

SOLAR ENERGY CORPORATION OF INDIA LIMITED

NEW DELHI

Ref No. SECI/C&P/ IPP/15/00018/24-25/**Amendment-01**

Dated 27-01-2025

Amendment-01 to the RfS for Selection of Battery Energy Storage System Developers for Setting up of 125 MW/ 500 MWh of Battery Energy Storage System in Kerala with VGF for “on Demand” usage under Tariff-based Competitive Bidding (ESS-3))			
RfS No. SECI/C&P/IPP/15/00018/24-25 dated: 20.12.2024			
S. No.	Clause /Article No.	Existing Clause/Article	Amended Clause/Article
Amendments in the RfS document			
1	8.1 a	... following: i. KSEBL will schedule charging of the BESS with equal amount of energy plus energy expected to be lost as conversion losses (determined from the guaranteed Round-Trip Efficiency (RtE) of the system). following: i. KSEBL will schedule charging of the BESS with equal amount of energy plus energy expected to be lost as conversion losses <u>(determined from the current Round-Trip Efficiency (RtE) of the system)</u> ...
2	8.1.d.i Amount of such liquidated damages shall be twice the Capacity Charges for the capacity not made available. The BESSD shall declare availability on Day Ahead Basis. Amount of such liquidated damages shall be <u>1.5 times</u> the Capacity Charges for the capacity not made available. The BESSD shall declare availability on Day Ahead Basis.
3	8.1.d.ii For a given BESPA, the Annual availability guarantee shall commence from the date of commissioning of the system and shall be calculated as below For a given BESPA, the Annual availability guarantee <u>for charging periods</u> shall commence from the date of commissioning of the system and shall be calculated as below.
4	8.1.d.iii	... Note: <ul style="list-style-type: none"> The Scheduled capacity shall be subject to the System Power Rating specified in Clause 8.1.a. above. 	... Note: <ul style="list-style-type: none"> The Scheduled capacity shall be subject to the System Power Rating specified in Clause 8.1.a. above.

		<ul style="list-style-type: none"> The BESSD shall take separate, metered connection for the Auxiliary Power load of BESS. 	<ul style="list-style-type: none"> The BESSD shall take separate, metered connection for the Auxiliary Power load of BESS. OR <u>The BESSD can draw auxiliary power from Interconnection point. Separate meter would be arranged by BESSD to measure auxiliary consumption which will be billed by KSEBL. Arrangement for power for auxiliary consumption is under scope of the BESSD.</u> <u>The BESSD shall declare RtE on Day Ahead Basis.</u>
5	8.1 d (iv)	<p><u>Addendum to clause</u></p> <p>...</p> <p><u>The BESSD shall be eligible for incentive from completion of one year after CoD of entire project capacity @ Rs.1.00 per unit for the excess discharge of energy for the quantum discharged by KSEBL in excess of the minimum dispatchable energy taking into consideration YoY capacity degradation as 2 %.</u></p>	
6	8.1.d.v	<p>The nameplate ratings shall be achievable during discharge for the full range of environmental conditions at the project site when the battery is fully charged. In any case, the BESS shall be capable of being discharged at reduced power levels from that specified above. The BESSD is required to meet the annual energy commitment subject to Clause (iv) above. The BESSD shall be liable for Liquidated Damages to the off-taker, if any, on account of short fall in supply of committed energy at the Average Market Clearing Price (MCP) in peak hour (18:30Hrs-22:30Hrs) in Day Ahead Market (DAM) of Power Exchange for corresponding billing month period.</p>	<p>The nameplate ratings shall be achievable during discharge for the full range of environmental conditions at the project site when the battery is fully charged. In any case, the BESS shall be capable of being discharged at reduced power levels from that specified above. <u>The Annual Discharge Energy Commitment is 95% of the Energy Scheduled for Discharge.</u> The BESSD is required to meet the annual <u>discharge</u> energy commitment subject to Clause (iv) above. The BESSD shall be liable for Liquidated Damages to <u>KSEBL</u>, the off-taker, if any, on account of short fall in supply of <u>Annual Discharge Energy Commitment</u> committed energy at the Average Market Clearing Price (MCP) in peak hour (18:30Hrs-22:30Hrs) in Day Ahead Market (DAM) of Power Exchange for corresponding billing month period.</p>
7	8.1.d.vii	<p><u>Addendum to clause</u></p> <p>...</p> <p><u>d. The Scheduled maintenance must be carried out during monsoon season, subject to prior approval from KSEBL.</u></p> <p>BESSD will have to comply with the Charging and Discharging Schedule as intimated by KSEBL.</p>	

8	8.2	<p><u>Referred Clause modified as follows</u></p> <p>Shortfall in meeting Performance Criteria</p> <p>Following provisions shall be applicable on the Contracted Capacity:</p> <p>i. Shortfall in demonstrating minimum Availability <u>during charging cycles</u>: Subsequent to COD of full Project Capacity or the capacity finally accepted by SECI, in case the annual Availability demonstrated by the BESSD is less than the minimum as specified above, such shortfall in performance shall make the BESSD liable to pay the liquidated damages to SECI to SECI to enable SECI to remit the amount to KSEBL.</p> <p>Liquidated damages on account of shortfall in meeting the minimum Availability criteria as per Clause 8.1.d.i., will be computed as follows:</p> <p>Liquidated damages = (A – B) x C x D x n x <u>1.5</u></p> <p>where, n = 12 A is Guaranteed Annual Availability as per Clause 8.1.d.i. above; B is Actual Annual System Availability, as calculated as per Clause 8.1.d.ii. above; C is BESS Power Capacity; D is Capacity Charges/MW/month as discovered through bidding process;</p> <p>ii. Shortfall in demonstrating minimum Round-trip-Efficiency: Liquidated damages as per the provisions of Clause 8.1.d. (iii) of the RfS shall be applicable in this case.</p> <p>iii. Shortfall in supply of Energy Commitment during Discharge Cycle : Liquidated damages as per the provision of the RfS Clause 8.1.d(v)</p>																									
9	11	<p>.. For early commissioning the BESSD is eligible for incentive at pro-rata basis of 2% of the Quoted Capacity Charges @ 2% per month limited to 12% as below:</p> <table><tr><th>Sl</th><th>CoD</th><th>Incentive applicable</th></tr><tr><td>1</td><td>SCD</td><td>Nil</td></tr><tr><td>2</td><td>1 month before</td><td>2% for 1 month</td></tr><tr><td>3</td><td>2 month before</td><td>4% for 1st month and 2% for second month and at Quoted rate from SCD</td></tr><tr><td>4</td><td>3 month before</td><td>6% for 1st month, 4% for 2nd month, 2% for 3rd month and at Quoted rate from SCD</td></tr></table>	Sl	CoD	Incentive applicable	1	SCD	Nil	2	1 month before	2% for 1 month	3	2 month before	4% for 1st month and 2% for second month and at Quoted rate from SCD	4	3 month before	6% for 1st month, 4% for 2nd month, 2% for 3rd month and at Quoted rate from SCD	<p>..... For early commissioning the BESSD is eligible for incentive at pro-rata basis of ₹40 Lakh per Month / fraction of a month, limited upto 180 days, provided that the incentive period falls within the summer months and the project achieves full commissioning within this period and no delays from any party will be considered as justification for a deferred commissioning for incentive calculations. To be eligible for Early Commissioning Incentives, the actual commissioning of full capacity must take place at least 90 days prior to the Scheduled Commissioning Date (SCD). Following is an illustration of incentive applicability</p> <table><tr><th>Sl</th><th>Full CoD on</th><th>Incentive applicable (₹)</th></tr><tr><td>1</td><td>SCD</td><td>Nil</td></tr><tr><td>2</td><td>COD 30 days before SCD</td><td>Nil</td></tr></table>	Sl	Full CoD on	Incentive applicable (₹)	1	SCD	Nil	2	COD 30 days before SCD	Nil
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2	1 month before	2% for 1 month																									
3	2 month before	4% for 1st month and 2% for second month and at Quoted rate from SCD																									
4	3 month before	6% for 1st month, 4% for 2nd month, 2% for 3rd month and at Quoted rate from SCD																									
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			3	90 days before SCD	Nil
			4	CoD 108 days before SCD	40 Lakhs x (18/ 30) = 24Lakhs
			5	CoD 120 days before SCD	40 Lakhs.
			6	CoD 135 days before SCD	40 Lakhs. + [80 Lakhs x (15/30)] = 80 Lakhs.
			7	CoD 150 days before SCD	80 Lakhs+40 lakhs=120 lakhs
			8	CoD 160 days before SCD	120 lakhs + [120 x (10/30)] = 160 lakhs
			9	CoD 180 days before SCD	120 lakhs+80 lakhs+40 lakhs=240 Lakhs
			10	CoD 185 days before SCD	240 lakhs + [160 x (5/30)] = 266.6 Lakhs
			11	CoD 210 days before SCD	400 lakhs
			12	CoD 220 days before SCD	400 lakhs + [200 x (10/30)]= 466.6 Lakhs
			13	CoD 240 days before SCD	600 lakhs
			14	CoD 260 days before SCD	600 Lakhs + [240 x (20/30)]= 760 Lakhs
			15	CoD 270 days before SCD	840 Lakhs

			<p>It is clarified that the Early Commissioning Incentive shall be paid to the BESSD, directly by KSEBL with no financial obligation to SECI. Also clarified that, SECI shall not be responsible for Computation/delay/non-release of such incentives.</p> <p>It is also clarified that the BESSD shall be eligible for early commissioning incentive only upon commissioning the project to its full capacity of 125MW / 500 MWh.</p>
10	9.2 a	The Scheduled Commissioning Date (SCD) for commissioning of the full Project capacity shall be the date as on 15 months from the Effective Date of BESPA (for e.g. if Effective Date of the BESPA is 05.02.2025 , then SCD shall be 04.05.2026).	The Scheduled Commissioning Date (SCD) for commissioning of the full Project capacity shall be the date as on 18 months from the Effective Date of BESPA (for e.g. if Effective Date of the BESPA is 05.02.2025 , then SCD shall be 04.08.2026). <u>However, to qualify for Early Commissioning Incentives, the actual commissioning must take place at least 90 days before the Scheduled Commissioning Date (SCD).</u>
11	22.3	<p><u>Addendum to clause</u></p> <p>The extension of BESPA beyond the initial 12 years would be for the part of Contracted Capacity as demonstrated after the 12 year period.</p> <p>e.g: If the Minimum Dispatchable Capacity demonstrated after the 12 year period is 400 MWh at 125MW, then the extension of BESPA will be for 80% of the initial Contracted Capacity. A maintenance period upto 90 days will be allowed for Battery replacement / other maintenance activities, after the 12 year period.</p>	
12	22.5	Successful Bidders will have to submit the required documents to SECI within 70 days from the issue of LoA or 30 days prior to the date of signing of BESPA, as intimated by SECI, whichever is earlier. ...	Successful Bidders will have to submit the required documents for BESPA to SECI within <u>20 days</u> from the issue of LoA or <u>10 days prior to the date of signing of BESPA</u> as intimated by SECI, whichever is earlier.
13		<p><u>Illustrations under Annexure-D modified as follows:</u></p> <p>...</p> <p>System Availability</p> <p>Assuming the following parameters:</p> <p>Where n=12</p> <p>a. Total Contracted Capacity = <u>125 MW</u>, C</p> <p>b. Quoted monthly Capacity charges = 5 lakhs/MW/month, D</p> <p>c. Annual system availability (as per procedure above) is calculated to be 0.93, B</p>	

		<p>Liquidated Damages on account of shortage in annual system Availability, as calculated from formula provided in Clause 8.2:</p> <p style="text-align: center;">Liquidated damages = (A – B) x C x D x n x 1.5</p> <p style="text-align: center;">= (0.95-0.93) x 125 x 5 x 12 x 1.5</p> <p style="text-align: center;">= <u>225 lakhs</u></p> <p>If the maximum permissible unavailability of 5% is reached during part of a year, the Monthly Capacity Charge for Subsequent months will be paid only after deducting the penalty for Un-availability.</p> <p>...</p>																														
14	36.3	<p><u>Clause is amended</u></p> <table><tr><th>Activity</th><th>Duration</th></tr><tr><td>Date of issuance of RfS</td><td>Zero Date (A)</td></tr><tr><td>Date of the Prebid Meeting</td><td>A+10 Days</td></tr><tr><td>Bid Submission Deadline</td><td>A+30 Days</td></tr><tr><td>Issuance of LoA/LoI I</td><td>eRA Close Date +10</td></tr><tr><td>Issuance of LoA</td><td>KSERC Approval + 10 days= C</td></tr><tr><td>Application for connectivity by the BESSD</td><td>C+30 days</td></tr><tr><td>Effective Date of BESPAs</td><td>C+ 30 days (=D)</td></tr><tr><td>Financial Closure</td><td>D+9 months</td></tr><tr><td>Release of 1st tranche of VGF on financial closure subject to submission of BG</td><td>D+9 months (upon fulfilment of FC)</td></tr><tr><td>Project commissioning</td><td>D+18 months (=E)</td></tr><tr><td>Release of 2nd tranche of VGF</td><td>D+18months (upon achieving COD)</td></tr><tr><td>Release of 3rd tranche of VGF</td><td>E+1 year</td></tr><tr><td>Release of 4th tranche of VGF</td><td>E+2 years</td></tr><tr><td>Release of 5th tranche of VGF</td><td>E+3 years</td></tr></table>	Activity	Duration	Date of issuance of RfS	Zero Date (A)	Date of the Prebid Meeting	A+10 Days	Bid Submission Deadline	A+30 Days	Issuance of LoA/LoI I	eRA Close Date +10	Issuance of LoA	KSERC Approval + 10 days= C	Application for connectivity by the BESSD	C+30 days	Effective Date of BESPAs	C+ 30 days (=D)	Financial Closure	D+9 months	Release of 1st tranche of VGF on financial closure subject to submission of BG	D+9 months (upon fulfilment of FC)	Project commissioning	D+18 months (=E)	Release of 2nd tranche of VGF	D+18months (upon achieving COD)	Release of 3rd tranche of VGF	E+1 year	Release of 4th tranche of VGF	E+2 years	Release of 5th tranche of VGF	E+3 years
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15	2.1.1	This Agreement shall come into effect from(Enter the date as on 90th day of the issuance of Letter of Award to the BESSD, or any further date, as applicable) and such date shall be referred to as the Effective Date	This Agreement shall come into effect from (Enter the date as date of signing of the BESPA) and such date shall be referred to as the Effective Date.
16	4.4.1 (i)	<p>... The Buying Entity will schedule charging of the BESS with equal amount of energy plus energy expected to be lost as conversion losses (determined from the guaranteed Round-Trip Efficiency (RtE) of the system).</p> <p>Illustration: For a Contracted Capacity of 125 MW/ 500 MWh, assuming an RtE of 85%, Buying Entity shall supply charging power to the tune of MWh, to expect a discharge of 160MWh as per the desired schedule. In this case, the BESSD shall also maintain the BESS capacity to the tune of 588.23 to absorb the supplied charging power.</p>	<p>... The Buying Entity will schedule charging of the BESS with equal amount of energy plus energy expected to be lost as conversion losses (determined from the <u>Current Round-Trip Efficiency (RtE)</u> of the system).</p> <p>Illustration: For a Contracted Capacity of 125 MW/ 500 MWh, assuming an RtE of 85%, Buying Entity shall supply charging power to the tune of 588.24 MWh, to expect a discharge of <u>500 MWh</u> as per the desired schedule. In this case, the BESSD shall also maintain the BESS capacity to the tune of 588.23 to absorb the supplied charging power.</p>
17	5.1.5	The BESSD shall commission the Project as detailed in “Schedule 3: Commissioning Procedure” within Fifteen (15) Months from the Effective Date of BESPA.	The BESSD shall commission the Project as detailed in “Schedule 3: Commissioning Procedure” within Eighteen (18) Months from the Effective Date of BESPA.
18	Schedule B	Power rating of a 500 MWh (125 MW x 4 hrs) BESS will be 500 MW, i.e., the maximum value	Power rating of a 500 MWh (125 MW x 4 hrs) BESS will be <u>125 MW</u> , i.e., the maximum value
19	4.4.2 c	<p>Addendum to article</p> <p>..</p> <p><u>The BESSD shall be eligible for incentive from completion of one year after CoD of entire project capacity @ Rs.1.00 per unit for the excess discharge of energy for the quantum discharged by KSEBL in excess of the minimum dispatchable energy taking into consideration YoY capacity degradation as 2 %.</u></p>	
20	4.4.2 d	Performance criteria to be demonstrated by the Project have been detailed out in Schedule-B of this Agreement. The BESSD is required to meet the annual energy commitment subject to Clause (iv) above.	Performance criteria to be demonstrated by the Project have been detailed out in Schedule-B of this Agreement. The BESSD is required to meet the annual energy commitment subject to <u>article 4 above</u>
21	4.4.3	<p><u>Article is amended as follows:</u></p> <p>Following provisions shall be applicable on the Contracted Capacity:</p>	

		<p>i. Shortfall in demonstrating minimum Availability <u>during charging cycles</u>: Subsequent to COD of full Project Capacity or the capacity finally accepted by SECI, in case the annual Availability demonstrated by the BESSD is less than the minimum as specified above, such shortfall in performance shall make the BESSD liable to pay the liquidated damages to SECI to SECI to enable SECI to remit the amount to KSEBL.</p> <p>Liquidated damages on account of shortfall in meeting the minimum Availability criteria as per Clause 8.1.d.i., will be computed as follows:</p> <p>Liquidated damages = (A – B) x C x D x n x 1.5</p> <p>where, n = 12</p> <p>A is Guaranteed Annual Availability as per article 4.4.2 (a) above;</p> <p>B is Actual Annual System Availability, as calculated as per Schedule B of this agreement;</p> <p>C is BESS Power Capacity</p> <p>D is Capacity Charges/MW/month as discovered through bidding process;</p> <p>ii. Shortfall in demonstrating minimum Round-trip-Efficiency: Liquidated damages as per the provisions as per article 4.4.2 b of BESP A shall be applicable in this case.</p> <p>iii. Shortfall in supply of Energy Commitment during Discharge Cycle: Liquidated damages as per the provision of the RfS Clause 8.1.d (v)</p>	
22	5.1.9	<p>.....in case of early commissioning, if BESSD sells any capacity to a third party, the BESSD will have to again demonstrate 100% of Contracted Capacity (as per the Commissioning Procedure) to KSEBL, the Procurer from the date of commencement of off-take of capacity by the Procurer.</p>	<p>.....in case of early commissioning, if BESSD sells any capacity to a third party, the BESSD will have to again demonstrate 100% of Contracted Capacity (as per the Commissioning Procedure) to <u>SECI</u>, the Procurer from the date of commencement of off-take of capacity by the Procurer.</p>
23	Schedule B 9.ii	<p>..... Amount of such liquidated damages shall be twice the Capacity Charges for the capacity not made available. If the annual un availability of 5% is already reached during part of a year, the monthly capacity charges for subsequent months will be paid only after deducting the penalty for un availability.</p>	<p>.... Amount of such liquidated damages shall be <u>1.5 times</u> the Capacity Charges for the capacity not made available. If the <u>maximum permissible</u> unavailability of 5% is reached during part of a year, the Monthly Capacity Charge for Subsequent months will be paid only after deducting the penalty for Un-availability.</p>
24	Schedule B 9.iii	<p>Availability of the Project shall mean the ability of the BESS to execute a function i.e. charging or discharging, when called upon to do so, as per the schedule or signal provided by the off-taker, subject to the minimum system ratings specified herein. In addition, the BESSD shall also demonstrate, on monthly basis, 100% of the minimum dispatchable Capacity of the</p>	<p>“Availability” of the Project shall mean the ability of the BESS to execute a function i.e. charging or discharging, when called upon to do so, as per the schedule or signal provided by <u>KSEBL, the off-taker</u>, subject to the minimum system ratings specified herein. In addition, the BESSD shall also demonstrate, on annual basis, 100% of the minimum Dispatchable capacity of the BESS as required under Clause 8.1.d.iv below.</p>

		<p>BESS as required under Clause 8.1.d.iv of RfS.</p> <p>For a given BESPA, the Annual availability guarantee shall commence from the date of commissioning of the system and shall be calculated as below:</p> <p>.....</p>	<p>For a given BESPA, the Annual availability guarantee <u>for charging periods</u> shall commence from the date of commissioning of the system and shall be calculated as below</p>
25	Schedule B 9.iv c	<p>..</p> <p>Note</p> <ul style="list-style-type: none"> • The Scheduled capacity shall be subject to the System Power Rating specified in Clause 8.1.a. above. • The BESSD shall take separate, metered connection for the Auxiliary Power load of BESS. 	<p>..</p> <p>Note</p> <ul style="list-style-type: none"> • The Scheduled capacity shall be subject to the System Power Rating specified in Clause 8.1.a. above. • The BESSD shall take separate, metered connection for the Auxiliary Power load of BESS. • <u>The BESSD can draw auxiliary power from Interconnection point. Separate meter would be arranged by BESSD to measure auxiliary consumption which will be billed by KSEBL. Arrangement for power for auxiliary consumption is under scope of the BESSD.</u> • <u>The BESSD shall declare RtE on Day Ahead Basis</u>
26	Schedule B 10	<p>The nameplate ratings shall be achievable during discharge for the full range of environmental conditions at the project site when the battery is fully charged. In any case, the BESS shall be capable of being discharged at reduced power levels from that specified above. However, the energy discharged from the battery shall not require to be greater than the nameplate watt-hour rating specified herein.</p>	<p>The nameplate ratings shall be achievable during discharge for the full range of environmental conditions at the project site when the battery is fully charged. In any case, the BESS shall be capable of being discharged at reduced power levels from that specified above. <u>The Annual Discharge Energy Commitment is 95% of the Energy Scheduled for Discharge. The BESSD is required to meet the annual discharge energy commitment subject to Clause (iv) above. The BESSD shall be liable for Liquidated Damages to KSEBL, the off-taker, if any, on account of short fall in supply of Annual Discharge Energy Commitment committed energy at the Average Market Clearing Price (MCP) in peak hour (18:30Hrs-22:30Hrs) in Day Ahead Market (DAM) of Power Exchange for corresponding billing month period.</u></p>
27	Schedule B 12	<p>Addendum to article</p> <p>...</p>	

		<p>d. <u>The Scheduled maintenance must be carried out during monsoon season, subject to prior approval from KSEBL.</u></p> <p>.....</p>
28	Schedule-2	<p>Illustration under Schedule-2 of BESPAs is modified as follows</p> <p>1. System availability of</p> <p>...</p> <p>Liquidated damages = $(A - B) \times C \times D \times 1.5 \times n$</p> <p>.....</p>