade Eco & Panga Law Offices
Engr. Rogelio M. Avenido	Member	Dean – School of Engineering, Manuel L. Quezon University
Atty. Romulo R. Maristaza	Member	Private Law Practitioner
Atty. Alfredo F. Tadiar, Esq.	Member	Professor of Law
Mr. Alfredo J. Non	Member	Chairman of the Board – KPS Outsourcing

- Aside from the foregoing dispute cases, the DRG has likewise undertaken the following activities:
- Pursuant to Section 5.6.3 of the DRMM, the DRA submitted four (4) DRG Reports to the PEM Board covering the period July 2010 to April 2011. These reports summarize the significant events that occurred during the covered period, including ongoing and new disputes referred to the DRA and, likewise, identify all other similarly important developments pertaining to the DRG as one of the PEM Committees.
 - The DRG submitted its proposed urgent amendments to the WESM Rules and the DRMM. The proposed amendments were deemed urgent by the DRG to address the procedural gaps in the existing

RULES CHANGE COMMITTEE

The Rules Change Committee (RCC) is mandated to provide assistance to the PEM Board and the Department of Energy (DOE) in the formulation and amendment of the WESM Rules and the Market Manuals. The formulation and amendment of Rules and Manuals is aimed at enhancing market design, as well as refining market processes and operations appropriate for the current market environment.

RCC-Approved Amendments to the WESM Rules and Manuals:

- **Amendments to the WESM Rules concerning Dispute Resolution Provisions and Dispute Resolution Market Manual.** As discussed in the previous section, proposed changes to the WESM Rules and the DRMM were submitted by the DRG as Urgent Amendments. The effectivity of the amendments ended on 24 February 2011 consistent with the provisions set forth in the Manual of Procedures for Changes to the WESM Rules (Rules Change Manual) that the PEM Board-approved urgent amendments shall be effective for a period of not more than six (6) months. With the expiration of the effectivity of the urgent amendments, the rules have reverted to its previous version. Taking this into consideration and being the proponent of the said amendments, the RCC wrote the DRG a letter requesting for recommendation on whether or not the DRG would propose for resubmission of the urgent amendments as general amendments following the General Amendment process. The DRG, through its letter to the RCC, expressed its decision not to re-submit the said amendments. As a way forward, the RCC has decided to review and subject all PEM Board-approved urgent amendments to the General Amendment process before the six-month effectivity period lapses.
- **Amendments to the Metering Standards and Procedures Manual.** Submitted by the RCC Metering Subcommittee, the proposed amendments were intended to provide a calculation scheme for missing metering point data in case of failure of WESM and Grid Code-compliant alternate and main meters as well as to allocate the transformer core loss proportionately to the metering point consumption and historical data. The amendments were approved by the RCC on 02 June 2010 and subsequently approved by the PEM Board on 22 November 2010.
- **Amendments to the WESM Rules and PEM Audit Manual concerning Software Changes.** The proposed amendments were submitted by PEMC in order for it to implement software changes through the ICT Change Management Process, which ensures



Seated: Engr. Jose P. Santos, Ms. Cynthia R. Encarnacion, Dr. Epictetus E. Patalinghug, Ms. Cherry Aquino-Javier, Atty. Liberty Z. Dumlaog

Standing: Engr. Conrado D. Pecjo, Engr. Ralph T. Crisologo, Engr. Augusto D. Sarmiento, Engr. Ciprinilo C. Meneses, Engr. Raul Joseph G. Seludo, Engr. Robinson P. Descanzo

proper and timely review, approval and monitoring of all activities on all stages of the change management process. Further, the revisions aim to facilitate and simplify the process of software changes without compromising proper levels of approval. The revisions were approved by the RCC on 04 August 2010 and subsequently approved by the PEM Board on 05 October 2010.

- **Price Substitution Methodology.** The PEMC submitted the proposed changes to make the provisions in the Manual consistent with the Energy Regulatory Commission Decision (dated 16 February 2009) and Order (dated 17 August 2009) in ERC Case No. 2008-051 RC on the supplemental application for the approval of the price determination methodology for the WESM, as well as to harmonize the methodology with WESM Rule Clause 3.10.5 on declaration of pricing error notices (PEN). The amendments also introduce the regional application of PSM, in cases where network congestion exists in one region only. These were approved by the RCC and the PEM Board on 13 October and on 27 October 2010, respectively.

- **Removal of Contingency List from the Ex-Post (RTX) Process.** The PEMC submitted its proposal to amend the WESM Manuals on Dispatch Protocol and the Procedure for Determining Ex-Post (RTX) Nodal Energy Prices. The amendments involve the exclusion of the contingency list as input in the RTX process and were introduced in order to conform to clause 3.10.6 (d) of the WESM Rules, as well as to address the frequency of occurrence of constraint violation coefficients and pricing errors arising due to contingency constraints imposed by the System Operator. This was previously approved by the RCC and PEM Board as Urgent Amendments on 13 and 27 October 2010, respectively. In compliance with the requirements set forth under the Manual of Procedures for Changes to the WESM Rules, the approved-urgent amendments were resubmitted to the RCC as General Amendments and subsequently approved by the RCC and the PEM Board on 06 and 28 April 2010, respectively.
- **New WESM Manual on the Criteria and Guidelines for the Issuance of Pricing Error Notices and Conduct of Market re-Run.** Submitted by PEMC, the new WESM Manual establishes and defines the categories and criteria for determining the occurrence of pricing errors, guidelines in conducting market re-run and the timetable for the publication of pricing error notices and market

re-run results. This was previously approved by the RCC and PEM Board as Urgent Amendments on 13 and 27 October 2010, respectively. In compliance with the requirements set forth under the Manual of Procedures for Changes to the WESM Rules, the approved-urgent amendments were resubmitted to the RCC as General Amendments and subsequently approved by the RCC and the PEM Board on 06 and 28 April 2010, respectively.

- **Amendments to the Administered Price Determination Methodology Manual.** The PEMC proposed amendments to the Manual in order to reflect the actual dispatch of the generator during market intervention or suspension, as well as to avoid or eliminate the adverse effects of abnormal market results in one region to influence the other region that has normal market results, to eliminate the cross subsidy between two regions and to mitigate the impact of pricing during market intervention or suspension thereby preserving the prices of one region with normal results. This was previously approved by the RCC and PEM Board as Urgent Amendments on 13 and 27 October 2010, respectively. In compliance with the requirements set forth under the Manual of Procedures for Changes to the WESM Rules, the approved-urgent amendments were resubmitted to the RCC as General Amendments and subsequently approved by the RCC and the PEM Board on 06 and 28 April 2010, respectively.
- **Proposal to Allow Scheduling of HVDC to a Fixed Value.** The PEMC submitted the proposed amendments to the WESM Dispatch Protocol Manual to support the software enhancement that will allow fixed HVDC scheduling in order to reduce occurrence of pricing error due to non-binding HVDC limit, minimize escalation of pricing errors and provide flexibility to accommodate/address other policies on HVDC operation.²
- **New WESM Manual on Registration, Suspension and Deregistration Criteria and Procedures.** Submitted by PEMC, the new Manual covers the guidelines, criteria and procedures for registration, suspension and deregistration of WESM members. It likewise sets out the rules and procedures on registration and suspension pursuant to the WESM Rules as well as the DOE Circular No. DC2010-08-0010 dated 23 August 2010 on the implementation of the disconnection policy. The new Manual was approved by the RCC on 04 May 2011. The PEM Board during its meeting on 25 May 2011 agreed to defer the approval of the new Manual and endorsed to the DOE, for review and appropriate action, the provisions on the post-registration changes.
- **Amendments to the WESM Rules and Billing & Settlement Manual.** Submitted by the AES-MPPCL, the proposed changes specify a prescribed period within which the MO shall issue the final statement adjustments. Specifically, the MO should already

² The proposal was endorsed to the PEM Board, for approval. However, due to developments in the market, it was later withdrawn by PEMC to subject it to further study and review on the basis that the operational tests conducted by SO have confirmed that there is no limit on the number of power flow directions in the HVDC.

issue the adjustments within 12 calendar months after the dispute has been resolved or six (6) calendar months after the error has been identified. The proposed changes were approved by the RCC on 04 May 2011 and subsequently approved by the PEM Board on 25 May 2011.

- **Changes to the WESM Dispute Resolution Framework.** Submitted by PEMC as urgent amendments, the proposed changes introduce changes to the existing WESM dispute resolution structure/mechanism. In particular, the changes involve the removal of the mediation and the arbitration processes from PEMC and thus resulting in the dissolution of the DRG as part of the WESM Governance Committees. The proposal likewise provides that the mediator and arbitrators for dispute resolution cases shall be sourced from a pool of accredited mediators and arbitrators from certified alternative dispute resolution providers. This urgent proposal was approved by the RCC and PEM Board on 08 and 30 June 2011, respectively.

Other Items Deliberated by the RCC:

- **Changes to the WESM Rules on WESM Audit.** The PEM Audit Committee (PAC) submitted the proposed changes to the WESM Rules on various audit provisions so as to: (i) establish the oversight functions of the PEM Auditor on WESM audits and to clarify

that the PEM Auditor and the PAC do not directly undertake the market audits; (ii) provide flexibility in managing the resources and audit activities of the PEM Auditor and auditees; and (iii) require the audits on other WESM service providers, i.e. the System Operator. The RCC deferred further discussion, pending the result of the coordination meeting between the PAC and NGCP on the implementation of reviews/audits.

- **Changes to the Rules on the Addition of IPP Administrator as Another Category of WESM Membership.** The Masinloc Power Partners Co. Ltd. (MPPCL) submitted their proposed WESM Rules Amendment to include IPP Administrator as an additional category for WESM Membership/Trading Participant to recognize the existence of IPP Administrators as a new type of market participant which does not specifically meet the description of either a Generation Company or Customer as defined in the WESM Rules. The proposal was withdrawn by the proponent, following the position expressed by the RCC that there is no need to amend the WESM Rules to create a separate category for IPPA since the definition of the Generation Company already encompasses the functions of the IPPA.

- **Changes to the WESM Manual of Procedure on Start-up and Shutdown of a Generating Unit and Dispatch Protocol Manual to address generator issues on the “Must-Offer” Rule.** In order to address the generators’ issues on the “Must-Offer” Rule, the Aboitiz Power Corporation submitted proposed revisions to some of the existing provisions, which are deemed relevant to the “Must-Offer” Rule, contained in the said WESM Manuals. Upon conduct of votation, the RCC disapproved the proposed revisions on allowing the fast-start generators to cancel their offers, and the proposed inclusion of coal constraints and preventive maintenance as allowable technical constraints to the maximum available capacity. On the other proposed revisions, the RCC agreed to defer the discussion pending the RCC’s review of the applicability of the existing provisions.
- **Amendments to the WESM Manual on the Management of Must-Run Units.** Submitted by PEMC, the proposed amendments involve revisions on the compensation and settlement mechanism to comply with the ERC Order dated 06 February 2008 in ERC Case No. 2006-007 RC, as well as provide for regional application of the methodology of allocating the MRU settlement. For this purpose, regional application means that the application of cost recovery will be applied only to the region where the must-run unit is implemented. The proposal likewise involves revisions on the flowchart to reflect the current procedures being followed by the System Operator in designating and scheduling of MRUs.
- **New WESM Manual on the Segregation of Line Rental Trading Amounts.** The PEMC submitted the proposed new WESM Manual to document the manner by which the line rental trading amount is computed in the WESM, as well as to establish the methodology for segregating line rental trading amounts into cost of losses and congestion.

The RCC, which mirrors the sectoral representation of the PEM Board, is currently composed of the following: four (4) members representing the Generator Sector; three (3) out of the prescribed four (4) members representing the Distribution Sector; one (1) member representing the System Operator; one (1) member representing the Market Operator; one (1) member from the Supply Sector; and one (1) out of the prescribed four (4) independent members. The members of the RCC during the covered period are shown below:

Committee Member	Position	Affiliation
Dr. Epictetus E. Patalinghug	Acting Chairperson (Independent)	Professor – University of the Philippines
Ms. Cherry Aquino-Javier	Member (Generator)	Trading Director – AES Philippines
Engr. Ralph T. Crisologo	Member (Generator)	OIC – Chief Operating Officer / AVP, Market Operations Group – SN Aboitiz Power
Atty. Liberty Z. Dumlao	Member (Generator)	Corporate Legal Counsel – PSALM Corporation
Engr. Ronald V. Siquioco	Alternate (Generator)	Sr. Financial Planning Specialist – PSALM Corporation
Ms. Cynthia R. Encarnacion	Alternate (Generator)	OIC, Accounts Management Department – National Power Corporation
Engr. Ciprinilo C. Meneses	Member (Distribution)	Senior Manager & Acting Head, Energy Sourcing Office – MERALCO
Engr. Ryan S. Morales	Alternate (Distribution)	Energy Sourcing Office – MERALCO
Engr. Augusto D. Sarmiento	Member (Distribution)	Network Operations Manager – Dagupan Electric Corporation
Engr. Jose P. Santos	Member (Distribution)	Energy Trading Manager – Ilocos Norte Electric Cooperative, Inc.
Engr. Roy F. Alimbuyuguen	Alternate (Distribution)	Interim WESM Market Researcher – Ilocos Norte Electric Cooperative, Inc.
Engr. Conrado D. Pecjo	Member (Supplier)	Manager – Angeles Power, Inc.
Engr. Raul Joseph G. Seludo	Member (SO)	Department Head, Luzon Systems Operation – National Grid Corporation of the Philippines
Engr. Reynaldo B. Abadilla	Alternate (SO)	Deputy Head, Technical Services Department – National Grid Corporation of the Philippines
Engr. Robinson P. Descanzo	Member (MO)	VP, Corporate Planning and Communications – Philippine Electricity Market Corporation

TECHNICAL COMMITTEE



Left to right: Engr. Meleusipo E. Fonollera, Sr., Engr. Santiago A. Dimaiwat IV, Engr. Jaime V. Mendoza, Engr. Edgar Graciolo F. Alcazar

The Technical Committee (TC) is tasked to monitor and review technical matters under the WESM Rules, the Grid Code and the Distribution Code in relation to the operation of the spot market.

On 18 June 2010, the TC submitted to the PEM Board its updated position paper with regard to the Bakun and Casecnan HEPs' request for reclassification. In the formulation of the position paper, the TC took into account the passage of Republic Act 9513 (RE Law), Philippine Grid Code provisions, WESM Rules and market impact of such reclassification and also held consultation meetings with the Renewable Energy Management Bureau of the Department of Energy (DOE) and the National Grid Corporation of the Philippines (NGCP).

The report was presented to the PEM Board on 05 October 2010, where it was approved and confirmed. As a result of the PEM Board's action, the said hydroelectric plants remained scheduled generating facilities in the WESM and the previous exemption against investigation/inquiry of alleged breaches accorded to them was officially lifted.

On 05 April 2011, the TC submitted to the PEM Board another position paper regarding the issue of Pmin, Pmax and ramp rates. In the said paper, the TC endeavors to address the Pmin issue by developing criteria in the determination of the appropriate minimum stable loading for WESM generating facilities. In addition, the paper included the analysis of Pmax and the ramp up/down rates, which are likewise technical parameters submitted by the trading participants in the WESM.

The TC has likewise submitted to the RCC its comments on the following proposed rules changes:

- New WESM Manual on Registration, Suspension and Deregistration Criteria and Procedures; and
- Changes to the WESM Manual of Procedure on Start-up and Shutdown of a Generating Unit and Dispatch Protocol Manual to address generator issues on the "Must-Offer" Rule.

Presently, the TC is undertaking several researches and studies emanating from requests of the other PEM Committee as well as the DOE:

- **Review of power plant outage classifications such as forced and scheduled outages, and deactivated and reserve shutdown.** The initial result of the review suggests the need to harmonize the definition and the use of these terms. In addition to this, the TC will carry out a study that will assess the performance and reliability of generators in the WESM.
- **Review of WESM dispatch tolerance level.** Taking into consideration the impact to the grid and to the power system reliability and security, the TC is reviewing the dispatch tolerance limit set at +/- 3%.
- **Proposed definition of "adverse effect".** Acting on the request of the MSC to provide inputs on the proposed definition of adverse effects, the TC is reviewing the Philippine Grid Code and other relevant market manuals to determine the extent of impact to the grid of non-compliance to the WESM Rules.

The TC is currently composed of the following: two (2) independent members, one (1) member representing the Distribution Management Committee (DMC) and one (1) member representing the System Operator. The TC still lacks one (1) member representing the Grid Management Committee (GMC). The members of the TC during the covered period are shown below.

Committee Member	Position	Affiliation
Engr. Meleusipo E. Fonollera, Sr.	Chairman	Director – Westrade International Co., Inc.
Engr. Edgar Graciolo F. Alcazar	Member	Director – Technical Support Group, Ayala Property Management Corp.
Engr. Jaime V. Mendoza	Member	Chairman – Distribution Management Committee Member – Board of Electrical Engineering
Engr. Santiago A. Dimaiwat IV	Member	Deputy Assistant, Chief Technical Officer – NGCP- SO

PEM AUDIT COMMITTEE



Dr. Felixberto U. Bustos, Jr., Atty. Gloria Victoria Y. Taruc

The PEM Audit Committee (PAC) is tasked to conduct regular operational audits of the market operator, settlement systems and any other procedures relevant to the spot market. In July 2010, the PAC concluded the conduct of the first market operations audit undertaken by Deloitte Australia, a member of Deloitte Touche Tohmatsu. Deloitte worked with its local partner Deloitte Philippines-Manabat Delgado Amper and Co. and Intelligent Energy Systems Pty Ltd (IES) Australia.

The PAC engaged the Internal Audit Department (IAD) to conduct further reviews of the internal processes on Market Operations and in-house developed software, i.e. the Price Substitution Methodology (PSM) and Wholesale Billing and Settlement System (WBSS). The engagement concluded with the submission of the audit reports in July 2010.

In line with its function to submit written proposals of changes to the WESM Rules if it detects deficiencies in the course of its duties, the PAC submitted proposed amendments to the WESM Rules regarding the revisions to the audit process and activities and the proposed System Operations Audit in December 2010.

With the PEM Board’s approval in February 2011, the PAC is currently overseeing the second independent operational audit of the systems and procedures on market operations for the period 26 June 2009 to 25 June 2011. The External Auditor for the said audit is PA Consulting Group Ltd. of New Zealand.

The said market audit covers the audit of the systems, models and procedures on market operations and the billing and settlement, including the interfaces with the System Operator, Metering Service Provider (MSP), Trading Participants, ERC and DOE. The audit also covers the review of the Market Assessment System (MAS) and any procedures and working processes used in the collection, validation and processing of market monitoring data and calculation of monitoring indices.

For the next project, the PAC will focus on metering audit, which will cover the Metering Services Provider’s (MSP) compliance to the requirement on metering installation, security arrangement and other systems and processes of the WESM Rules and other standards. The metering audit is provided in Section 11 of the PEM Audit Manual.

The PAC is currently composed of two (2) independent members. The members of the PAC during the covered period are shown below:

Committee Member	Position	Affiliation
Dr. Felixberto U. Bustos, Jr.	Chairman / PEM Auditor	Adjunct Professor – Asian Institute of Management (AIM)
Atty. Gloria Victoria Y. Taruc	Member	Assistant Solicitor General – Office of the Solicitor General (OSG)

ENFORCEMENT AND COMPLIANCE

One of the key developments on WESM governance came into being with the issuance by the Department of Energy (DOE) of Department Circular No. DC 2010-07-0008. The DOE Circular approved the amendment to the WESM Rules adding Clause 7.2.9 requiring WESM Members, Market Operator (MO), System Operator (SO), Metering Service Provider (MSP) and any other WESM Service Providers to designate their own WESM Compliance Officers (WCO). The DOE Department Circular was published in the Philippine Daily Inquirer on 10 July 2010 and took effect 15 days following its publication.

Under Clause 7.2.9 of the WESM Rules, the Compliance Officer appointed by the WESM Members, MO, SO, MSP and any other WESM Service Providers shall, among others, monitor and undertake necessary activities to ensure the full compliance of their respective organizations to the EPIRA, its IRR, the WESM Rules and the WESM Market Manuals, and develop necessary procedures and guidelines for this purpose.

The WESM Enforcement and Compliance Office (ECO) is the main coordinator between the WCOs and PEMC. The WCOs are expected to help PEMC in fostering a culture of compliance for the WESM and in increasing market confidence.

Role of the WESM Compliance Officer

- Monitor and undertake necessary activities to ensure the full compliance of their respective organization to the EPIRA, the EPIRA Implementing Rules and Regulations, WESM Rules, and the WESM Market Manuals; and develop necessary procedures and guidelines for this purpose.
- From time to time, if the Compliance Officer deems it necessary or appropriate, propose policies or amendments to the WESM Rules and/or WESM Market Manuals to enhance or develop the WESM enforcement and compliance, with the objective of promoting good commercial and technical practices.
- Be responsible in facilitating and coordinating with the WESM Enforcement Compliance Office (ECO), all matters relating to the enforcement and compliance of their respective organization, including the provision of the necessary information and data, as may be required by any of the WESM Governance Committees and by the ECO.
- Submit a report to the ECO concerning their respective organization's compliance with WESM Rules and WESM Market Manuals on an annual basis or as may be determined by the ECO or any of the WESM Governance Committees.

Source: DOE Circular DC 2010-07-0008



Registration

WESM MEMBERS

(as of 25 June 2011)

DIRECT MEMBERS – GENERATION COMPANIES		
Member	Registered Facility	Effective Date
LUZON		
1590 Energy Corporation	Bauang Diesel Power Plant	6 September 2010
Amlan Power Hydro, Inc.	Bakun Hydro Electric Power Plant	23 February 2010
AP Renewables, Inc.	Makban Geothermal Power Plant	26 May 2009
	Tiwi Geothermal Power Plant	26 May 2009
Bacman Geothermal, Inc.	Bacman Geothermal Power Plant	26 May 2011
FGP Corporation	San Lorenzo Natural Gas Power Plant	26 June 2006
First Gas Power Corporation	Sta. Rita Natural Gas Power Plant	26 June 2006
First Gen Hydro Corporation	Pantabangan Hydro Electric Power Plant	18 November 2006
	Masiway Hydro Electric Power Plant	18 November 2006
HEDCOR, Inc.	Irisan 3 Hydro Electric Power Plant	26 August 2010
	Sal-angan Hydro Electric Power Plant	13 September 2010
Masinloc Power Partners Co. Ltd.	Masinloc Coal Fired Thermal Power Plant	17 April 2008
National Irrigation Administration	NIA-Baligatan Hydro Electric Power Plant	26 October 2008
National Power Corporation	Angat Hydro Electric Power Plant	26 June 2006
Northwind Power Development Corporation	NWPDC Wind Power Plant	26 November 2006
PANASIA Energy Holdings, Inc.	Limay Combined Cycle-Gas Turbine Power Plant	19 January 2010
People’s Energy Services, Inc.	Barit Hydro Electric Power Plant	26 February 2011
Power Sector Assets & Liabilities Management Corporation	Casecnan Hydro Electric Power Plant	26 June 2006
	Hedcor Hydro Electric Power Plant	26 June 2006
	Malaya Oil Thermal Power Plant	26 June 2006
	Caliraya Hydro Electric Power Plant	26 June 2006
	Botocan Hydro Electric Power Plant	26 June 2006
	Kalayaan Hydro Electric Power Plant	26 June 2006
Quezon Power Philippines (Limited) Company	QPPL Coal-Fired Power Plant	26 June 2006
San Miguel Energy Corporation	Sual Coal-Fired Thermal Power Plant	6 November 2009
SEM Calaca Power Corporation	Batangas Coal Fired Thermal Power Plant	4 December 2009

DIRECT MEMBERS – GENERATION COMPANIES		
Member	Registered Facility	Effective Date
SN Aboitiz Power-Benguet, Inc.	Binga Hydro Electric Power Plant	11 July 2008
	Ambuklao Hydro Electric Power Plant Unit 1	1 June 2011
SN Aboitiz Power, Inc.	Magat Hydro Electric Power Plant	26 April 2007
South Premier Power Corporation	Ilijan Natural Gas Power Plant	26 June 2010
Strategic Power Development Corporation	San Roque Hydro Electric Power Plant	26 January 2010
Therma Luzon, Inc.	Pagbilao Coal-Fired Power Plant	1 October 2009
Trans Asia Power Generation Corporation	TAPGC Diesel Power Plant	5 January 2007
Udenna Management & Resource Corporation	Subic Diesel Power Plant	17 February 2011
VISAYAS		
Avon River Power Holdings Corporation	Avon River Diesel Power Plant	26 December 2010
Bohol I Electric Cooperative, Inc.	Janopol Hydro Electric Power Plant	26 December 2010
Cebu Energy Development Corporation	CEDC Coal-Fired Thermal Power Plant	26 December 2010
Central Azucarera de San Antonio	CASA Biomass Co-Generation Power Plant	26 February 2011
East Asia Utilities Corporation	EAUC Diesel Power Plant	26 December 2011
Energy Development Corporation	Northern Negros Geothermal Power Plant	26 March 2011
First Farmers Holding Corporation	FFHC Biomass Co-Generation Power Plant	26 December 2010
Green Core Geothermal, Inc.	Tongonan Geothermal Power Plant	26 December 2010
	Palinpinon Geothermal Power Plant I	26 December 2010
	Palinpinon Geothermal Power Plant II	26 December 2010
ICS Renewables Inc.	Amlan Hydro Electric Power Plant	26 March 2011
KEPCO SPC Power Corporation	KSPC Coal Fired Thermal Power Plant Unit 1	28 February 2011
	KSPC Coal Fired Thermal Power Plant Unit 2	31 May 2011
National Power Corporation	Power Barge 101	26 December 2010
	Power Barge 102	26 December 2010
	Power Barge 103	26 December 2010
Panay Energy Development Corporation	PEDC Coal-Fired Thermal Power Plant	19 March 2011
Panay Power Corporation	Avon New Washington Diesel Power Plant	26 December 2010
	PPC Nabas Diesel Power Plant	26 December 2010
	PPC Diesel Power Plant	26 December 2010
Power Sector Assets & Liabilities Management Corporation	Leyte A (HVDC)	26 December 2010
	Cebu Diesel Power Plant 1	26 December 2010
	Cebu Diesel Power Plant 2	26 December 2010
	Cebu Coal Fired Thermal Power Plant 1	26 December 2010
	Cebu Coal Fired Thermal Power Plant 2	26 December 2010

DIRECT MEMBERS – GENERATION COMPANIES		
Member	Registered Facility	Effective Date
SPC Island Power Corporation	Bohol Diesel Power Plant	26 December 2010
	Panay Diesel Power Plant I	26 December 2010
	Panay Diesel Power Plant III	26 December 2010
Sta. Clara Power Corporation	Loboc Hydro Electric Power Plant	26 December 2010
Toledo Power Corporation	TPC Diesel Power Plant	26 December 2010
	TPC Coal Fired Thermal Power Plant	26 December 2010
Trans Asia Oil Development Corporation	Guimaras Diesel Power Plant	26 February 2011

DIRECT MEMBERS – DISTRIBUTION UTILITIES			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
Cabanatuan Electric Corporation	26 January 2010	Bohol Light Company, Inc.	26 December 2010
Dagupan Electric Corporation	26 November 2009	Mactan Electric Company	26 December 2010
Manila Electric Company	26 June 2006	Visayan Electric Company	26 December 2010

DIRECT MEMBERS – ELECTRIC COOPERATIVES			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
Albay Electric Cooperative, Inc.	26 August 2007	Aklan Electric Cooperative, Inc.	26 December 2010
Batangas I Electric Cooperative, Inc.	26 December 2009	Antique Electric Cooperative, Inc.	26 December 2010
Batangas II Electric Cooperative, Inc.	5 March 2010	Biliran Electric Cooperative, Inc.	26 December 2010
Benguet Electric Cooperative, Inc.	26 April 2008	Bohol I Electric Cooperative, Inc.	26 December 2010
Camarines Norte Electric Cooperative, Inc.	26 May 2010	Bohol II Electric Cooperative, Inc.	26 December 2010
Camarines Sur II Electric Cooperative, Inc.	6 December 2006	Capiz Electric Cooperative, Inc.	26 December 2010

DIRECT MEMBERS – ELECTRIC COOPERATIVES			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
Camarines Sur III Electric Cooperative, Inc.	26 January 2010	Cebu I Electric Cooperative, Inc.	26 December 2010
Camarines Sur IV Electric Cooperative, Inc.	25 June 2010	Cebu II Electric Cooperative, Inc.	26 December 2010
First Laguna Electric Cooperative, Inc.	26 December 2010	Cebu III Electric Cooperative, Inc.	26 December 2010
Ilocos Norte Electric Cooperative, Inc.	26 November 2006	Central Negros Electric Cooperative, Inc.	26 December 2010
Ilocos Sur Electric Cooperative, Inc.	26 October 2010	Guimaras Electric Cooperative, Inc.	26 December 2010
Isabela I Electric Cooperative, Inc.	26 July 2009	Iloilo I Electric Cooperative, Inc.	26 April 2011
Kalinga-Apayao Electric Cooperative, Inc.	26 March 2009	Iloilo II Electric Cooperative, Inc.	26 December 2010
Mountain Province Electric Cooperative, Inc.	26 December 2009	Iloilo III Electric Cooperative, Inc.	26 December 2010
Nueva Ecija II Area I Electric Cooperative, Inc.	26 August 2009	Don Orestes Romualdez Cooperative, Inc. (LEYECO I)	26 December 2010
Nueva Ecija II Electric Cooperative, Inc. – Area II	26 July 2010	Leyte II Electric Cooperative, Inc.	26 December 2010
Peninsula Electric Cooperative, Inc.	26 November 2009	Leyte IV Electric Cooperative, Inc.	26 December 2010
Sorsogon I Electric Cooperative, Inc.	26 June 2008	Leyte V Electric Cooperative, Inc.	26 December 2010
Sorsogon II Electric Cooperative, Inc.	26 November 2010	Negros Occidental Electric Cooperative, Inc.	26 December 2010
Tarlac I Electric Cooperative, Inc.	26 May 2008	Negros Oriental I Electric Cooperative, Inc.	26 December 2010
Tarlac II Electric Cooperative, Inc.	26 July 2009	Negros Oriental II Electric Cooperative, Inc.	26 December 2010
		Samar II Electric Cooperative, Inc.	26 December 2010
		VMC Rural Electric Cooperative, Inc.	26 December 2010

DIRECT MEMBERS – BULK USERS			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
First Gen Hydro Corporation (Pantabangan Housing)	26 February 2011	Balamban Enerzone Corporation	26 December 2010
Pilipinas Shell Petroleum Corporation	26 October 2010	Mactan Enerzone	26 December 2010
Team Energy Corporation (Pagbilao Reserve Auxiliary Transformer)	26 September 2010		

DIRECT MEMBERS – WHOLESALE AGGREGATORS			
Member	Effective Date	Member	Effective Date
Aboitiz Energy Solution, Inc.	4 June 2007	Manta Energy, Inc.	15 November 2010
AES Philippines Inc.	13 April 2008	Team (Philippines) Energy Corporation	2 January 2008
Angeles Power Inc.	8 April 2008	Trans-Asia Oil and Development Corporation	20 September 2007
First Gen Energy Solutions	26 January 2010		

INDIRECT MEMBERS – DISTRIBUTION UTILITIES			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
Angeles Electric Corporation	5 September 2006		
San Fernando Electric Light & Power Co.,	26 October 2010		
La Union Electric Light & Corporation	25 September 2009		
Tarlac Electric, Inc.	20 September 2010		

INDIRECT MEMBERS – ELECTRIC COOPERATIVES			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
Abra Electric Cooperative	31 October-06	Eastern Samar Electric Cooperative	26 December 2010
Aurora Electric Cooperative, Inc.	26 August 2010	Leyte III Electric Cooperative	26 December 2010
Central Pangasinan Electric Cooperative	22 September 2006	Northern Samar Electric Cooperative	26 December 2010
Ifugao Electric Cooperative, Inc.	26 November 2010	Samar I Electric Cooperative, Inc.	26 December 2010

INDIRECT MEMBERS – ELECTRIC COOPERATIVES			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
Pampanga I Electric Cooperative, Inc.	20 September 2010	Southern Leyte Electric Cooperative, Inc.	26 December 2010
Pampanga Rural Electric Service Cooperative	26 August 2010		
Pangasinan I Electric Cooperative	4 October 2006		
Quirino Electric Cooperative, Inc.	26 November 2010		
San Jose City Electric Cooperative, Inc.	15 October 2010		
Pangasinan III Electric Cooperative	31 October 2006		
Zambales I Electric Cooperative, Inc.	26 July 2010		
Zambales II Electric Cooperative, Inc.	26 November 2010		

INDIRECT MEMBERS – BULK USERS			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
Atlantic Gulf and Pacific Co.	26 October 2010	Alturas Group of Companies	26 December 2010
The Authority of the Freeport Area of Bataan	8 November 2010	Carmen Copper Corporation	26 December 2010
Albay Agro-Industrial Development Corporation	8 November 2010	Dumaguete Coconut Mills	26 December 2010
Babcock-Hitachi Philippines, Inc.	15 October 2010	General Milling Corporation – Cebu	26 December 2010
Bicol Ice Incorporated	26 October 2010	Lide Management Corporation	26 December 2010
Batangas Bay Terminal, Inc.	14 February 2011	Marcela Industrial Plant	26 December 2010
Currimaos Aluminum Corporation	8 November 2010	Orica Nitrates Philippines, Inc.	26 December 2010
ECSCO, Inc.	15 November 2010	Philippine Associated Smelting and Refining Corporation	26 December 2010
Edong Cold Storage and Ice Plant	15 November 2010	Philippine Foremost Milling Corporation	26 December 2010
EEL Corporation	21 March 2011	Philippine Mining Service Corporation – Bohol Plant	26 December 2010
Coastal Bay Chemicals, Inc.	15 October 2010	Philippine Mining Service Corporation – Alcoy Plant	26 December 2010
Formosa Ceramic Tiles MFG. Corp.	15 November 2010	Philippine Phosphate Fertilizer Corporation	26 December 2010
Goodfound Cement Corporation	15 November 2010	SC Global Coco Products	26 December 2010
High Street (SPV-AMC), Inc.	26 September 2010	Specialty Pulp Manufacturing, Inc.	26 December 2010

INDIRECT MEMBERS – BULK USERS			
Member	Effective Date	Member	Effective Date
LUZON		VISAYAS	
INGASCO, Inc.	15 October 2010	Taiheiyo Cement Philippines, Inc.	26 December 2010
International Rice Research Institute	26 September 2010	Visayan Oil Mills	26 December 2010
JORAM, Inc.	26 November 2010	Philippine Economic Zone Authority – Mactan Economic Zone 1	26 December 2010
Melters Steel Corporation	26 October 2010		
Oliver Enterprises	15 March 2011		
Petron Corporation	26 October 2010		
Philippine Hydro (PH), Inc.	26 October 2010		
Purity Ice Plant & Cold Storage	15 October 2010		
Puyat Steel Corporation	7 March 2011		
Republic Cement Corporation	11 April 2011		
SKK Steel Corporation	15 October 2010		
Steel Corporation of the Philippines	26 March 2011		
Stronghold Steel Corporation	15 February 2011		
Holcim Philippines, Inc.	12 March 2007		
Partido Rice Mill Corporation	20 September 2010		

The National Grid Corporation of the Philippines (NGCP) is a registered WESM Member particularly as System Operator, Metering Services Provider and Network Services Provider. Its registration as such is pursuant to the WESM Rules which requires such registration.

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