



### Addendum 03

Package Name: Procurement of Pre-Development Study, Design, Supply and Installation and Maintenance of Pilot Wind Renewable Energy for Manadhoo Island, (Package P-4)

This Addendum 03 is issued in accordance with Sub-Clause No. 8.1 of Section 1 – Instructions to Bidders. The addendum forms part of the Bidding Document.

#### 1) Section 3 - Evaluation and Qualification Criteria (1.3 Revised as follows)

##### 1.3 Economic Evaluation

In addition to the criteria listed in ITB 39.2 I (a)–(f), other relevant factors are as follows:

The economic evaluation shall be conducted NOT by the comparison of Bid Price but with a weighted average of the Life Cycle Unit Costs (LUC),  $LUC_{Cave}$ , i.e. with the LUCs of the Wind Turbine Array/System (see 1.3.1) and the Battery Energy Storage System (see 1.3.2), calculated as follows:

$$LUC_{Cave} = 70\% \times LUC_{WT} + 30\% \times LUC_{BESS}$$

Wind Turbine System's Life Cycle Unit Cost,  $LUC_{WT}$

$$LUC_{WT} = \frac{P_{bid,WT} + O\&M_{WT}}{EnergyYield_{WT}}$$

Where:

LUC	[USD/kWh]	Lifecycle unit cost in USD/kWh
$P_{bid,WT}$	[USD]	Total bid price in USD of the Wind Turbine System (installed) together with Systems integration (with the BESS and the main microgrid) but excluding pre-development costs
$O\&M_{WT}$	[USD]	Non-Personnel Equipment-related (i.e. WT + non-BESS modules) Operations and Maintenance Costs (e.g. spares, overhaul, parts replacement, preventive interventions, anticipated repair services, protective / mitigation strategies) over the design lifetime of the WT System  Note: Bidder must explicitly declare their proposed system's O&M value and must support the declared anticipated O&M value with documentation – including all assumptions and their justifications.



Energy <sub>WT</sub>	[kWh]	Energy Yield over the design lifetime of the WT System  Note: Bidder must explicitly declare their calculated Energy Yield value and must support the declaration/calculation with substantial documentation – including efficiencies, capacity factors, and all other pertinent assumptions (e.g. technology-based performance) and their justifications. The wind resource to be used in the Energy Yield Calculation is given as part of the Bid documents.
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Battery's Life Cycle Unit Cost,  $LUC_{BESS}$

$$LUC_{BESS} = \frac{P_{bid} + N_{br} \times P_{BESS}}{C_{BESS} \times N_c \times \frac{SoC}{100}}$$

Where:

LUC	[USD/kWh]	Lifecycle unit cost in USD/kWh
CBESS	[kWh]	Overall capacity of BESS specified in specification submitted by the bidder
Nc	[ - ]	Number of battery cycle tested and guaranteed from the test report with capacity above SoC%
SoC	%	State of Charge, corresponding to remaining usable capacity of battery in % in kWh against initial capacity of battery in kWh, guaranteed after battery is charged and discharged Nc number of times
Nbr	[ - ]	Number of times of required battery replacement in 15 years, assuming the battery is fully charged and discharged once a day. When $N_c > 6000$ times, $N_{br}=0$ . When $N_c \leq 6000$ , $N_{br} = 6000/N_c$
PBESS	[USD]	The total price of "BESS and related equipment" in USD, put by the bidder including cost of Installation of BESS and related equipment and BESS housing
Pbid	[USD]	Total bid price in USD for the BESS

Nc and SoC shall be evaluated by the test report submitted by the Bidder in Technical Bid.



### Remaining capacity of Battery and Cycle Number

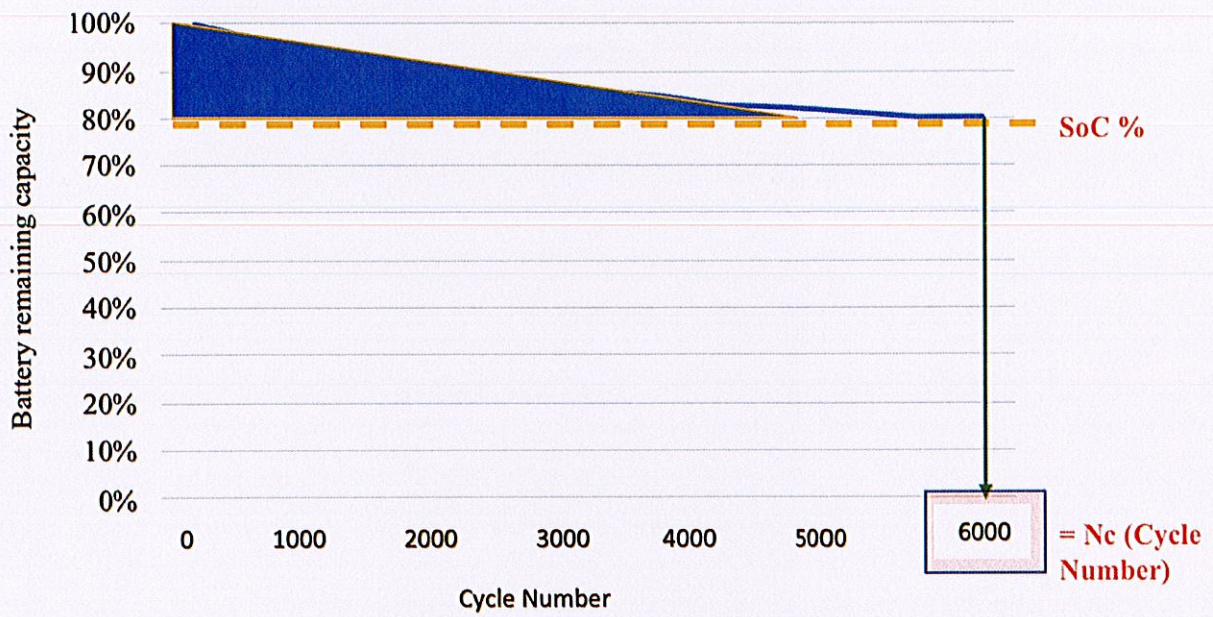


Figure: Concept of SoC and  $N_c$

Adjustments in price that result from the procedures outlined below shall be added, for purposes of comparative evaluation only, to arrive at an "Evaluated Bid Price." Bid prices quoted by Bidders shall remain unaltered.

