



Republic of the Philippines
DEPARTMENT OF ENERGY

DEPARTMENT ORDER NO. D02006-11-0011

DELINEATING RESPONSIBILITIES OF THE DEPARTMENT OF ENERGY AND ITS ATTACHED AGENCIES TO ENSURE RELIABLE AND ADEQUATE POWER SUPPLY DURING THE SCHEDULED MAINTENANCE OF THE MALAMPAYA DEEP WATER GAS-TO-POWER PROJECT

WHEREAS, it is the policy of the State to ensure quality, reliability, security and affordability of electric power;

WHEREAS, Shell Philippines Exploration B. V. (SPEX), the operator of the Malampaya Deep Water Gas-To-Power Project, will be undertaking the first scheduled inspection and maintenance from November 18 to December 12, 2006 of the Shallow Water Platform and On-Shore Gas Plant after five years of operation;

WHEREAS, the scheduled maintenance will result in the interruption of natural gas supply to the Ilijan, Sta. Rita and San Lorenzo power plants which would further affect the dependable capacity in Luzon, which are already affected by the current repair/maintenance of Sual 1 & 2 (1100 MW), Masinloc 2 (limited to 155 MW), BacMan 1 to 4 (150 MW), Tiwi 3 (55 MW), Makban 5 & 6 (110 MW), Angat Mn 3 (50 MW) and Binga 1 (25 MW);

WHEREAS, the combined 2,700 MW Ilijan, Sta. Rita and San Lorenzo natural gas plants can run on alternative fuels such as diesel oil/distillates/condensates during the scheduled shutdown;

WHEREAS, there is a need to ensure reliable and adequate power supply during the scheduled maintenance shutdown of the Malampaya deep water gas-to-power project;

NOW, THEREFORE, the attached agencies of the Department of Energy are hereby assigned their respective responsibilities to undertake prior to and during the shutdown period of the Malampaya deep water gas-to-power project.

Section 1. Designated Focal Persons in each Agency. The following are designated as focal persons in each of the energy agencies:

National Electrification Administration:	Administrator Edita S. Bueno
National Power Corporation:	President Cyril C. del Callar
National Transmission Corporation:	President Arthur N. Aguilar
Philippine Electricity Market Corporation:	President Lasse A. Holopainen

**Philippine National Oil Company –
Exploration Corporation:**

**Officer-in-Charge Rafael E. del
Pilar**

**PNOC- Energy Development
Corporation:**

President Paul A. Aquino

**Power Sector Assets and Liabilities
Management Corporation:**

President Nieves L. Osorio

Undersecretary Melinda L. Ocampo shall be the focal person for the DOE.

Section 2. Responsibilities. In addition to the respective functions and responsibilities of the energy agencies under their charters, and under existing laws, rules and regulations, they shall perform the following responsibilities, with the objective of ensuring reliable and adequate power supply during the scheduled maintenance shutdown of the Malampaya deep water gas-to-power project at reasonable power costs:

DOE

Responsible for the overall coordination of activities related to the Malampaya maintenance shutdown and for ensuring power supply adequacy, reliability and reasonable price of electricity during the period.

NPC

1. Ensure that all plants will be operating in normal condition and that no other plants will schedule their maintenance shutdown during the scheduled maintenance period, except those already undergoing repair (Annex A contains the list of plants and their operational status);
2. Ensure that all oil-based power plants/IPP's meet their required fuel oil inventories/supply during the scheduled maintenance period, even prior to the start of the scheduled maintenance (Annex B contains the fuel inventory of NPC, NPC-IPP's);
3. Ensure minimum 45-day coal inventory in all coal power plants prior to Malampaya shutdown;
4. Adopt water conservation in all full reservoir and peaking hydro plants/IPP's to improve dam water elevation prior to the scheduled maintenance (in coordination with the National Irrigation Authority (NIA) and PSALM), including limiting the use of Pantabangan/Masiway and Magat hydros for Irrigation Delivery Requirement (IDR) requirements and for further use only to fill-up capacity deficiency to avoid start-up of next expensive power plant;
5. Coordinate with NIA, Metropolitan Waterworks and Sewerage System (MWSS) and National Water Resources Board (NWRB) regarding limitation or allocation of the use of Angat for the IDR and domestic water requirements only, and for emergency use in case of extreme capacity deficiency;
6. Reserve water at Caliraya Lake for emergency use of Kalayaan power plant, operation of which during the scheduled maintenance must be limited to regulation and spinning reserve during the off-peak (in coordination with PSALM,

- TransCo-System Operator (SO) and PEMC), and ensure proper dam elevation every weekend from pumping operation;
7. Maximize utilization of Pantabangan/Masiway during the Malampaya shutdown (in coordination with NIA and PSALM) without prejudice to the requirements of item 4 herein;
 8. Ensure readiness of all oil-based power plants for operation and their removal from preservation status before Malampaya shutdown;
 9. Operate Ilijan and if possible Navotas Gas Turbine using diesel stock in case of extreme emergency;
 10. Provide data inputs to PSALM on the Deferred Payment Facility (DPF) arrangement of the government with SPEX; and
 11. Ensure that all its customers are informed and updated on the power supply situation, and the corresponding load curtailment schedules.

TRANSCO

1. Ensure that transmission lines affected by typhoon Milenyo are restored prior to the scheduled maintenance of the Malampaya deep water gas-to-power project, taking into account the use of the Emergency Restoration System (ERS) as temporary replacement for the 42 toppled towers in Bicol Region thereby limiting the capacity transfers from Tiwi to Tayabas to 240 MW maximum;
2. Subject to transmission system condition, implement maintenance of major transmission line/s that will add load limitation to generating plant/unit only in emergency situations during weekends, and perform system tests and Ancillary Certification tests only during weekends;
3. Implement continuous dispatch of a unit of Magat during off-peak hours for reactive support requirement in Northern Luzon;
4. Implement load curtailment in distribution utilities (private utilities and electric cooperatives or ECs) without Default Wholesale Supply Arrangements with NPC/PSALM in case there is simultaneous plant shutdown while Malampaya deep water gas-to-power project is on maintenance (in coordination with NPC and distribution utilities); and
5. Report immediately to the Secretary and the DOE Focal Person, through the fastest way of communication, if there are any changes in the normal operation of the power system.

PSALM

1. Together with DOE and NPC, determine the possible impact of the Malampaya shutdown on the Deferred Payment Facility (DPF) arrangement of the government with SPEX, for financing the payment of natural gas not taken but payable by NPC in excess of NPC's planned generation consumption (PLANGAS) and when natural gas consumption is below Take-or-Pay (60 PJ) and above PLANGAS;
2. Adopt water conservation in all full reservoir and peaking hydro plants/IPPs to improve dam water elevation prior to the scheduled maintenance (in coordination with the NIA and NPC), including limiting the use of San Roque multi-purpose facility primarily for energy generation; and

3. Coordinate the required operation of Pantabangan/Masiway during the Malampaya shutdown with the new owner of the power plant, as the case may be.

PNOC-EC

Assist the DOE in coordinating with SPEX on the submission of reports pertaining to any developments in the Malampaya maintenance activities and if necessary, provide recommendations on any issues or concerns that may arise therefrom.

PNOC-EDC

1. Assess the maximum contribution of PNOC-EDC energy resources for power generation to the Luzon grid particularly geothermal sources of energy; and
2. Prepare plans and ensure readiness of geothermal power plants to facilitate the use of geothermal sources of energy in the Luzon grid, to ensure stability of power supply.

NEA

1. Ensure that the ECs in Luzon are properly informed of the situation and possible impact to the system of the scheduled maintenance. Towards this end, NEA shall render appropriate assistance to the Luzon ECs in ensuring readiness to respond to any event arising from the Malampaya maintenance activities;
2. Advise ECs with customers having self-generating capability to effect necessary preparations to ensure readiness of their generating sets in case load curtailment would be necessary; and
3. Submit regular reports to DOE on status of activities undertaken together with the ECs in the performance of its responsibilities under this Order.

In addition, **PEMC** is likewise directed to:

1. Develop mechanisms to ensure market participants will behave reasonably in accordance with the dictates of market forces, and not undertake anti-competitive activities; and
2. Provide daily report and analysis to the DOE and Energy Regulatory Commission on the market behavior and provide recommendations on addressing problems that may occur (including mechanism for reserve calculations to address Constraint Violation Coefficients (CVCs).

Section 3. Reportorial Requirements. Upon effectivity of this Department Order, the attached agencies and the DOE concerned units shall submit weekly reports to the DOE Focal Person (Undersecretary Melinda L. Ocampo) on developments in the various activities regarding the Malampaya deep water gas-to-power project scheduled maintenance, for consolidation and analysis. The DOE Focal Person shall then submit status reports and recommendations to the Secretary. Any issues and unusual incidents in

between reporting period which need immediate action shall be reported immediately to the DOE Focal Person so they can be acted upon accordingly.

Section 4. Secretariat Support. Concerned Bureaus and units of the DOE, as indicated below, shall provide necessary and appropriate secretariat and technical support to the DOE Focal Person, including the preparation of Communication Plan:

1. Electric Power Industry Management Bureau (EPIMB) - Power supply and demand situation and power rate implications (in coordination with NPC, TRANSCO, PEMC, PSALM, MERALCO, ERC) of the scheduled maintenance shutdown;
2. Energy Resource and Development Bureau (ERDB) - Coordination with SPEX on status of Malampaya maintenance activities and submission of regular reports and recommendations (in coordination with PNOC); and
3. Compliance Division - Determination of impact of the scheduled maintenance shutdown to the DPF (in coordination with NPC and PSALM).

This Department Order shall take effect immediately and shall remain in effect until otherwise revoked by the DOE Secretary or until the scheduled maintenance shutdown of the Malampaya deep water gas-to-power project is completed, whichever comes earlier.

Bonifacio Global City, Taguig City, Metro Manila, 10 November 2006.



RAPHAEL P. M. LOTILLA
Secretary

ANNEX A

POWER PLANT STATUS REPORT (As of 1000h, November 6, 2006)

Plants	Installed Cap., MW	Dependable Cap., MW	Nominated Cap., MW	Remarks
Thermal	3872	1960	1310	
	600	165	165	
Calaca 1	300	165	165	Unit 1 limited to 165 MW with 100% local coal Unit 2 target lit-off, 1200H, 11/06/06. ETI @ 2400H
Calaca 2	300	0	0	
	600	425	425	
Masinloc 1	300	270	270	Unit 1 limited to 270 MW
Masinloc 2	300	155	155	Unit 2 limited to 155 MW due to outage of 1BFP
	728	720	720	
Pagbilao 1	364	360	360	Unit 1 normal operation
Pagbilao 2	364	360	360	Unit 2 on normal operation
	1294	0	0	
Sual 1	647	0	0	Unit 1 on SD, 10/23/06, due to stator earth fault
Sual 2	647	0	0	Unit 2 on 6-month outage for Generator repair until March 2007
Oil Thermal	650	650	0	
Malaya 1	300	300	0	Unit 1 on Economy shutdown
Malaya 2	350	350	0	Unit 2 on Economy shutdown
Natural Gas	1200	1200	1200	
Ilijan Block A	600	600	600	Block 1 on normal operation
Ilijan Block B	600	600	600	Block 2 on normal operation
Comb. Cycle	600	495	0	
Limay Block A	300	295	0	Block A on standby reserve
Limay Block B	300	200	0	Block B on standby reserve, GT 13B on FO due to Transformer
Gas Turbine	100	90	0	
Hopewell 4	100	90	0	Unit to serve as secondary back-up
Geothermal	1321.8	484	384	
HVDC	440	250	150	Dispatch depends on excess from Visayas
	442.8	2103	103	
Makban 1	63.2	63	63	Unit 1 on normal operation
Makban 2	63.2	0	0	Unit 2 on final turbine inspection, Oct 22 - Nov 12, 2006
Makban 3	63.2	0	0	Unit 3 on final turbine inspection, Oct 29 - Nov 17, 2006
Makban 4	63.2	0	0	Unit 4 on final turbine inspection, Oct 29 - Nov 17, 2006
Makban 5	55	0	0	Unit 5 on Deactivated Shutdown due to turbine rotor trouble
Makban 6	55	0	0	Unit 6 on Deactivated Shutdown due to turbine rotor trouble
Makban 7	20	0	0	Unit 7 on shutdown due to battery charger
Makban 8	20	20	20	Unit 8 on normal operation
Makban 9	20	0	0	Unit 9 on SD due to steam deficiency caused by SS-7 well
Makban 10	20	20	20	Unit 10 on normal operation
	289	131	131	
Tiwi 1	60	43	43	Unit 1 on Maintenance outage
Tiwi 2	60	0	0	Unit 2 on Shutdown, nov 6 - Dec 5, for final turbine inspection
Tiwi 3	55	0	0	Unit 3 on SD due to insufficient steam
Tiwi 5	57	40	40	Unit 5 capability limited due to low condenser vacuum
Tiwi 6	57	48	48	Unit 6 on normal operation
	150	0	0	
Bacman 1	55	0	0	Unit 1 on shutdown for overhauling
Bacman 2	55	0	0	Unit 2 on repair of leak at lubricating oil coolers
Bacman 3	20	0	0	Unit 3 under Preservation. For total replacement of Turbine
Bacman 4	20	0	0	Unit 4 on extended maintenance outage

ANNEX A (Cont.)

POWER PLANT STATUS REPORT (As of 1000h, November 6, 2006)

Hydro	2255	1885.42	1597.5	
	246	111	83.5	Res. Elev. (as of 0600h)- 194.80M Rule Curve - 202.86M
Angat Mn 1	50	44	30	Main Units 1 & 2 available for normal operation. Dispatch at maximum of 35 MW based on NIA requirements Mn 3 on shutdown for repair of guide bearing & T-G foundation Mn 4 on Annual Plant Maintenance and Testing
Angat Mn 2	50	44	30	
Angat Mn 3	50	0	0	
Angat Mn 4	50	0	0	
Angat Aux 1	6	5	5	
Angat Aux 2	6	5	5	Aux. units 1,2,3 & 4 available for normal operation.
Angat Aux 3	6	5	5	
Angat Aux 4	10	8	8.5	Aux. Unit 5 on Deactivated shutdown
Angat Aux 5	18	0	0	
	360	360	360	Res. Elev. (as of 0600h) - 192.97M Rule Curve - 188.34M
Magat 1	90	90	90	Magat Units available for normal operation. Dispatch at rated capacity due to large inflow
Magat 2	90	90	90	
Magat 3	90	90	90	
Magat 4	90	90	90	
	112	100	100	Res. Elev. (as of 0600h) - 219.04M Rule Curve - 210.05M
Pantabangan 1	50	45	45	Pantabangan and Masiway Units available for normal operation. Dispatch depends on IDR requirements.
Pantabangan 2	50	45	45	
Masiway	12	10	10	
	100	75	75	Res. Elev. (as of 0600h) - 572.20M Rule Curve - 575M
Binga 1	25	0	0	Unit 1 on Maintenance outage
Binga 2	25	25	25	Unit 2, 3 & 4 available for normal operation
Binga 3	25	25	25	
Binga 4	25	25	25	
	75	0	0	Res. Elev. (as of 0600h) - 751.16M Rule Curve - 752M
Ambuklao	75	0	0	Plant on Deactivated SD due to heavy siltation.
	777	734	734	
Kalayaan 1	180	175	175	Units 1, 2, 3 & 4 available for normal operation
Kalayaan 2	180	175	175	
Kalayaan 3	180	175	175	
Kalayaan 4	180	175	175	
Caliraya	40	24	24	Caliraya available for normal operation
Botocan	17	10	10	Botocan available for normal operation
	345	345	85	Res. Elev. (as of 0600h) - 280.24M Rule Curve - 280.0M
San Roque	345	345	85	Limited to nominated capacity of 85 MW
Bakun	70	40	40	Dispatch based on inflow
				Elevation (as of 0600h) - 462.16M
Casecnan	140	120	120	Plant dispatch on rated capacity due to large inflow
Diesel	441	336	0	
Buang PPC	220	220	0	Units on standby reserve
Subic Power	116	116	0	Units on standby reserve
Edison cogen.	45	0	0	BOO contract with NPC expired June 21, 2004
Magellan	60	0	0	On total SD starting on July 1, 2006
Total (NPC)	9759.8	6450.42	4492	
Total (Meco)		2000	2000	
Total System		8450.42	6492	
Peak Demand, MW			5770	Reserved: MW - 722; % Reserved - 12.5

Source: National Power Corporation

ANNEX B

NATIONAL POWER CORPORATION
FUEL INVENTORY OF OIL-BASED PLANTS

PLANT NAME	Inventory Cut Off	Existing Inventory (Kliters)	Daily Consumption @ Full Load (Kliters)	Equivalent Number of Days
A	B	C	D	E = C/D
DIESEL FUEL				
1 Ilijan NGPP ^{1/}	11/5/2006	20,202	5,745	3.5
2 Bataan CCPP ^{2/}		2,103	828	2.5
FUEL OIL				
NORTH LUZON				
1 Bataan ^{1/}	11/6/2006	10,257	3,024	3.4
2 Bauang DP ^{2/}		5,145	1,200	4.3
3 Subic DP ^{2/}		3,232	650	5.0
SOUTH LUZON				
1 Malaya TP ^{1/}	11/5/2006	22,149	4,000	5.5

1/ Based on NPC Fuel Inventory Report as of November 8, 2006.

2/ Based on NPC submission to DOE during the Nov. 6, 2006 Energy Family ExeCom meeting.