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SOLVING SUMMER POWER SHORTAGES

Rotating brownouts are back. In January this year, Luzon had been placed on brownout alert when the country's largest coal plant in Sual, Pangasinan was shut down. In early March, a series of brownouts struck even Metro Manila as the Sual and the Masinloc power plants bogged down due to boiler tube leaks.

These brownouts bring to mind the more serious power outages in the early 1990s which threatened to plunge the country into an economic crisis. The Ramos administration instituted a series of stop-gap solutions to solve the power shortages and encouraged the development of long-term power development program in the Medium-Term Philippine Development Plan (MTPDP).

The Power Sector Today

In April 2009, the Department of Energy (DOE) presented the draft Philippine Energy Plan (PEP) 2009-2030 showing projections of demand forecasts, power capacity requirements and dependable capacity of the Luzon, Visayas and Mindanao grids.

Dependable capacity is the reliable amount in megawatts of electricity that power plants could supply continuously. It is determined by such factors as capability, operating power factor and portion of the load the plant station is to supply.

According to the draft Plan, power shortages will occur if the programmed power plants are not constructed on time. Critical periods were identified in the three major islands: 2011 for Luzon, 2009 for Visayas and 2010 in Mindanao. The critical period is the year when existing generating capacity will not be able to meet the peak demand and the required reserve margin for electricity.

The draft PEP 2009-2030 showed that currently, there are expected potential power shortages in the main grids. Luzon, for instance, will need new 300 MW capacity by 2011 and will require a total of 11,900 MW until 2030. The Visayas needs 100 MW by 2018 and a total additional 2,150 MW until 2030. On the other hand, Mindanao requires an additional 50 MW this year, 50 MW in 2011 and a total additional capacity of 2,500 MW until 2030.

The National Economic and Development Authority (NEDA) Infrastructure Staff (IS) warned that the retirement of the 100 MW Hopewell Gas Turbine Plant in 2010 and the 650 MW Malaya Thermal Plant in 2011 will aggravate power shortages in Luzon. On the other hand, due to the presence of private investors who came to build coal plants and boosted supply, Visayas was able to defer its critical period. Mindanao supply was augmented by the 210 MW Mindanao Coal Power Plant that became operational in 2007 thus also deferring its critical period.

Power Supply and Demand Outlook

GRID	Dependable Capacity (MW)	Peak Demand (MW) 2008	Ave. Annual Growth Rate (%)	Committed Capacity (MW)	Critical Period	Required Add'l Capacity (MW) 2009-2030	Indicative Capacity (MW) 2009-2030
LUZON	10,030	6,822	4.5	600	2011	11,900	3,449
VISAYAS	1,505	1,176	4.6	654	2009	2,150	182
MINDANAO	1,682	1,228	4.6	100	2010	2,500	581
PHILIPPINES	13,217		4.6	1,354		16,550	4,211

Source: Draft PDP, 2009-2030, DOE

Moreover due to drought, the low water levels in the dams of various hydropower plants decreased their available capacities. According to the Philippine Energy Plan 2009 Updates presented by the DOE in Baguio City on March 11, 2009, Mindanao is heavily dependent on hydropower plants with an average 56-percent share of hydroelectric generation to total Mindanao generation for the period 2004-2008.

According to the daily operation report of National Grid Corporation of the Philippines (NGCP), the actual capability of Agus hydroelectric plants of the National Power Corporation (NPC) have only 130 MW out of their total rated capacity of 728 MW. The 255-MW NPC-owned Pulangi plant was also currently running at only 20 MW. Nevertheless, the Iligan diesel power plant which was ordered to shut down in February this year is already online and is providing 35 MW to the Mindanao grid.

As of March 2010, the NGCP placed Mindanao's available capacity at 741 MW as against peak load of 1,393 MW or a deficiency in reserves of 652 MW. Meanwhile, Luzon is 19 percent dependent on hydropower while Visayas is one percent dependent.

Daily Power Outlook
(As of March 11, 2010)

	LUZON	VISAYAS	MINDANAO
Available Capacity	7085	1152	797
Peak Load	7114	1198	1447
	-29	-46	-650

Source: National Grid Corporation of the Philippines (NGCP)

NEDA said the problem of power shortage in the country is manageable but NEDA Infrastructure Staff Director Ruben S. Reinoso added that the availability of power barges which may be transported throughout the country provides an immediate but limited and short-term solution to providing energy to the grids. This, he said, may redound to higher cost of electricity in the affected areas, depending on the cost of oil or fuel to be used for the power barges. Thus, "it is in the best interest of the country for the government to implement the projected plans for the power sector."

NEDA'S Initial Recommendations

To address power shortage problems, the NEDA has outlined initial recommendations that are within the limitations of the Electric Power Industry Reform Act (EPIRA) of 2001.

NEDA recommends to immediately rehabilitate or upgrade several undisposed NPC plants as these may already be strategically located within the major island grids. These plants are: (a) Navotas I and II Diesel

Plants in Fishport Complex in Navotas, Metro Manila; and (b) Sucat Thermal Plant in Sucat, Muntinlupa City.

NEDA also recommends the review of financing policies for missionary electrification as discussed during the Infrastructure Committee Meeting in February this year.

Moreover, NEDA proposes to hasten the implementation of Net Metering to encourage small power generation and bringing it up to the household level if possible to reduce demand and increase supply of power in the main grids.

Net metering is an electricity policy for consumers who own (generally small) renewable energy facilities, such as wind, solar power or home fuel cells. It is is generally a consumer-based renewable energy incentive. It provides the customer with full retail value for all the electricity produced.

NEDA likewise said there should be support to strengthen the energy efficiency and conservation efforts of the DOE. The ratification of an energy law should also be supported which will mandate the implementation of demand-side management strategies throughout the country.

Sources:
Chapter 4 Power Sector, Philippine Energy Plan 2009 Updates presented by DOE at the Dusit Thani Hotel, Makati City on April 29, 2009 and NEDA-Infrastructure Staff Memo to acting DG Augusto B. Santos on March 15, 2010.