

TERMS OF REFERENCE
Procurement of Ancillary Services through Competitive Selection Process
April 2022



The NGCP sets the following Terms of Reference for the interested bidders for the provision of Ancillary Services. These terms will also form part of the Ancillary Services Procurement Agreement (ASPA).

TERMS OF REFERENCE	DESCRIPTION	REQUIREMENTS
Type of Contract and Duration	Firm Contract	Firm Contract for five (5) years, with Annual Performance Evaluation in which contract may be terminated if performance is no longer reliable. Contract duration is not intended to be extended, as another bidding will be conducted for expiring contracts.
Power Plant Location	Luzon Grid Visayas Grid Mindanao Grid	1. Power plant that is directly connected to an NGCP-owned Facility should have a dedicated connection for the Generating Unit used to provide the Contracted Capacity; or 2. For Embedded Generators, with expressed consent from Host DU that Embedded Generator can dispatch anytime when required for AS provision. The entire capacity of the Generating Units offered for this service for specified schedule/duration should be dedicated for AS, and not be used for regular energy supply to load customers or station use service.
Required Certifications	Valid certifications for submission by Eligible Bidders before the deadline for submission of Post-Qualification requirements:	
	ERC-issued certification	Provisional or Final Certificate of Compliance (COC) as an Independent Power Producer (IPP)
	IEMOP issued certification	Per-unit or Per-sector WESM registration, consistent with AS Certification. Aggregated units/sectors will not be accepted.
	NGCP-issued certification	Valid Ancillary Service Certification indicating the AS types the plant is qualified to provide per Unit/per Sector
Grid interface and control requirements	Equipment required to be installed at the AS Provider's power plant and connection point	1. Control Mode for Regulating Reserve shall be Automatic Generation Control (AGC) and capable also to run on Governor Control Mode (GCM) if required. 2. Control Mode for Contingency Reserve shall be GCM.
		<u>Dedicated Revenue Metering per Unit/per Sector consistent with WESM Registration</u> - shall be WESM compliant without any connected Load customer or Station Use load
		Remote Terminal Unit (RTU)- capable of per unit/per sector monitoring

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Contracted Capacity	<p>Open for bidding from multiple AS Providers in Luzon, Visayas and Mindanao grids to comply with the following AS requirements:</p> <table border="1" data-bbox="488 281 1484 716"> <thead> <tr> <th data-bbox="488 281 987 317">AS Type</th> <th data-bbox="987 281 1484 317">Approved Level</th> </tr> </thead> <tbody> <tr> <td data-bbox="488 317 987 470">1. Regulating Reserve</td> <td data-bbox="987 317 1484 470">4% of the hourly system demand and any such qualified regulating reserve capacity required to mitigate any frequency variability in the grid, as may be deemed necessary by NGCP</td> </tr> <tr> <td data-bbox="488 470 987 531">2. Contingency Reserve</td> <td data-bbox="987 470 1484 531">the most heavily loaded generating unit on-line and its scheduled reserve</td> </tr> <tr> <td data-bbox="488 531 987 625">3. Dispatchable Reserve</td> <td data-bbox="987 531 1484 625">the second most heavily loaded generating unit on-line and its scheduled reserve</td> </tr> <tr> <td data-bbox="488 625 987 657">4. Reactive Power Support</td> <td data-bbox="987 625 1484 657">dependent on system voltage condition</td> </tr> <tr> <td data-bbox="488 657 987 716">5. Black Start Service</td> <td data-bbox="987 657 1484 716">one black start plant per restoration highway</td> </tr> </tbody> </table> <p>Offer shall be identified per Unit/per Sector and presented in an hourly profile to already consider the scheduled outage hours of the plant. There will be no more allocation for outage hours allowance.</p> <p>Detailed hourly profile for the RR, CR, and DR requirements are included in the Bidding Documents to be provided to Eligible Bidders.</p>	AS Type	Approved Level	1. Regulating Reserve	4% of the hourly system demand and any such qualified regulating reserve capacity required to mitigate any frequency variability in the grid, as may be deemed necessary by NGCP	2. Contingency Reserve	the most heavily loaded generating unit on-line and its scheduled reserve	3. Dispatchable Reserve	the second most heavily loaded generating unit on-line and its scheduled reserve	4. Reactive Power Support	dependent on system voltage condition	5. Black Start Service	one black start plant per restoration highway	
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Replacement AS Capacity	<p>AS Provider to source and provide replacement AS capacity for Firm Regulating Reserve, Firm Contingency Reserve, and Firm Dispatchable Reserve, (whether unavailable or derated), to avoid penalties.</p>	<p>Firm AS capacity shall be available and maintained at the scheduled capacity level all times. Unavailability, unit tripping or deration shall be replaced with AS capacity from AS certified Units that are not scheduled for AS, coming from the AS Provider's facility or another AS-certified generating facility of the same AS type.</p> <p>Upon implementation of Reserve Market (RM), replacement capacity may be procured by AS Provider from the RM, and cost difference to be shouldered by AS Provider. Non-replacement shall result to non-compliance, and will be subject to penalty.</p> <p>NGCP shall pay the amount of AS cost based on the rates in the ASPA, or the actual cost of Replacement AS Capacity, whichever is lower. Any resulting additional cost from Replacement AS Capacity shall be shouldered by the AS Provider, and shall not be passed on for recovery from NGCP.</p> <p>Absence of a Replacement AS capacity will subject the affected hours to penalties. There will no longer be an allocation for Outage Hours Allowance for Firm AS Capacity.</p>												
Deration of AS Capacity	Deration will be subject to penalties	Derated capacity that is not replaced with a Replacement AS capacity shall be subject to non-payment and penalty; compliant available capacity to be paid accordingly												

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AS Scheduling	Day-ahead nomination by AS Provider and scheduling by NGCP	<p>1. Nomination by the AS Provider of available capacity should be submitted to NGCP - System Operations day-ahead not later than 2:00 pm based on available generating units:</p> <p>a. Weekdays for the next day nomination except Fridays. Friday for Saturday, Sunday and Monday. Working Day before Holiday until the next working day</p> <p>2. Submission by NGCP of Day-Ahead Ancillary Services Schedule (DAASS) to the AS Provider shall be made not later than 5:00 pm.</p> <p>3. All day-ahead nomination of available capacity and approvals shall be made electronically thru web facility provided by System Operations-NGCP. In case web facility is not available, email shall be used.</p>
Basis of Payment	Payment by NGCP for actual provision of AS by AS Provider	<p>Payment by NGCP to the AS Provider shall be based on <u>Scheduled Capacity</u> and its corresponding dispatched energy for compliant hours only. Capacity and Energy costs for Non-compliant hour(s) shall not be paid, and shall be subject to applicable penalties.</p> <p>Further, payment by NGCP to the AS Provider shall be based on the actual collection from grid customers, on a pro-rated basis among all AS Providers.</p>
Penalty	Penalty of AS Provider for Non-compliance to technical criteria, or not following the dispatch instruction of NGCP.	<p>Non-compliant hour shall also have a penalty of 50% of the Applicable Rate for Capacity Payment multiplied by the Scheduled Capacity on said hour(s).</p> <p>E.g. Scheduled Capacity = 10MW Applicable Rate = 2.25 PhP/kW/hrhr Non-compliant hour = 1 hr Penalty = 10,000kW x 2.25PhP/kW per hr x 1hr x 50% = 11,250 PhP</p>
Ancillary Service Rates and Payment	(A) Capacity Payment for Scheduled Capacity	<p>Rate in PhP/kW per hour, maximum. A lower rate may be proposed by the applicant.</p> <p>Regulating Reserve: PhP 2.25/kW per scheduled hour</p> <p>Contingency Reserve: PhP1.50/kW per scheduled hour</p> <p>Dispatchable reserve: PhP 0.85/kW per scheduled hour</p> <p>Reactive Power Support: PhP 4.00/kVAR per hour, per occurrence</p> <p>Black Start Service: Incidental Energy Payment only, per occurrence</p>
	(B) Incidental Energy Payment for Dispatched portion of the Scheduled Capacity, with the following components:	<p>Note that Incidental Energy Payment for <u>Regulating Reserve and Contingency Reserve</u> does not include the energy dispatch from the generating unit's technical Pmin.</p>

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	Variable O&M, in PhP/kWh	Covers actual costs associated with operating the power plant as an AS Provider
	Fuel cost, inclusive of all related costs, for fuel-based plants, in PhP/kWh	Covers actual fuel costs associated with operating the power plant as an AS Provider. Hydroelectric or geothermal power plant (renewable energy) may consider its cost of water or cost of steam utilization as "fuel cost", as applicable.
Total AS Cost	Computation of the cost of actual AS provided	Hourly AS Cost = (Undispatched Capacity x A) + [Dispatched Capacity x (A+B)] - WESM Revenue - Penalty + any billing adjustments Where: WESM Revenue = revenue derived from the energy dispatched from the scheduled AS capacity; Penalty = 50% x (A x Scheduled Capacity) Billing adjustments = applicable adjustments as a result of monthly billing reconciliation
AS Cost Simulation	Simulated Total AS Cost in Pesos	Provide a simulated Total AS Cost for each AS type, using the components provided in the Ancillary Services rates portion above, for the scenarios provided in the Template for AS Cost Simulation. Exclude cost of VAT in the meantime. Cost of technical Pmin for Regulating Reserve and Contingency Reserve are not included.
Basis of Termination of ASPA	The ASPA shall be considered for termination and the AS Capacity subject thereof shall be opened up for bidding, upon the occurrence of any of the scenarios below: 1. AS Provider's Annual Performance Evaluation has below 90% compliance; 2. Non-availability of power plant/unit due to Force Majeure exceeding 30 calendar days; 3. Prolonged outage of the plant without securing a Replacement AS capacity; 4. Power plant fails the regular AS Certification test (every 2 years) and cannot resolve the technical problem for re-certification within 30 days; 5. Persistent occurrences of power plant tripping / non-compliances during the period it is scheduled for AS provision. 6. Material adverse change in the Terms of Reference and the ASPA due to changes in law, rules and regulation, and/or significant modification of the ASPA by the ERC in its Provisional Authority to implement or Final Decision 7. Termination of Connection Agreement and Service Agreements with NGCP.	
Bid Participation Fee	There shall be no bid participation fee, nor bid documents fee for this bidding.	
Bid Security	Eligible Bidders shall post Bid Security upon submission of bids, equivalent to two percent (2%) of the total computed Capacity Payment Cost for five (5) years, for the offered AS Capacity per AS type (equivalent contract price). Separate Bid Security shall be posted for each AS type offered. 1. Computation of Bid Security for Regulating Reserve (RR), Contingency Reserve (CR), and Dispatchable Reserve (DR)	

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	<p>For example, an offer of 20MW RR for 24hours, 320 days in a year at PhP 2.25/kW per hour, will result to a Bid Security of: $20,000\text{kW} \times 24\text{hrs} \times 320\text{days} \times 5\text{years} \times 2.25\text{PhP/kw per hr} \times 2\% = \text{PhP } 34,560,000.00$.</p> <p>2.Computation of Bid Security for Black Start Service (BSS)</p> <p>BSS capacity as certified (kW) x 12hrs x 5years x BSS rate (PHP/kWh) x 2%. The assumption is the BSS will be utilized once a year for 12 hours.</p> <p>3.Computation of Bid Security for Reactive Power Support (RPS)</p> <p>RPS kVAR as certified (kVAR) x 5hrs x 5months x 5years x 4.00/kVAR per hr x 2%. The assumption is the RPS will be utilized for 5 hours a day for 5 months (dry season) per year.</p> <p>Bid Security shall be in the form of irrevocable standby letter of credit from NGCP's list of approved providers. The Bid Security shall be (i) forfeited in favor of NGCP if the Eligible Bidder withdraws its bid after the bid opening, fails to complete Post-Qualification Requirements, or refuses to execute the ASPA after it has been provided a Notice of Award, and (ii) valid until the posting of Performance Bond.</p>	
Performance Bond	<p>Winning Bidders shall post a Performance Bond upon acceptance of the Notice of Award, equivalent to 30% of the total computed Capacity Payment Cost for five (5) years, for the offered AS Capacity per AS type (equivalent contract price). The Performance Bond shall be maintained and updated throughout the duration of the ASPA and computed as follows.</p> <p>i.Computation of Performance Bond for RR, CR, and DR</p> <p>For example, 20MW RR for 24hours, 320 days in a year at PhP 2.25/kW per hour, will result to a Performance Bond of: $20,000\text{kW} \times 24\text{hrs} \times 320\text{days} \times 5\text{years} \times 2.25\text{PhP/kw per hr} \times 30\% = \text{PhP } 518,400,000.00$.</p> <p>ii.Computation of Performance Bond for BSS</p> <p>BSS capacity as certified (kW) x 12hrs x 5years x BSS rate (PHP/kWh) x 30%. The assumption is the BSS will be utilized once a year for 12 hours.</p> <p>iii.Computation of Performance Bond for RPS</p> <p>RPS kVAR as certified (kVAR) x 5hrs x 5months x 5years x 4.00/kVAR per hr x 30%. The assumption is the RPS will be utilized for 5 hours a day for 5 months (dry season).</p> <p>Performance Bond shall be (i) in the form of irrevocable standby letter of credit from NGCP's list of approved providers, and (ii) subject to withdrawal in favor of NGCP upon termination of the ASPA due to default of the AS Provider (Winning Bidder).</p>	