# Addendum No: - 02

**The Establishment of 160MW/640MWh Standalone Battery Energy Storage System from 10MW/40 MWh, AC Capacity Projects on Build, Own and Operate (BOO) Basis with 15-Year Operational Period.**

**Bid No: TR/REP&PM/ICB/2025/003/C** Issue date: 12/09/2025

<table>
<tr><th>Item No.</th><th colspan="3">Description</th></tr>
<tr><td>01</td><td>Volume 1</td><td>Annex: N/A</td><td>Clause: 1.4</td></tr>
<tr><td></td><td colspan="3">Following Point in Table in clause 1.4 of volume I shall be repealed.;<br><br>Commissioning, Testing & Commercial Operation Date — July 02, 2026 (Within 06 months from the date of signing of ESA)<br><br>And be replaced by<br><br>Commissioning, Testing & Commercial Operation Date — October 02, 2026 (Within 09 months from the date of signing of ESA)</td></tr>
<tr><td>02</td><td>Volume 1</td><td>Annex: N/A</td><td>Clause: 2.8.2</td></tr>
<tr><td></td><td colspan="3">Following section shall be included under subclause – Documentary proof of last financial year to substantiate access to liquid assets of at least LKR 600 million per 10MW/40MWh BESS project.<br><br>The Project Proponent or all the members together of the consortium, in case the Project Proponent is a consortium, shall meet this requirement. Further each member of the consortium shall meet 25% of the requirement while one partner shall meet 40% of this requirement.</td></tr>
<tr><td>03</td><td>Volume 1</td><td>Annex: N/A</td><td>Clause: 3.1</td></tr>
<tr><td></td><td colspan="3">Following Section shall be included as subclause (i)<br><br>i. The storage capacity of the BESS, expressed in megawatt-hours (MWh), shall be directly proportional to the quoted rated power output, (in MW). The offered BESS shall be capable of continuously discharging at the quoted rated power output for a minimum duration of four (4) hours under ambient site conditions at the time of commissioning. Any proposal that does not meet these requirements shall be deemed non-compliant and will not be considered for evaluation.<br><br>Following Section shall be included as subclause (j) as already published in Clause A05.23.(d) of Annex A in advertised RFP.</td></tr>
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| | j. Submit initial non-site-specific simulation models of the BESS in both PSS®E and PSCAD™/EMTDC™ formats along with the tender for evaluation; or provide test results with the tender, demonstrating the BESS response in terms of voltage (V), active power (P), and reactive power (Q) during deep and shallow faults, and for a +50-degree phase angle step change at the Point of Connection (POC), under Short Circuit Ratio (SCR) levels of 1, 3, 5, and 10, with an X/R ratio of 5.<br><br>Failure to meet at least one of the above requirements may result in the rejection of the bidder's technical proposal. | | |
| **04** | Volume 1 | **Annex: N/A** | Clause 3.2 |
| | *Following Section of clause 3.2 shall be **repealed.***<br><br>The grid option will be decided by the relevant provincial Deputy General Manager of CEB. The project proponent should obtain the confirmation of the Grid Point option from the Provincial Deputy General Manager of CEB as per Section 12, Volume II of the RFP (Grid Interconnection confirmation letter from the Provincial Deputy General Manager of CEB) and submit the confirmation letter with the proposal.<br><br>Project proponents should request the Grid Interconnection confirmation letter from the relevant Provincial Deputy General Manager of CEB as per Section 12, Volume II of the RFP at least 21 days before the Closing date of submission of proposals and CEB shall not be liable for any delays in issuance of the same.<br><br>*And be **replaced** by*<br><br>The grid option will be decided by the relevant provincial Deputy General Manager of CEB. The project proponent should obtain the confirmation of the Grid Point option from the Provincial Deputy General Manager of CEB as per Section 11, Volume II of the RFP (Grid Interconnection confirmation letter from the Provincial Deputy General Manager of CEB) and submit the confirmation letter with the proposal.<br><br>Project proponents should request the Grid Interconnection confirmation letter from the relevant Provincial Deputy General Manager of CEB as per Section 11, Volume II of the RFP at least 21 days before the Closing date of submission of proposals and CEB shall not be liable for any delays in issuance of the same. | | |
| **05** | **Volume 1** | **Annex A** | **Clause A.05.02** |

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| | *Following Section of point a) clause A.05.02 of Annex A shall be **repealed.*** <br><br> a) BESS hall be capable of delivering the declared active and reactive power outputs within the system Frequency variations, specified in this specification. Additionally, the PCS AC-side current of the BESS shall be capable of operating continuously at 110% of the rated current, sustain 120% of the rated current for ≥2 minutes, and support short-term overloads of 150% rated current for 10 seconds and 180% rated current for 100 ms. <br><br> *And be **replaced** by* <br><br> a) BESS shall be capable of delivering the declared active and reactive power outputs within the system Frequency variations, specified in this specification. Additionally, the PCS AC-side current of the BESS shall be capable of operating continuously at 110% of the rated current, sustain 120% of the rated current for ≥1 minute, and preferably support short-term overloads of 150% rated current for 10 seconds and 180% rated current for 100 ms. | | |
| **06** | **Volume II** | **Section 7** | |
| | *Following paragraph of Proposal Security shall be **repealed**.* <br><br> "This Proposal Security shall be valid and binding and shall remain in full force and effect up to and including _____(Date)_____(should be minimum 210 calendar days from the closing date for submitting proposals) and thereafter shall be null and void and of no force or effect (whether the original hereof is returned or not) except in respect of any demand made on or before the aforesaid date." <br><br> *And be **replaced** by (as consistent with description on Clause 2.17.1of Volume I)* <br><br> "This Proposal Security shall be valid and binding and shall remain in full force and effect up to and including _____(Date)_____(should be minimum 180 calendar days from the closing date for submitting proposals) and thereafter shall be null and void and of no force or effect (whether the original hereof is returned or not) except in respect of any demand made on or before the aforesaid date." | | |
| **07** | **Volume II** | **Section 5** | **Point 2** |
| | *Following description of requirement of point 2 shall be **repealed**,* <br><br> Proposal Security amounting to Sri Lankan Rupees 32 (Thirty Two) million per 10MW/40MWh BESS <br><br> *And **replaced** by (as consistent with description on Clause 2.17.1of Volume I)* <br><br> Proposal Security amounting to Sri Lankan Rupees 25 (Twenty Five) million per 10MW/40MWh BESS | | |
| **08** | **Volume III** | **Annex: N/A** | **ARTICLE 4, Clause: 4.10** |

| | | | |
|---|---|---|---|
| | *Following Section of Article 4 shall be **renumbered** as clause 4.11. (content shall remain unchanged)*<br>4.10 Decommissioning and Disposal Obligations<br>to<br>4.11 Decommissioning and Disposal Obligations<br>*And new section shall be **included** as under 4.10 as follows*<br>4.10 Dynamic Model Testing and compliance at commissioning<br>a) The Seller shall, within two (02) months from the date of issuance of the Letter of Award, submit to the CEB all results and models of the BESS project derived from the Dynamic Model Tests.<br>b) The Seller shall, at its sole cost and expense, implement any recommendations issued by the CEB based on the review of the Dynamic Model Test results. No additional payment or compensation shall be made by the CEB for such implementation.<br>c) At the commissioning stage, the Seller shall, to the satisfaction of the CEB, demonstrate and verify that all performance results are in conformity with to those approved during the Dynamic Model Tests phase. Any deviation shall be rectified by the Seller at its own cost within a period specified by the CEB. | | |
| **09** | **Volume III** | **Annex: N/A** | **ARTICLE 11, Clause: (b)** |
| | *Following Section of clause (b) shall be **repealed.***<br>The Seller shall have a period of six (06) months for achieving the financial closure, completion of all preliminary obligations under the project agreement, commencement and completion of the construction, testing, commissioning of the Facility from the date hereof and to achieve the Commercial Operation Date.<br>*And be **replaced** by*<br>The Seller shall have a period of nine (09) months for achieving the financial closure, completion of all preliminary obligations under the project agreement, commencement and completion of the construction, testing, commissioning of the Facility from the date hereof and to achieve the Commercial Operation Date. | | |
| **10** | **Volume III** | **APPENDIX A** | |
| | *Appendix A shall be **modified** as follows.*<br>**1. Capacity Charge Payment for Availability**<br>Payments to be made to the Seller under this Agreement will be based on the following Capacity Charge Rate ("R") for the entire commercial operation period of 15 years. There will not be any escalation to the Capacity Charge Rate during the entire commercial operation period.<br>Table A1 Capacity Charge Rate | | |

| Commercial Operation Year | Capacity Charge Rate (R) (LKR/MW/Month) |
|---|---|
| 1 - 15 | xx.xx |

The Contracted Power Capacity **("$\mathbf{C_{PC}}$")** for the Project is …… MW and Contracted Storage Capacity **("$\mathbf{C_{SC}}$")** is ……MWh.

The offered BESS shall be capable of continuously discharging at the Contracted Power Capacity ("$\mathbf{C_{PC}}$") for a minimum duration of four (4) hours under ambient site conditions at the time of commissioning and shall be designed to maintain this discharge duration for at least the first year of operation, taking into account expected degradation. This is equivalent to the Contracted Storage Capacity ("$\mathbf{C_{SC}}$").

The Seller shall guarantee a minimum Monthly System Availability ($\mathbf{MA_m}$) of 97% on monthly basis.

The Monthly System Availability shall be based on "Capacity Availability" and "Dispatch Availability".

"Capacity Availability" of the Project shall mean the ability of the Facility to declare and deliver the Contracted Power Capacity during the applicable period of operation.

The seller shall submit to the National System Control Centre an estimate of the facility's expected availability, in 15-minute resolution, covering a rolling 3-day period, in the format prescribed by CEB.

$$\textbf{Capacity Availability}\ (\mathbf{CA_h}) = \frac{\textbf{Achieved Power Capacity}\ (\mathbf{MW})}{\textbf{Contracted Power Capacity}\ (\mathbf{MW})}$$

Achieved Power Capacity shall mean the lowest magnitude (in MW), whether for charging or discharging, of the Seller's declared available capacity during an hour.

National System Control Centre shall not issue Dispatch Instructions exceeding the Seller's declared available capacity (in magnitude).

If, in any 15-minute interval, the actual power (in magnitude) delivered by the Facility, whether charging or discharging, is less than the power capacity specified in the Dispatch Instruction, such lower magnitude shall be deemed the Achieved Power Capacity for that hour.

In the event of a deviation from the scheduled Dispatch Instruction due to an automatic frequency response by the BESS, initiated based on predefined droop settings as set and acknowledged by CEB, Achieved Power Capacity for that hour shall be based on declared available capacity of the Seller.

$$\boldsymbol{MCA_m} = (\mathbf{1}\ /\ \boldsymbol{H}) \times \sum_{\boldsymbol{h=1}}^{\boldsymbol{H}} \mathbf{CA_h}$$

Where:

a) **H**: Number of Hours in the month
b) $\mathbf{CA_h}$ Capacity Availability for the hour h.
c) $\mathbf{MCA}_{\boldsymbol{m}}$ refers to the Monthly Capacity Availability in month m

"Dispatch Availability" of the Project shall mean the ability of the Facility to execute a function of charging or discharging, when called upon to do so, as per Dispatch Instructions provided by the National System Control Centre, subject to the minimum system ratings specified herein.

$$\textbf{Dispatch Availability } (\mathbf{DA_i}) = \frac{\textbf{Actual Charge or Discharge } (\mathbf{MWh})_i}{\textbf{Scheduled Charge or Discharge } (\mathbf{MWh})_i}$$

Where:

a) **i** refers to the i[th] time block in the year where Scheduled Charge/Discharge $MWh_i \neq 0$. Duration of a single time block is fifteen (15) minutes.
b) Actual Charge/Discharge $MWh_i$ is the Energy Scheduled for Charging/Discharging in the i[th] time block, in $MWh_i$
c) Scheduled Charge/Discharge $MWh_i$ is the Energy Scheduled for Charging/Discharging in the i[th] time block. The schedule charge and discharge can be based on Dispatch Instructions of National System Control Centre.
d) Measurement of charging and discharging energy shall be as per the at the Main Energy Meter at the Point of Interconnection.

CEB shall schedule Dispatch Instruction on 15 minute time interval, and Dispatch Instruction for i[th] time block shall be issued or changed in (i-1)[th] time block. The seller shall comply with Dispatch Instructions and shall provide constant power output (MW) for the complete duration of the time block to achieve the scheduled energy of the time block.

In the event of a deviation from the scheduled Dispatch Instruction due to an automatic frequency response by the BESS, initiated based on predefined droop settings as set and acknowledged by CEB or change in Dispatch Instruction within the time block as requested by CEB, the System Availability for the corresponding time block shall be deemed as 1.

In the event that the Seller is unable to comply with a Dispatch Instruction due to a failure, curtailment, or outage of the Transmission or Distribution System, or any other condition outside the reasonable control of the Facility, the availability for the affected time block shall be deemed to be 1.

$$\mathbf{MDA_m} = (\mathbf{1 / N}) \times \sum_{\mathbf{i=1}}^{\mathbf{N}} \mathbf{DA_i}$$

Where:

a) **N**: Number of time-blocks during the month where charging/discharging instructions was scheduled
b) $\mathbf{DA_i}$ Dispatch Availability in time-block I , where $\boldsymbol{DA_i} \leq 1$.
c) $\mathbf{MDA_m}$ refers to the Monthly Dispatch Availability in month m

For the purpose of calculating Monthly Dispatch Availability ($MDA_m$), a minimum of 100 valid Dispatch Instructions must be issued from National System Control Centre during the month. If the number of Dispatch Instructions is less than 100, the $MDA_m$ shall be deemed to be 100% for that month, unless the Seller fails to comply with more than 50% of such instructions.

The Monthly System Availability and Annual System Availability shall commence from the date of commissioning of the system and shall be calculated as below:

$$\mathbf{MA_m} = \mathbf{MCA_m} \times \mathbf{MDA_m}$$

$$\mathbf{AA_y} = (\mathbf{1 / 12}) \times \sum_{\mathbf{m=1}}^{\mathbf{12}} \mathbf{MA_m}$$

Where:

a) $\boldsymbol{MA_m}$ refers to the Monthly System Availability in month m
b) $\boldsymbol{AA_y}$ refers to the Annual System Availability in contract year y

The Seller shall pay the liquidated damages for such shortfall of achieving Monthly System Availability ($\boldsymbol{MA_m}$ ) below 97% and shall duly pay such damages to CEB. Amount of such liquidated damages shall be **twice** the Capacity Charge Rate (R) for the capacity not made available.

However, at the conclusion of each contract year, if the Annual System Availability ($\boldsymbol{AA_y}$ ) meets or exceeds the 97% threshold, the CEB shall carry out a reconciliation. Any liquidated damages imposed during that contract year for unavailability shall be reviewed, and necessary adjustments (without interest) shall be made in favour of the Seller, where applicable.

CEB shall ensure that maximum number Full Equivalent Cycles shall not exceed 400 per year. Full Equivalent Cycles shall be calculated using the "Rainflow Counting Method" in accordance with relevant international standards. The calculation shall be based on the BESS State of Charge data recorded at a 15-minute resolution.

In the event the CEB does not utilize the full allocated Full Equivalent Cycle limit in any given contract year, all unused Full Equivalent Cycles shall be carried forward and added to the available Full Equivalent Cycle allocation for the next contract year.

In addition, the Seller shall also demonstrate, on annual basis, 100% of the Minimum Dispatchable Storage Capacity of the BESS. Taking into consideration capacity degradation, the Minimum Dispatchable Storage Capacity to be made available by the Seller at the end of a given year shall be as follows:

Table A2 Minimum Dispatchable Storage Capacity per Contract year

| **Contract Year** | **Minimum Dispatchable Storage Capacity (MWh) at the end of Contract Year** |
|---|---|
| 1 | 97.5% x $\mathbf{C_{SC}}$ |
| 2 | 95.0% x $\mathbf{C_{SC}}$ |
| 3 | 92.5% x $\mathbf{C_{SC}}$ |
| 4 | 90.0% x $\mathbf{C_{SC}}$ |
| 5 | 87.5% x $\mathbf{C_{SC}}$ |
| 6 | 85.0% x $\mathbf{C_{SC}}$ |
| 7 | 82.5% x $\mathbf{C_{SC}}$ |
| 8 | 80.0% x $\mathbf{C_{SC}}$ |
| 9 | 77.5% x $\mathbf{C_{SC}}$ |
| 10 | 75.0% x $\mathbf{C_{SC}}$ |
| 11 | 72.5% x $\mathbf{C_{SC}}$ |
| 12 | 70.0% x $\mathbf{C_{SC}}$ |
| 13 | 67.5 % x $\mathbf{C_{SC}}$ |
| 14 | 65.0% x $\mathbf{C_{SC}}$ |
| 15 | 62.5% x $\mathbf{C_{SC}}$ |

The Actual Dispatchable Storage Capacity shall be calculated or measured at the end of each contract year. In the event of reduction of Actual Dispatchable Storage Capacity below the Minimum Dispatchable Storage Capacity at the end each contract year, monthly capacity charge of subsequent year will be reduced based on the proportional loss of storage capacity.

Hence Capacity Charge Payment per month shall be;

If $\boldsymbol{MA_m} \geq 0.97$;

$$\mathbf{CC_{ym}} = \mathbf{R} \times \mathbf{C_{PC}} \times \frac{\mathbf{ADSC_{y-1}}}{\mathbf{MDSC_{y-1}}}$$

If $\boldsymbol{MA_m} < 0.97$;

$$\mathbf{CC_{ym}} = \mathbf{R} \times \mathbf{C_{PC}} \times (\mathbf{1} - \mathbf{2} \times (\mathbf{0.97} - \mathbf{MA_m})) \times \frac{\mathbf{ADSC_{y-1}}}{\mathbf{MDSC_{y-1}}}$$

Where:

a) **y** refers to the contract year
b) **m** refers to the month of the contract year
c) $\mathbf{CC_{ym}}$ Refers to the capacity charge payment of month m in year **y**. The constraint of $\mathbf{CC_{ym}} \geq \mathbf{0}$ shall be complied when calculating capacity charge payments.
d) **ADSC** refers to the Actual Dispatchable Storage Capacity (MWh) measured at the end of the Contract Year
e) **MDSC** refers to the Minimum Dispatchable Storage Capacity (MWh) expected at the end of the Contract Year as tabulated in table A2.
f) The constraint of $\frac{\mathbf{ADSC_{y-1}}}{\mathbf{MDSC_{y-1}}} \leq \mathbf{1}$ shall be complied when calculating capacity charge payments.

**2. Liquidated Damages**

The total Liquidated Damages payable by the Seller for any Contract Month shall be limited to a maximum of twenty percent (20%) of the Capacity Charge payable for that Contract Month ($\boldsymbol{CC_{ym}}$).

**2.1 Liquidated Damages for Efficiency**

The Seller shall guarantee a minimum AC to AC roundtrip efficiency for the system at metering point on monthly basis. The Guaranteed Round Trip Efficiency (**GRTE**) shall be based on the number of Full Equivalent Cycles dispatched in a month ($\mathbf{FEC_m}$).

If ( $\mathbf{FEC_m} > 25$); $\mathbf{GRTE} = \mathbf{85\%}$

If ( $15 < \mathbf{FEC_m} \leq 25$); $\mathbf{GRTE} = \mathbf{84\%}$

If ( $10 < \mathbf{FEC_m} \leq 15$); $\mathbf{GRTE} = \mathbf{83\%}$

If ( $\mathbf{FEC_m} \leq 10$); $\mathbf{GRTE} = \mathbf{82\%}$

The Seller shall be liable for Liquidated Damages, on account of conversion losses, based on the following conditions:

i. For $\mathbf{RTE_m} < \mathbf{GRTE}$ there shall be a liquidated damage levied upon the excess conversion losses at 150% per unit of Peak time Tariff for supply of 33kV connected customers for General Purpose requirements. The tariff applicable would be rate applicable in each month during the operation of the facility.

ii. For $\mathbf{RTE_m} \geq \mathbf{GRTE}$ there shall be no incentive payment or any liquidated damage levied for energy converted.

$$\textbf{Roundtrip Efficiency } (\mathbf{RTE_m}) = \frac{\mathbf{D_m} + \mathbf{S_m}}{\mathbf{C_m}}$$

Where;

a) $\mathbf{RTE_m}$ refers to the Roundtrip Efficiency at metering point for the month m
b) $\mathbf{C_m}$ refers to the total energy imported to the facility through the Metering Point, during the month m
c) $\mathbf{D_m}$ refers to the total energy exported from the facility through the Metering Point, during the month m
d) $\mathbf{S_m}$ refers to the Allowable Self Discharge Adjustment during the month m.

In the event that CEB does not issue Dispatch Instructions to fully discharge the energy charged within the same month, the portion of undischarged energy from the final charging cycle shall not be considered in the Round-Trip Efficiency $\mathbf{RTE_m}$ calculation for that month. Instead, such energy shall be carried forward and accounted for in the subsequent month's $\mathbf{RTE_{m+1}}$ calculation. The determination of such carried forward energy shall be based on the logged operational data recorded at the NSCC.

In the event of a prolonged grid outage beyond the control of the Seller's Facility, or when discharge Dispatch Instructions are not issued for a continuous period exceeding twenty-four (24) hours, any energy loss resulting from the natural self-discharge of the charged BESS would be considered for Allowable Self Discharge Adjustment. This shall be deemed to occur at a rate of zero point one percent (0.1%) of the State of Charge per twenty-four (24) hour period, measured from the time of the last discharge, during which the Facility is not required to perform discharge operations. This would be treated as an Allowable Self Discharge Adjustment in the calculation of Round-Trip Efficiency ($\mathbf{RTE_m}$) for the purpose.

There shall be no Allowable Self-Discharge Adjustment applicable in the event of maintenance activities undertaken by the Seller's BESS Facility or any outage caused by the Seller's BESS Facility.
Hence

$$\mathbf{LDE_m = 1.5 \times T \times (GRTE \times C_m - (D_m + S_m))}$$

Where;

a) $\mathbf{LDE_m}$ refers to the liquidated damages for loss of energy per month. The constraint of $\mathbf{LDE_m \geq 0}$ shall be complied.
b) $\mathbf{T}$ refers to the tariff rate applicable during the month m
c) $\mathbf{GRTE}$ is dependent on number of Full Equivalent Cycles dispatched in a month.

**Note:**

- Measurement of charging and discharging energy shall be as per the Main Energy Meter at the Point of Interconnection (Metering Point).

### 2.2 Liquidated Damages for Functional Performances

The Seller shall operate the Facility in accordance with all applicable Functional Specifications and Grid Code requirements, including but not limited to frequency response obligations.

In the event the Facility fails to meet such obligations during any event, CEB may impose Liquidated Damages equal to one percent (1%) of the Capacity Charge payable for the Contract Month for each such event. The total Liquidated Damages under this clause shall not exceed ten percent (10%) of the Capacity Charge payable for the Contract Month.

Hence

$$\mathbf{LDP_m = CC_{ym} \times E \times 0.01}$$

Where;

a) $\mathbf{LDP_m}$ refers to the liquidated damages for failure of providing functional performances per month

| | |
|---|---|
| | b) **E** refers to the total number of events in the month, where failure of providing functional performances is imposed, where the constraint of $E \leq 10$ shall be complied when calculating Liquidated Damages.<br><br>No Liquidated Damages shall apply to non-performance caused by events beyond the reasonable control of the Seller, including grid outages or system operator instructions. |