DEPARTMENT CIRCULAR NO. DC2024-_____

PRESCRIBING AMENDMENTS TO DEPARTMENT CIRCULAR NO. DC2023-10-0029 TITLED, "PROVIDING SPECIFIC AUCTION POLICY AND GUIDELINES FOR NON-FIT-ELIGIBLE RENEWABLE ENERGY TECHNOLOGIES IN THE GREEN ENERGY AUCTION PROGRAM"

WHEREAS, on 12 December 2023, the Department of Energy (DOE) issued Department Circular (DC) No. DC2023-10-0029 titled, "Providing Specific Auction Policy and Guidelines for Non-FIT-Eligible Renewable Energy Technologies in the Green Energy Auction Program";

WHEREAS, on 25 March 2024, the DOE issued amendments to the above DC clarifying that the Energy Regulatory Commission (ERC) shall promulgate the rules on the Price Determination Methodology (PDM) for Non-FIT-Eligible RE Technologies in the GEAP;

WHEREAS, Section 7 of said DC2023-10-0029 provides that the payment and settlement for the Non-FIT GET to the Non-FIT Eligible RE Facilities of GEA Winning Bidders shall be collected and administer through the WESM by the Market Operator.

WHEREAS, Pumped-Storage Hydropower (PSH) is distinct from Geothermal and Impounding Hydro Facilities due to its combined ability to store and generate energy and capability to provide ancillary services and grid support;

WHEREAS, there is a need to provide a separate settlement mechanism for PSH Facilities that takes into account their design and operational characteristics having the capability to support greater entry of variable REs and power system flexibility;

NOW, THEREFORE, pursuant to its authority under Republic Act No. 9513, or the Renewable Energy Act of 2008, the DOE hereby adopts, issues, and promulgates the following amendments to DC No. DC2023-10-0029:

Section 1. Section 4 is hereby amended to read as follows:

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"***b. Non-FIT Green Energy Tariff (Non-FIT GET)*** - refers to the Price Offer, in PhP/kWh, approved by the Energy Regulatory Commission (ERC) in accordance with Section 6 hereof after the conduct of each GEA for Non-FIT-Eligible RE technology corresponding to each Winning Bidder on a pay-as-bid basis: *Provided,* That the Non-FIT GET for PSH shall be the Price Offer in PhP/kW/h;

c. Price Offer – refers, in each Auction Round, to the price in PhP/kWh that a Qualified Bidder offers for energy generated or to be generated by its Non-FIT-Eligible RE Facility: *Provided,* That the Price Offer for PSH shall be the price in PhP/kW/h for the Available Capacity of the PSH Facility;

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e. PSH Available Capacity – refers to the capacity which can be utilized to generate or store energy and/or support and provide flexibility to the grid: *Provided,* That the Available Capacity shall exclude those non-operational units of the PSH Facility and shall not exceed the total P_{max} of the plant or generating unit, as the case may be: *Provided*, further, That in computing the Non-FIT GET, the PSH Available Capacity shall be based on the nominated capacity in kW per trading interval without regard to the mode of operation, i.e., generating, pumping or standby, how the available capacity is used, e.g., load following, peak shaving, load shifting, and the sub market where the capacity is sold/sourced."

Section 2. Section 7 is hereby amended to read as follows:

"**Section 7. Settlement of the Non-FIT GET due to the Winning Bidders <u>for Geothermal and Impounding Hydro</u>.** The payment and settlement for the Non-FIT GET to the Non-FIT Eligible RE Facilities of Winning Bidders shall be collected and administered through the WESM by the Market Operator.

In all cases, the <u>Geothermal and Impounding Hydro</u> Facilities of Winning Bidders shall be paid with the Total GEA Amount, without regard to the Energy Trading Amount in the WESM following the formula below:"

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Section 3. Section 7.2 is hereby amended to read as follows:

"Section 7.2. In case the Energy Trading Amount in the WESM of a <u>Geothermal and Impounding Hydro Facility</u> of a GEA Winning Bidder is lower than its computed Total GEA Amount for a relevant billing month, the Market Operator shall reflect in the settlement statement of the customers the difference in amount and collect the same from the buyers in the WESM using the following formula:"

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Section 4. Section 7.3 is hereby amended to read as follows:

"Section 7.3. In case the Energy Trading Amount in the WESM of a of a Geothermal and Impounding Hydro Facility of a GEA Winning Bidder is higher than the computed Total GEA Amount for a relevant billing month, the Market Operator shall reflect in the settlement statements of the

customers and collect only the amount due that will satisfy the computed GEA Amount and flowback the difference following the formula for flowback to each buyer in the WESM as follows:"

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Section 5. A new section is hereby inserted after Section 7 to read as follows:

"Section 8. Settlement of the Non-FIT GET due to the Winning Bidders for PSH. The payment and settlement for the Non-FIT GET to the PSH Facilities of GEA Winning Bidders shall be collected and administered through the WESM by the Market Operator. As such, the PSH Facilities of GEA Winning Bidders must be registered in the WESM in accordance with the WESM Rules and Market Manuals and relevant rules and regulations.

The Winning Bidders for PSH shall be paid with the Total GEA Amount in consideration of its Available Capacity without regard to the Total Trading Amount in the WESM following the formula below:

$$\textbf{Total GEA Amount} = \sum_{i \in h} (|AC_i| \times \text{Non} - \text{FIT GET} \times d_i)$$

Where,

AC_i: Absolute value of the Available Capacity in kW for trading interval i;
h: Settlement interval;
d_i: Duration of trading intervals in hours;

$$d_i = \frac{T}{60}, \text{hours}$$

and,

T: Duration of trading intervals in minutes (i.e., 5, 15, 60, etc.);

Where:

The **"Total Trading Amount for PSH" or "TTA-PSH"** refers to the total trading amount in the WESM. This is provided in the formula below:

$$TTA - PSH_{p,h} = ETA - PSH_{p,h} + RTA - PSH_{p,h}$$

Where:

$TTA\text{-}PSH_{p,h}$ refers to the total trading amount of trading participant p for settlement interval h

$\text{ETA-PSH}_{p,h}$ refers to the energy trading amount of trading participant p at settlement interval h

$\text{RTA-PSH}_{p,h}$ refers to the reserve trading amount of trading participant p at settlement interval h

"Energy Trading Amount for PSH" or "ETA-PSH" refers to the amount in Php to be paid by or paid to a trading participant, when the PSH acts as a generator or a load, calculated in accordance with the Price Determination Methodology (PDM) Manual, and subsequent amendments thereto.

$$ETA - PSH_{p,h} = \sum_{i \in h} \left[\sum_{n \in N_p} (FEDP_{n,i} * GESQ_{n,i}) - \sum_{n \in N_p} (FECP_{n,i} * GECSQ_{n,i}) \right]$$

Where:

$\text{ETA-PSH}_{p,h}$ refers to the energy trading amount of trading participant p at settlement interval h

$\text{FEDP}_{n,i}$ refers to the final energy dispatch price of market trading node n at dispatch interval i in settlement interval h

$\text{GESQ}_{n,i}$ refers to the gross energy settlement quantity for market trading node n at dispatch interval i in settlement interval h

N_p refers to the set of market trading nodes assigned to trading participant p

$\text{FECP}_{n,i}$ refers to the final energy consumption price of market trading node n at dispatch interval i in settlement interval h

$\text{GECSQ}_{n,i}$ refers to the gross energy consumption settlement quantity for market trading node n at dispatch interval i in settlement interval h"

"Reserve Trading Amount for PSH" or "RTA-PSH" refers to the amount in Php to be paid to a trading participant in the reserve market, calculated in accordance with the Price Determination Methodology (PDM) Manual and subsequent amendments thereto, as approved by the Energy Regulatory Commission."

Section 6. New subsections under Section 8 are hereby inserted to read as follows:

"Section 8.1. Collection and Flowback of Difference between Total Trading Amount and Total GEA Amount. The Market Operator shall calculate the difference between the Total Trading Amount in the WESM and the computed Total GEA Amount for the billing month of the PSH Facilities of GEA Winning Bidders during the preliminary and final settlement process under the WESM Rules.

Section 8.2. In case the Total Trading Amount in the WESM of a PSH Facility of a GEA Winning Bidder is lower than the computed Total GEA Amount for a relevant billing month, the Market Operator shall reflect in the settlement statement of the customers the difference in amount and collect from the buyers their corresponding share on the GEA Shortfall Amount based on the available capacity committed, scheduled, dispatched, as the case may be, in the Energy Market and/or Reserve Market, using the following formula:

TTA-PSH < Total GEA Amount

Energy Market

$$\boldsymbol{Collection\ Allocation\ per\ buyer} = \sum_{i \in h} (GEASA_i) \times \frac{GESQ_C}{GESQ_{ctotal}}$$

Where:

Collection Allocation per buyer is the buyer's share in the GEA Shortfall Amount in PhP at settlement interval h in the Energy Market.

GEA Shortfall Amount (GEASA) is the difference between TTA-PSH and GEAA per trading interval i where TTA-PSH is lower than GEAA in PhP.

$$\boldsymbol{GEASA} = (TTA - PSH - GEAA) \times \frac{GSCEM}{TAC}$$

Where;

GSCEM is the Gross Scheduled Capacity in either the Energy Market or the Reserve Market, with Energy Dispatched in the Energy Market.

TAC is the Total Available Capacity of the PSH Facility that may be committed, scheduled and/or dispatched in the WESM.

GESQ is the gross energy settlement quantity of electricity sold or purchased as determined in WESM Rules in MWh.

$GESQ_c$ is the GESQ for customer c (buyer in the WESM) for the billing month in MWh.

$GESQ_{ctotal}$ is the total customer GESQ (buyers in the WESM) for the billing month in MWh.

Reserve Market

$$\boldsymbol{Collection\ Allocation\ per\ buyer} = \sum_{i \in h} GEASA_i \times \frac{GRSQ_C}{GRSQ_{ctotal}}$$

Where:

Collection Allocation per buyer is the buyer's share in the GEA Shortfall Amount in PhP at settlement interval h in the Reserve Market.

GEA Shortfall Amount (GEASA) is the difference between TTA-PSH and GEAA per trading interval i where TTA-PSH is lower than GEAA in PhP.

$$\boldsymbol{GEASA} = (TTA - PSH - GEAA) \times \frac{GSCRM}{TAC}$$

Where:

GSCRM is the Gross Scheduled Capacity in the Reserve Market without Energy Dispatched in the Energy Market.

TAC is the Total Available Capacity of the PSH Facility that may be committed, scheduled and/or dispatched in the WESM.

GRSQ is the gross reserve settlement quantity of capacity sold or purchased as determined in WESM Rules in MW/h.

$GRSQ_c$ is the GRSQ for customer c (buyer in the WESM) for the billing month in MW/h.

$GRSQ_{ctotal}$ is the total customer GRSQ (buyers in the WESM) for the billing month in MW/h.

Section 8.3. In case the Total Trading Amount in the WESM of a PSH Facility of a GEA Winning Bidder is higher than the computed Total GEA Amount for a relevant billing month, the Market Operator shall reflect in the settlement statement of the customers the difference in amount and collect only the Total GEA Amount and flowback to the buyers their corresponding share on the GEA Flowback Amount based on the available capacity committed, scheduled, dispatched, as the case may

be, in the Energy Market and/or Reserve Market, using the following formula:

TTA-PSH > Total GEA Amount

Energy Market

$$\boldsymbol{Flowback\ Allocation\ per\ buyer} = \sum_{i \in h} (GEAFA_i) \times \frac{GESQ_C}{GESQ_{ctotal}}$$

Where:

Flowback Allocation per buyer is the buyer's share in the GEA Flowback Amount in PhP at settlement interval h in the Energy Market.

GEA Flowback Amount (GEAFA) is the difference between TTA-PSH and GEAA per trading interval i where TTA-PSH is higher than GEAA in PhP.

$$\boldsymbol{GEAFA} = (TTA - PSH - GEAA) \times \frac{GSCEM}{TAC}$$

Where:

GSCEM is the Gross Scheduled Capacity in either the Energy Market or the Reserve Market, with Energy Dispatched in the Energy Market.

TAC is the Total Available Capacity of the PSH Facility that may be committed, scheduled and/or dispatched in the WESM.

GESQ is the gross energy settlement quantity of electricity sold or purchased as determined in WESM Rules in MWh.

$GESQ_c$ is the GESQ for customer c (buyer in the WESM) for the billing month in MWh.

$GESQ_{ctotal}$ is the total customer GESQ (buyers in the WESM) for the billing month in MWh.

Reserve Market

$$\boldsymbol{Flowback\ Allocation\ per\ buyer} = \sum_{i \in h} GEAFA_i \times \frac{GRSQ_C}{GRSQ_{ctotal}}$$

Where:

Flowback Allocation per buyer is the buyer's share in the GEA Flowback Amount in PhP at settlement interval h in the Reserve Market.

GEA Flowback Amount (GEAFA) is the difference between TTA-PSH and GEAA per trading interval i where TTA-PSH is higher than GEAA in PhP.

$$\boldsymbol{GEAFA} = (TTA - PSH - GEAA) \times \frac{GSCRM}{TAC}$$

Where:

GSCRM is the Gross Scheduled Capacity in the Reserve Market without Energy Dispatched in the Energy Market.

TAC is the Total Available Capacity of the PSH Facility that may be committed, scheduled and/or dispatched in the WESM.

GRSQ is the gross reserve settlement quantity of capacity sold or purchased as determined in WESM Rules in MW/h.

$GRSQ_c$ is the GRSQ for customer c (buyer in the WESM) for the billing month in MW/h.

$GRSQ_{ctotal}$ is the total customer GRSQ (buyers in the WESM) for the billing month in MW/h."

Section 7. A new Section 9 is hereby inserted to read as follows:

"Section 9. The DOE shall issue specific rules and regulations for the smooth integration of PSH Facilities in the market. Such rules and regulations shall include, but shall be limited to, the following:

1. Prioritization of PSH in terms of scheduling and dispatch over other AS Providers in the Reserve Market and Generators in the Energy/Spot Market to ensure full utilization.

2. PSH shall undergo AS Capability Testing and Certification by the SO or any accredited third-party testing entity.

3. To ensure that PSH can provide other grid support services, PSH shall not be limited to the current AS, such as utilization of excess energy from variable renewable energy (VRE) Facilities for pumping of PSH Facilities.

The rules shall further provide the following responsibilities:

1. The SO and MO shall implement the optimal dispatch of capacities from PSH providing energy and ancillary services to ensure that the demand and ancillary services requirements are always met.

2. The SO shall as far as practicable, consider in its AS Procurement Plan the capacities and timelines of the PSH under the GEAP. Said capacities from PSH under the GEAP shall be prioritized.

3. The MO shall handle the payment and settlement of the GEA amount to the PSH Facilities of GEA Winning Bidders.

4. The SO shall handle the scheduling and dispatch of the PSH.

5. The SO shall recover from grid users/customers, through a cost recovery mechanism in accordance with the guidelines to be promulgated by the ERC, the costs associated in the settlement of the Total GEA Amount whenever there is a shortfall or flowback amount relative thereto corresponding to the portion of the available capacity committed or scheduled in the reserve market but not dispatched to the Energy Market.

6. The SO shall ensure that the procurement of the energy needed during pumping mode is at the least cost, whenever practicable. For the avoidance of doubt, the pumping costs shall be passed on to the relevant trading participant/s."

Section 8. A new Section 10 is hereby inserted to read as follows:

"**Section 10. Revenues or Income Attributable to Winning Bidders.**

For the avoidance of doubt, regardless of the Energy Trading Amount for Geothermal and Impounding hydro, and Total Trading Amount for PSH, the revenues or income attributable to the GEA Winning Bidders shall be the Total GEA Amount it will receive based on the Non-FIT GET."

Section 9. The sections in DC2023-10-0029 shall be renumbered accordingly.

Section 10. Separability Clause. If any section or provision of this Circular is declared invalid or unconstitutional, such parts not affected shall remain valid and subsisting.

Section 11. Repealing Clause. The provisions of other circulars, orders, issuances, rules, and regulations which are inconsistent with the provisions of this Circular, are hereby repealed, amended, modified, or superseded accordingly.

Section 12. Effectivity. This Circular shall take effect immediately after publication in two (2) newspapers of general circulation. A copy of this DC shall be filed with the University of the Philippines Law Center – Office of National Administrative Register (UPLC-ONAR).

Issued this _____ at the DOE, Energy Center, Rizal Drive cor. 34th Street, Bonifacio Global City, Taguig City.

RAPHAEL P.M. LOTILLA
Secretary