

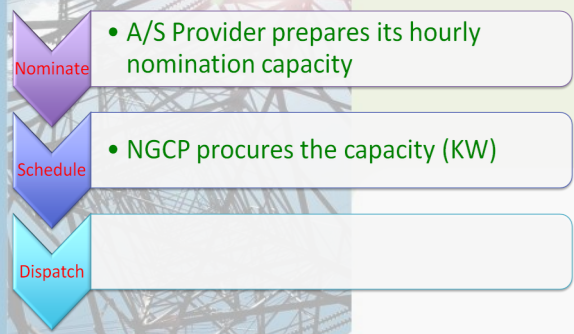


# Ancillary Services in the Philippine Power Industry

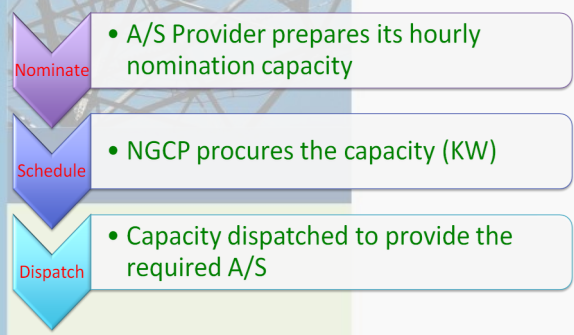


## THE FUNDAMENTALS

### Automatic Nomination?



### Energy Settlement?



### How is the billing payment?

The billing shall be on "As Collected" basis (NGCP pays whatever is collected from customers).

### How is the Contract Implemented?

The approval of grant of provisional authority (PA) of ERC. The approval or grant of PA shall include the approval of the applicable AS rates. NGCP-RRR will advise NGCP-SO for the ASPA implementation.



NATIONAL GRID CORPORATION OF THE PHILIPPINES

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## What is Ancillary Services (AS)?

The Grid Code defines Ancillary Services as support services necessary to sustain the transmission capacity & energy that are essential in maintaining the power quality, reliability & security of the grid. Its primary function is to maintain the load generation balance of the system.

### What is the Legal Basis of AS?

*EPIRA (Section 8):* TransCo assumes NPC's authority & responsibility for the planning, construction & centralized operations & maintenance of its high voltage transmission facilities, including grid interconnections & ancillary services.

*Section 12, Rule 6 of the IRR:* Obliges transmission users to pay charges for the use of ancillary services; Allows TransCo to charge & collect payments for the use of Ancillary Services on behalf of Generators; Transmission Charges & fees for Ancillary Services shall be fixed by ERC.

### What is the Regulatory Basis of AS?

The Grid Code mandates TransCo, now NGCP & being the System Operator, to be "responsible in determining, acquiring & dispatching the capacity needed to supply the required Ancillary Services of the Grid."

In compliance to the OATS Rules (Module D7), TransCo developed & filed to the ERC on December 2004 the Ancillary Service Procurement Plan which outlines the processes that the system operator must undergo in order to implement the procurement of the Ancillary Service.

### What are the Types of AS?

*Frequency Regulating Reserve Service (FRR):* A generating capacity necessary to adjust automatically the total system generation in response to small fluctuations/dynamics of loads and generation outputs over a short period of time.

*Contingency Reserve Service (CR):* An insurance generating capacity necessary to adjust automatically the total system generation in response to sudden reduction of generation output or tripping of generating unit. The generating units should be on-line & synchronized to the grid. Contingency Reserve is also used when Regulating Reserve becomes insufficient.

*Dispatchable Reserve Service (DR):* Is also an insurance generating capacity necessary to replenish the Contingency Reserve. The generating units should have fast start capability. DR generators should be able to synchronize to the grid within 15 minutes & sustain its operation at a minimum of 8 hours, if necessary.

*Reactive Power Support Service (RPS):* A generating unit used to absorb from or supply reactive power to the grid in order to maintain the system voltage within the +/-5% level. It supplies reactive power by operating beyond 0.85 lagging PF & absorbs reactive power by operating beyond 0.90 leading PF. RPS generators should operate within their capability curves.

*Black Start Service (BS):* A generating unit used to restore power system from partial or total system black out. It can start without the need of external power supply from the grid. BS service generators must be ready to extend power within 30 minutes. They should be able to sustain their operation for at least 12 Hours.

### What are the required AS Levels?

TYPE	REQUIRED
Frequency Regulating Reserve	4.0% of the Forecasted Hourly System Demand
Contingency Reserve	Total scheduled unit load and unit reserve level of the most heavily loaded generator
Dispatchable Reserve	Equal to the scheduled load and reserve on the second most heavily loaded scheduled generator
Reactive Power Support	Dependent on System Voltage Condition
Black Start Service	At least 2 Black Start plants per Restoration Highway

## Basic Terms & Conditions of the Ancillary Services Procurement Agreement (ASPA)



### Who can apply for AS and what services?

Generators accredited by NGCP may provide any or all of the AS types.

### What are the Accreditation Tests Required?

The Prospective A/S Provider will hurdle the required certification process as defined by the Philippine Grid Code. The A/S capability tests will be conducted in accordance with the Ancillary Services Procurement Plan. The tests shall be witnessed by the authorized representatives of System Operations. The Philippine Grid Code allows NGCP to conduct such tests no more than twice a year.

### What is the Contract duration?

One (1) to Three (3) years contract, subject for renewal. An automatic termination of the contract once the Reserve Market becomes operational.

### When is the Billing Period & Payment Due Date?

The Billing Period shall be on the 26<sup>th</sup> of the current month up to the 25<sup>th</sup> of the following month. Payment Due Date shall be on the last day of the month succeeding the end of the Billing Period.

### What is the basis of payment?

Is based on the scheduled capacity. There is no guaranteed payment upon nomination.